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INDEX

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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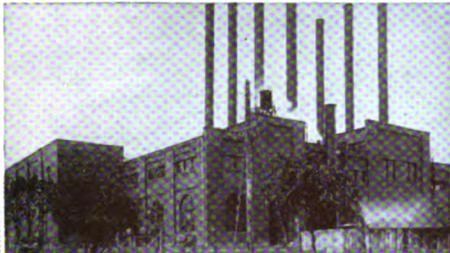
C. GRANT LA FAROE
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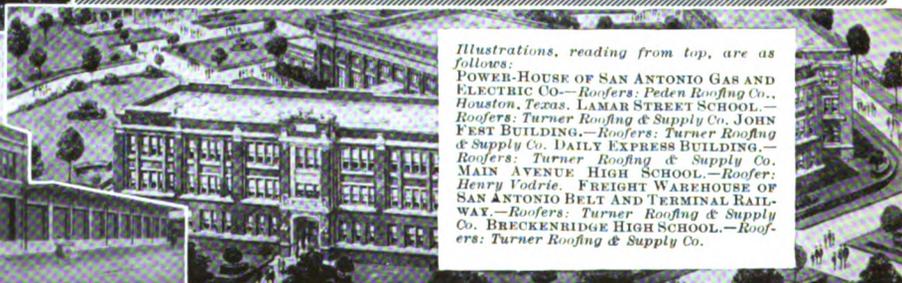
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THE SONG OF THE PAGAN BUILDER

"When the Memnonium was in all its glory"

*Oh Work! That gav'st into the bands of man
The power with which to touch the earth
And glorify his spirit's birth!
Make me, thy servant, something worth
To keep alive the flame throughout my span.*

*Let it burn fierce, th' imperishable fire,
And in the wonder of its flame,
Blot out my transitory name,
And who I was, and whence I came.
Leave only the clean ashes of the pyre.*

*Let its clear blaze consume me to the end,
And, in the whiteness of its heat,
Temper my soul and teach my feet
All paths to tread, that I may greet
All truth, nor fear to take it for my friend.*

*And when my work is done—the last night here—
There still shall be one ember bright,
Upon the altar one clear light,
My Self, that struggled in the fight
For work well done, departing without fear.*

B.

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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Shadows and Straws

THE QUESTION OF GOVERNMENTAL AID to the building of homes for workers in war industries as a means of carrying on a successful war has begun to resolve itself into an actuality. The Shipping Board, we are informed, has made funds available for relieving the deplorable conditions in five places and to the extent of providing 7,500 houses. The plan of operations, it is said, is based upon the broadest conception of the problem now possible under existing legislation, and serious study has been given to the question of making the operation of a permanent value and of providing houses which, either for sale or for rental, will be within the means of those for whom they are destined. We understand that elaborate calculations of costs and wages have been made, which seems opposed to the English method of building good houses and leaving the question of prices or rentals to be determined in a future about which facts may be known rather than guessed at. It is also to be inferred that suitable steps will be taken to prevent great profits from being collected by land speculators. The results will be eagerly awaited.

It is also to be hoped that further powers and more money will be given by Congress in order that we may reap the full measure of an experience such as England has had, and such as some of her colonies had already provided against, as in New Zealand and Australia. More than this it is impossible to say at the present moment, although one might well pause for an instant at the thought of the bunk-houses which have been built by one ship building plant, at least, of which more are contemplated, and the occupancy of which is

avoided by men who prefer to travel from four to six hours a day rather than risk the vermin which infest these structures—but, after all, we cannot hope to achieve a miracle in four months, and the necessities of war do not stimulate commonsense where none exists. Many people have been taking their first lesson in dealing with the house problem at the expense of the nation, which is a painful form of education but may prove salutary, if we can hold out long enough.

AT ITS RECENT MEETING in Washington, the Board of Directors of the American Institute of Architects adopted the following resolutions:

WHEREAS, It is the belief of the Board of Directors of the American Institute of Architects that the question of providing within the shortest possible time a supply of workmen's houses such as will reduce the present waste in labor turnover, relieve the intolerable congestion, and provide good living conditions for workers, has for months been the gravest menace to the safety of the nation and has now become vitally necessary to the victorious conclusion of the war, and

WHEREAS, The manner in which such relief is provided will not only determine the measure of our effort to increase the present volume of industrial production, but will profoundly affect the economic and social life of the nation in the future, be it

Resolved, That the Board of Directors of the American Institute of Architects, at their meeting held in Washington on January 17, 1918, submit to the President of the United States, the Congress, the Labor Council, and the Shipping Board the following recommendations as expressing their belief in those essential features which should govern the whole program of industrial housing:

(a) The duly constituted authorities should have the right to take land for this purpose.

(b) Powers to survey needs for housing facilities and to determine, in coöperation with a central priority board, the relative importance of industrial operations.

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(c) Powers to design and construct communities where the needs of such have been made evident by the survey.

(d) Powers to operate and manage these communities during the war and for a period of years thereafter.

(e) Powers to maintain a high standard of physical well-being in munition plants (adopting the standards set by our most progressive industrial corporations) and to organize community activities within the communities thus created, and be it further

Resolved, That as the ultimate disposition of these communities with the least loss and the greatest good to the nation cannot at this time be determined, there be created a commission to consider and report upon the following within a fixed period after the war:

(a) The basis upon which such communities could be transferred to municipalities or local limited dividend corporations.

(b) The organization of local limited dividend corporations to manage and develop the communities created during the war.

(c) The establishment of that part of the cost which should be written off as belonging to the cost of war.

(d) The methods of saving the appreciation of land-values for the benefit of the community as a whole.

COMMENTING ON ONE OF THE PLANS PROPOSED for dealing with the larger phases of the question not touched by the Shipping Board's action, and which calls for an appropriation of \$100,000,000 to be lent by the Government at low rates of interest, and to be supplemented by \$25,000,000 of local capital, Frederick L. Ackerman, whose report of English methods of dealing with this problem was published in the last number of the Journal, has the following criticism to offer in a letter to the *New York Times* of January 14:

"I charge that this is the unimaginative way, the indirect way, the ineffective way to attack the problem. I say this for the following reasons:

"1. It is precisely the method which failed in Great Britain, where the Government, in addition to the loan, gave outright a substantial subsidy.

"2. It means long delays in the taking of land and in arriving at the terms of agreement between the Government and the corporations. As proof of this, I call to witness the present situation where such loans have been tentatively offered to munitions-making corporations; also the testimony of men in the British Ministry of Munitions.

"3. If the financial responsibility for these investments be placed upon the corporations, they will seek to reduce that responsibility to the limit. The absolute minimum of conveniences and stabilizing elements will be introduced. Why use a boomerang when you can use a gun?

"4. The argument regarding the advantage of the proposed method of stemming 'the avalanche of demands for gifts for housing,' etc., has no value. It is the Government's duty to know where these are imperative needs—there and there only should the Government provide the necessary accommodations. This quoted phrase expresses vividly the idea that the Government looks upon this

phase of war from a narrow financial angle. It discloses a policy to bargain, rather than to act, in this great emergency.

"5. Owing to endlessly varying conditions, we will erect temporary, semi-permanent, and permanent structures. Some will appreciate in value. Others will become worthless and should be destroyed. The time to adjust values, negotiate terms of transfer or sale, and establish that loss which belongs to war, is after the war, when all the cards can be placed face up on the table.

"6. In communities such as Bridgeport or Newark, what relation has the house to the factory? A house is something needed equally by the man who makes guns and the man who makes bullets. In these complex communities, why break the problem up in little competing units? Homes are what is needed.

"7. One hundred and twenty-five million dollars, representing the \$100,000,000 to be given by the Government and the \$25,000,000 of local capital which it is expected to raise, is utterly inadequate to meet the imperative needs now disclosed along the seaboard.

"8. No one knows how long the war will last, nor the demands to be made upon us, nor to what extent these plants will expand, nor to what extent women will enter industry. Our policy should be flexible, so that it may be instantly adapted to changing conditions. The policy proposed is not.

"With this bickering, bargaining policy, we have consumed many precious months. Our army is going to France. It must have munitions. Our Allies must be fed."

IN THE "NEW REPUBLIC" of January 12, Robert Anderson Pope unreservedly indorses the program outlined by Mr. Ackerman in the last number of the Journal. He also suggests state or municipal aid, backed by governmental guarantees, and points out that the building of workmen's houses may be considered as an income-producing enterprise. But this again presents delays which would extend over months, and in the meantime the dire necessity is gnawing at our very vitals. Mr. Pope also says:

"The success of our war-housing administration is now being threatened by various professional interests, especially those of the architects and town planners. Many of these gentlemen are convinced of the Government's need of their services, and each believes that the priority of his profession should be recognized. Relief from the evident menace of such a situation can be definitely assured only by choosing an executive who shall be without professional interests or affiliations of any kind whatever, and upon whom shall be placed the entire responsibility for providing all necessary war-housing. He should be possessed of the greatest experience in finance and large enterprise and be at the same time determined to produce the highest possible social welfare. Make him responsible to the Cabinet and the President. Give him authority to assign the various fields to be surveyed to sociologists, town planners, architects, engineers, and financial directors of his choosing. Before long he will be able to choose

SHADOWS AND STRAWS

the members of his housing cabinet, and upon them he will rely for advice. Meetings of such a housing cabinet would be held frequently to secure the most effective correlation, but the executive should alone make and assume responsibility for all decisions. For such additional powers and such further financial support as he needed to consummate this work he must look to the President and his Cabinet."

THIS IS THE VERY SUBSTANCE of the program presented by the Editor of the Journal to the Government over four months ago, when it was urged that an administrative body be appointed to act in precisely the manner Mr. Pope points out. The failure to arrive at any such point may be traced to the timidity and weakness of those who controlled the destinies of that program, as well as to the suspicion engendered by the self-seeking gentlemen who volunteered their remedies. But in the face of a national crisis such as this, suspicions have no place in the minds of those qualified to deal with these matters. Pointing the finger at selfishness is not winning the war. Running a kindergarten in order to acquaint a number of men with the elements of a question which has been studied by competent men these many years—by men who look at the future through the future's eyes and not through the loopholes which suddenly have been cut through the solid wall of their unsocial mind—is not good war-making.

The creation of the Advisory Council of Labor, under date of January 14, fortunately invests the solution of the house problem with such a hope for its courageous and intelligent treatment as has hitherto been denied to those who have watched the throes of its painful career as a shuttlecock in the hands of amateur battledoresmen. The new Council is composed of John Lind, Waddell Catchings, A. A. Landon, John B. Lemon, John J. Casey, Dr. L. C. Marshall, and Agnes Nestor. Under the order by which it came into being, all matters connected with the housing of labor now appear to be within its jurisdiction, although the precise manner in which readjustments will be effected in order to accomplish this centralization is not yet announced. Grave as are the consequences of slumbrous delay and imperative as the demands for a broad, full-visioned and wholly enlightened treatment of this preëminent problem have now become, the time has at last arrived when the nation may hearten itself with a faith that the building of workmen's houses is to be dealt with

in the spirit of the New Future, and not in the terms of that Dead Past, as the President so aptly characterized these periods of world history in his last address to Congress.

THE REPORT OF THE PUBLIC BUILDINGS COMMISSION submitted to Congress in December ranks with the report made by the Park Commission of 1901 as a safe and logical guide to the development of the National Capital. The plan of 1901 was built on the L'Enfant plan of 1792. The Public Buildings Commission report carries on the same tradition and presents for the guidance of Congress a means at once of providing necessary buildings for the conduct of the Government's activities and also of developing the city of Washington harmoniously and adequately. The three plans of 1917, 1901, and 1792, constitute the architectural charter of the District of Columbia. The principles laid down in them are to be studied, mastered, and acted upon. No essential deviations should be permitted. Every building erected according to the plan will result in a saving to the Government.

It is something over eighteen months ago that the Journal published a partial list of the buildings and other structures rented by the Government, but that incomplete statement attracted unusual attention, for it revealed in a very graphic manner the uneconomical manner in which the activities of the Government were being housed. The present report is based upon a study of the immediate needs and upon a computation of the probable needs of the future. The complicated character of the undertaking may be understood when it is stated that the investigation of present conditions necessitated an analysis of some two hundred different items of rentals now paid by the Government and totaling something like \$1,400,000. There has naturally been a very considerable increase in rented space during the last six months, and the pre-war waste has been expanded into a sum much larger than the amount expended in rentals, due to the scattered locations and the ill-adapted structures which have been pressed into use.

THE ACT OF CONGRESS creating the Public Buildings Commission provided that the Commission should have the advice of the Com-

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mission of Fine Arts. The report of the latter Commission (the major portion of which is printed in this issue) shows entire harmony between the conclusions reached by both bodies. The Public Buildings Commission states general principles and proceeds to the application of those principles in detail. The Commission of Fine Arts presents the argument for the development of the District of Columbia according to the now well-defined lines, going into matters beyond the scope of the other commission. In many ways the contribution of the Commission of Fine Arts is a commentary on, and a plea for, the realization of the Public Buildings Commission report. This unanimity gives weight and authority to the conclusions reached.

THE FUNDAMENTALS OF BOTH REPORTS are, first, the development of a group of executive buildings around the entire square, the south side of which is occupied by the White House, the Treasury, and the State, War and Navy building; second, the completion of the Capitol group by a development on the south analogous to that already begun on the north; third, the redemption of the area between Pennsylvania Avenue and the Mall by the location thereon of public buildings; fourth, the development of the Mall as the intellectual center of Washington. The Commission of Fine Arts also discusses the development of park connections to encircle the entire District; the protection of both parks and public buildings from intrusions by high buildings; and the very essential relocation of the Botanic Gardens.

IN COMPUTING FUTURE NEEDS, increases in space of from 10 to 20 per cent have been allowed for, while the locations chosen, in many cases, are such that additions and enlargements may be made as required. This principle is accepted by the Commission as one that should govern the choice of locations. The report does not confine itself, and very rightly so, to the purely administrative buildings, but deals also with those of a general or semi-public character, such as museums, armories, memorial halls, markets, as well as the needs of the Congressional Library and the Smithsonian Institution. In dealing with the question of locations, the Commission has been guided by the following principles:

1. Public buildings other than those of the Executive Departments, should face the grounds of the Capitol.
2. New Executive Departmental buildings may well be located so as to face Lafayette Square (the square facing the White House) in such a manner as to complete the arrangement already begun, and south of Pennsylvania Avenue along Fifteenth Street to B Street, on the land already purchased and awaiting such occupation.
3. As buildings of a semi-public character have been located south of the Corcoran Art Gallery along Seventeenth Street, structures of like character may well be continued along* B Street from Seventeenth Street to the grounds of the Naval Hospital.
4. Both sides of the Mall, with the exception of the space needed by the Department of Agriculture on its grounds, should be occupied by museums and other buildings containing collections in which the public generally is interested, but not by Department buildings.
5. The space east of Fourteenth Street, between Pennsylvania Avenue and the Mall, should be occupied by public buildings.

IN ESTIMATING THE COST of the new buildings needed, the Commission based its figures upon the following conclusions:

1. Each building should express ideas of permanency, good taste, and dignity consonant with the dignity of the Government of which it is the outward and visible symbol.
2. Subordinate functions should be so housed as to express subordination. A bureau building should not rival architecturally the administrative building of the Department to which it is attached. Furthermore, as the Capitol and the White House are the chief buildings of the nation no structure should be permitted to seem to outrank these buildings.
3. A structure used primarily for clerical or mechanical purposes should express architecturally the purpose for which it is used—this, from motives of economy as well as good taste.

Based upon these concepts there were adopted, for the purpose of cost calculation, the departmental type, the Mall type, and the office type. As typical examples of the first, there are cited the Treasury, the preliminary designs for the buildings for the Departments of State, Justice, and Commerce and Labor.† Types of the so-called Mall buildings are the new National Museum, the Freer Art Gallery (now nearing completion), the design for the George Washington Memorial Hall, and the Depart-

* (NOTE.—The buildings here referred to are those of the Red Cross, Daughters of the Revolution, and the Pan-American Building, which last stands at the corner of Seventeenth and B Streets, the latter leading toward the Potomac River near the location of the Lincoln Memorial.)

† (NOTE.—This refers to the space along Pennsylvania Avenue, from the Capitol west to a point diagonally opposite the New Willard Hotel.)

‡ (NOTE.—As this latter has been separated into two distinct departments, there will be a building for each, instead of the one planned for both at the time of the now famous competitions.)

SHADOWS AND STRAWS

ment of Agriculture building. For the office type, the new building for the Department of the Interior is indicated.

THE NEW BUILDINGS RECOMMENDED by the Commission are as follows:

Department of Agriculture. Three buildings to cost	\$4,874,621 00
Archives building	1,300,000 00
Armory	1,945,000 00
Department of Commerce	2,775,000 00
Fisheries	710,000 00
Congressional Library (bookstack)	400,000 00
Court of Customs Appeals and Court of Claims	415,000 00
Interstate Commerce Commission	1,725,000 00
Government Printing Office	3,435,000 00
Government Printing Office storehouse	515,000 00
Department of Justice	2,475,000 00
Department of Labor	1,077,000 00
Navy Department	2,090,000 00
Shipping Board	1,361,688 00
Smithsonian Institution. Three buildings	7,500,000 00
Department of State	2,385,000 00
Treasury Annex	3,845,781 00
Auditors' Building	1,315,000 00
Engraving and Printing Annex	1,550,000 00
Custom House	20,000 00
Public Health Service. Three buildings	207,000 00
War Department	1,225,000 00
Quartermaster Garage	300,000 00
General Garage	218,000 00
Army Medical Museum	2,300,000 00
Public Market	2,000,000 00
Total	\$47,965,000 00

Of the above, the Treasury Annex is alone authorized by Congress. The first part of the Annex, for which \$1,250,000.00 was appropriated, is now being planned and designed by Cass Gilbert, associated with the Supervising Architect's office in this work. The remainder indicated in the above column is the allowance made for an extension of the Annex as a part of the Lafayette Square development.

THE PROGRAMME LAID DOWN involves what once would have been considered a large amount of money, but in view of the amazing growth of governmental activities, no one thinks it large today. Beside that, two very pertinent considerations present themselves. First, no Department building has been constructed by the Government for thirty-eight years, excepting that for the Department of Agriculture which still lacks the Administration building.

Thus, there is more than an entire generation of deferred construction to make up. Second, a new building for the Department of State—a building which will be used during an indefinite period—will cost no more than the temporary building which now cuts across the Mall and which is designed to last but five years. Each year will bring its accrual of dilapidation and consequent unsightliness.

TODAY IS THE TIME TO BEGIN provision against that squalor which is certain to come to Washington with the decay of temporary buildings which otherwise will be used long after they have ceased to be usable.

VOLUME FIVE OF THE JOURNAL was completed with the issue of December, 1917. This marks an important event in the history of the Journal, for we are now at work reprinting the Structural Service Department in the form of the Structural Service Book, a notice of the publication of which has been mailed to all members of the Institute. Month by month the interest in this Department has increased. If any doubt ever existed as to the value of this work, it has now vanished, for the orders for the Structural Book which have been received from the Departments of the Government, from manufacturers, from municipal building departments, architects, engineers, and technical institutions leave no room for further speculation. The Structural Service Department will be continued this year as before, and each year the Structural Service Book will be published as a reference book, the like of which is not to be found elsewhere.

In this month's issue there will be found, in the Structural Service Department, matter of the greatest interest to architects, both as relating to structural and technical phases of architectural practice as well as to questions concerning contractual relationships, the quantity system, and the signs of impending changes in future procedure as concerned with building. The editors take this opportunity to express their gratitude for the generous appreciation and encouragement which have been extended to them during the year, and for the ever-increasing interest which has contributed so largely toward converting an arduously laborious work into one of real pleasure.

Wake Up! Architects of America!

DEMOCRATIZING the Professions! What does it mean? Applying vocationalism to the process of Government! What does that mean? Converting architecture into a service which shall be within the reach of all! What does that mean?

Even the serious student—dismissing the random speculator from our thoughts—who asks himself what is to be the future of architecture cannot approach the problem unless he first finds out what these things mean by trying to understand, in some manner, the new forces which are being liberated by War!

Which is why we are led to reprint Mr. Sidney Webb's address to the Royal Institute of British Architects on the subject of the function of an architectural society. It is not an invitation, nor a suggestion, nor a criticism, nor a piece of pleasant conversation. It is a prophecy and a prediction. It ought to be made the central theme of every Convention of the American Institute of Architects for years to come!

Mr. Webb's address was as follows:

MR. SIDNEY WEBB: May I explain, at the outset, that I make no pretence at knowing anything whatever about architecture, or about the history of architecture? The suggestions I have to make come from another standpoint altogether. I have, as some of you know, written a sketch of your Institute as a professional association;* but I did not write it out of particular interest in your profession, nor from any interest in its subject of architecture. My business is public administration, and I took up your Institute as one of a number of similar bodies to see how the professional associations have developed during the present century; what work they have done, what have been their successes; the points on which they, I will not say have failed, but have laid themselves open to criticism; and to try to discover from the past history of the professional association what is the part it has to play in the world; what it can do, and what it ought not to do. I was interested in that subject because, twenty-five years ago, my wife and I spent six years in studying trade unionism; and in writing our books on this subject we stated, somewhere, that it was just as important that somebody should investigate the brain-workers' associations; and we suggested that they should be investigated.

A year ago we took up the job for another purpose. The reason we took it up was that during the past ten or twenty years there has been a great revival and expansion of what

*"The Organization of the Architectural Profession" (*Journal of the American Institute of Architects*, June, July, August, 1917, reproduced in recent issues of *The Architect*, London).—THE EDITOR.

I will call vocationalism in the world, especially in France, in this country, and in America. I mean by vocationalism the feeling that the vocation, the occupation, the trade to which a man belongs, is a much more important thing than is the parish, or the city, or the county, or even the country, to which he belongs; and that, therefore, he ought to associate very much more with people of his own craft, his own vocation, than merely with his geographical neighbours. And, moreover, it is the feeling that the part which he has to play in government, in democracy, ought, to a very large extent, to be played through his vocational organisation. That feeling for vocationalism has been becoming stronger and stronger during the present century; you see it in all sorts of forms, good and bad alike. It would seem to lie at the back of the outbreak of Syndicalism in France; it lies at the bottom of the activities of the Industrial Workers of the World in the United States. You see it cropping up a great deal in French literature with regard to the brain-workers. We call it, for short, the Functional State, the idea being that the organisation of the community ought to be based upon function, not, as it is almost entirely at present, upon geographical constituencies. . . .

Your professional association began at the same time as some others; and it began, like many others, not as a professional association in the ordinary sense, but as what may be called, technically, a "subject association." The business of the Institute when it started was not to look after architects; it was to promote architecture, and therefore it included not only architects, but other people interested in architecture. And the reason why your Institute was so largely composed of amateurs at the beginning of its work was that it was a subject association, not a professional association. Its interest was in architecture, and amateurs who were interested in it not only had as much right in the association as the professionals, but they contributed quite a special element—an advantageous element, which in becoming a mere professional association you may have lost.

You, like other professions, have devoted a good deal of time to professional education; and you, like other professions, have devoted much thought to the subject of professional registration. It is astonishing how alike all these professional bodies are, just as every trade is like every other trade—if its own people only knew it; they are deluded by differences in names, and each man thinks his own trade is peculiar. Every trade union is like the others, with the same veil over it; and so every brain-working profession has much in common with other brain-workers' associations. It is only a difference in technique and in nomenclature which obscures that likeness. I, standing outside, can see the points of resemblance, perhaps, better than points of difference. And you, like other professional associations, are gradually elaborating your special code of professional ethics. Some have done it to a greater, others to a less extent. There is nothing peculiar in that, and I hope you will not think I am criticising your association when I say there is nothing peculiar in it—

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that it is strictly as a type of professional association that I am able to take it.

What is the origin of these professional associations? We distinguish three impulses, as we call them, which have led the brain-working professions, historically, to associate themselves. The first is what we call the creative impulse; it is the desire to promote the art, or the science, to develop, extend and advance it in all directions. That is really akin to the artist's feeling and desire for creation, and the members of a profession come together and unite their efforts deliberately to advance the technique—the science and the art—of their vocation. This creative impulse lay at the root of most of the professional associations.

At the beginning of the nineteenth century professional association was looked very much askance at; it was regarded almost as a conspiracy against the public; and, consequently, this extremely admirable impulse of improving the technique of the profession provided an eligible starting-ground. And along with that was the fellowship impulse, the desire of every man to associate with his kind. As a professional man becomes conscious of himself as such, he tends to come into relationship with other professionals. And out of that has grown not only good fellowship at social meetings, but also benevolent funds and the other things which characterise most professions. The third impulse—not quite so wholly good—is what we call the possessive impulse. It is the desire of each profession to get out of the community as much as it can for the collective service of its members. This is not altogether to be objected to; each profession must stand up for its own, and see to its own defence against the unconscious oppression of the mass of the community—the ignorant oppression. But that impulse does have its invidious side; and, in one profession after another, it has led to various attempts at larger remuneration and easier conditions of service which are only human nature, but are, perhaps, not in the public interest. It is these three impulses which have given rise to your Institute, and to other professional associations.

I come now to the results of the professional association—and I want to put this very briefly. I think that in your Institute, as far as I can see, as in other brain-working professions, the result of the professional association has been a very considerable elevation of the profession. It is interesting to notice, in the history of professional associations, that in the early days of each one you do not find the "swells" of the profession very sympathetic with it; they do not see the need for any professional association. So you do not find the biggest people in the profession taking a very active part in such association. But the rank and file feel the need for raising the profession in the public estimation. And presently they are joined by the leaders of the profession, and the profession stands together in seeking to take a better place in the estimation of the community. I do not want to go into particulars, but I think there can be no doubt that the architectural profession stands very much higher than it did fifty or a hundred years ago in the estimate of the nation. And I think it owes a great deal of that to the long-continued efforts of the Institute.

I do not want to say anything about improvement in architecture—on which I am not qualified to judge, still,

one cannot help noticing that the efforts of the Institute over architectural education have, at any rate, left their mark, and that the rank-and-file architect has, I venture to say, so benefited that he is considerably better educated than was the rank-and-file architect of a hundred years ago. But my opinion upon that is worth nothing. I do not want to criticise the bad effects of the possessive impulse in your case—I do not know enough about it. Perhaps you will allow me to say one thing, as it occurs to me. I have never yet seen my way out of the dilemma of the architect in respect of his charge by a percentage on the gross cost of the building. I have no reason in any way to complain of architects, or to criticise architects in that respect; but, logically, it is a very awkward dilemma to be put in. As one architect said to me once, "I have had a very hard day's work. I have been from morning to night up and down a building, and the result is I have knocked at least £20 off my remuneration." You will understand that. I think the profession does stand in a somewhat illogical position, shall we say, in reference to the method of its remuneration. And I have nothing to suggest to you as an alternative.

I would make a criticism not on the architects, but generally on the brain-working professions, to which architects are probably less exposed than others, though about that I do not know. The ordinary type of brain-working professional is a man who works for what we call a fee, for a succession of clients, by himself, for himself. And, therefore, all professionals tend to think that they should be regarded as alike, as it were, and interchangeable. And you know how far the doctors have gone in assuming that all doctors are interchangeable. In modern times there is much to be done by what is called scientific management, what I may call "team work." Let me give you a case in point concerning dentists. We want ten times as many dentists to do the work of dentistry as we have got. But I do not know that we want every one of them to be an M.D. in order to specialise in dentistry. If you are to have enough dentists for the population, you may have to have four or five grades of dentists; one man for extracting, one for conservation work, one as a consultant, and so on. Doctors and dentists would be much opposed to that. I do not know if we shall ever get sufficient of them to serve the whole community, instead of only the richer fraction, if we insist that each professional must be self-contained. If we are to get the work of the community properly done, for the whole of the community, we shall have to have, generally, more team work in the professions. I do not know how to apply that to architecture; I throw it out as a suggestion.

The chief fault of a professional association is its approach to exclusiveness. As soon as it gets into the saddle it wants to make arrangements about entry into the profession, the length of servitude or apprenticeship. You cannot help detecting a trail of a tendency to exclusiveness in nearly all professions: I will not say anything about architects at all. That exclusiveness takes certain forms. One profession says it will not allow anybody in who has not been apprenticed at a high fee to one of its own members, and the result is it makes its membership extremely profitable because people are willing to pay the high fee to get into the profession. I think that is invidious.

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Architects are not guilty of that, but I draw your attention to one particular form of exclusiveness from which it is difficult to get away, and it is one which is injurious. Has it ever occurred to you that we have been, and are, drawing practically all our statesmen, our lawyers, our doctors, our ministers of religion, for that matter, our authors, our editors, our architects, from about ten per cent of the population—namely, the ten per cent whose parents are able to give them some sort of secondary education in adolescence.

Only ten per cent of the community can give their sons secondary education at present, and therefore all the professions which make a secondary education a condition of entry—and it seems obvious they must exact some amount of education for entry—are necessarily excluding from their profession potential geniuses who are born in the general population. That is a dilemma which I do not think, in any one profession, can be got over; it can be got over only by such an extension of the means of secondary education that the whole population can have it, so that you will be able to draw your potential architects and doctors from the hundred per cent of the population, instead of from only ten per cent. And, it seems to me, we have allowed a very large amount of potential professional skill, if not genius, to go to waste because we have shut the door in the face of ninety per cent of the population by this requirement of secondary education.

This inevitable exclusiveness is rather serious, and it behoves every profession not to make it worse. You must insist on a certain amount of education, on a certain amount of apprenticeship training; but it is to be detected in professions that they rather want to make that training long, and they insist on keeping up the length of the servitude, irrespective of whether it is necessary or not. For instance, you cannot become a doctor in this country under five full years of academic professional training. Even though you may be a genius and can scamper through the instruction in three years and pass the examination with flying colours, you are kept down to the pace of the average man. You notice how, necessarily, that increases the expenses of the young man who wants to be a doctor, and so it has an invidious exclusiveness. Therefore, in arranging a curriculum and arranging the length of training—to say nothing of the fees—the tendency to exclusiveness has to be watched. The natural tendency is to keep it all up; and it is a very reasonable thing to want to advance the profession and maintain the standard of qualification, and all the rest of it, but it has the adverse effect of producing exclusiveness.

A much more serious exclusiveness, really, is this. You know, every profession tends to be governed by the people aged fifty-eight—I am fifty-eight—by the elders in the profession; it is inevitable. I used to think it was a bad arrangement; but being fifty-eight myself now, I perhaps take a different view. But the result is that it is governed by men who were brought up thirty years ago, whose technique is the technique of thirty years ago, whose knowledge of education relates to the education of thirty years ago. I suggest that there is a tendency in professional associations to ignore, honestly to ignore, the new technique, new methods, which the average elderly member is not personally acquainted with. I do not want to talk about

architecture, but I can see it in other professions very obviously; that the elderly man in the profession cannot believe in the necessity or the excellence of what is new, of what was unknown when he walked the hospitals or when he was apprenticed or served his articles. That tendency to be bounded by the current technique, which is generally the technique of the old generation, is apt, in an advancing avocation, to produce more resistance to the incoming of the new technique. I do not know what the buildings will be made of in the next generation of the new England after the war; it may be that they will be built of aluminum or of basic slag. But I very much suspect that the new material, whether it be basic slag or aluminum, will have to overcome a certain amount of prejudice before it is cordially accepted by the rank and file of the profession. This tendency towards conservatism needs to be watched and overcome.

To come now to the point which I ought to have begun with: What is the proper sphere of an architectural society? You will have gathered from what I have said that it is founded on the creative impulse. It ought to aim at promoting its vocation. It is strengthened by the fellowship impulse in the way of social intercourse and benevolence. It is, I fear, always subject to the possessive impulse: its members will endeavour to get as much, collectively, for the vocation from the community as they can. All that they are entitled to from the community is enough to maintain their services at the highest point of efficiency. But in the estimate of what that is, their bias will be to get as much as they can. That fellowship and creative impulse I need not say much more about; fellowship I need say no more about. The creative impulse must be the fundamental purpose of the professional association, to promote its art, its vocation, in all sorts of ways. A legitimate part of the possessive impulse is its defence, defence both of individual practitioners against the lay community, and of the profession as a whole against that lay community; it must stand up for the profession. It must insist on the profession having its proper place in the world; otherwise it will be steam-rolled by other interests.

Now I come to my three things which may be more new to you. The association is entitled to claim participation in the government of the profession. Every profession needs to be regulated in all sorts of ways—conditions of entry, conditions of training, ethical code; it may be registration or what not. And the professional association is undoubtedly entitled—it does not do its duty unless it claims to be entitled—to participate largely in the government of the profession. But I do not think that, from the standpoint of political science, the profession can be allowed to govern itself. There I differ from the vague functionalism or vocationalism which I said was prevalent. I do not think any profession can be allowed to govern itself. It cannot be allowed to determine the conditions of entry; otherwise it makes the profession a monopoly. We want it to help in deciding what ought to be the conditions of entry, but the State could not allow any profession to exclude any people it chose to exclude, under any conditions it chose. It must help the State to fix the conditions of entry, but the State cannot allow it to fix the conditions itself. Otherwise the teachers might say,

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"No one shall come into the teaching profession except the sons of teachers," or it could be made very much more onerous to enter the profession. That has been done in other occupations in the past.

Similarly about the training. A professional association ought to take a large part in prescribing the conditions of training, but you cannot give it complete power. And that for several reasons. First of all, because the governing body is apt, as I have said, to consist of people of fifty-eight, and you cannot allow older people to settle the conditions of entry, because they are not up to date; nor can you give it to the young, because you cannot trust them. They might prescribe a training which they thought was in their interests, but which ran counter to some other profession, or was against the interests of the community at large. Supposing doctors were to say that the art of doctoring was so wonderful and great that no one should be allowed to practise until he had been under education for ten years; the result would be to limit the number of doctors and send up the price of doctoring. Therefore we could not allow doctors to make a ten-years' limit, nor could we allow architects to put a similar limit upon the period of preparation. And likewise about professional ethics. An ethical code is all very well, but it might take on a form which is inimical to the common weal. Some professions have established codes which are in some respects inimical to the public interest. But the society ought to participate in the government of the profession.

And now I want to mention two other functions which are not generally thought of, and this is serious. I came here, if I may say so, to put this idea to you. First of all, a very large part of the public function of a professional association seems to me to be one which it has not, to any great extent, yet exercised; and that is it ought to claim the right and the duty of criticism of everything that is done by the Government, or, for that matter, by any public authority, in the lines of its own profession. It ought not merely to make that criticism in an irresponsible way, but it ought to regard it as its duty to inform the Government of the day of the professional opinion upon every kind of act which is done by the Government, or left undone, on which the profession has a distinct opinion.

One of the very worst elements of our present Government, of what we call bureaucracy, is the secretiveness of official administration, and the suppression by that official bureaucracy, as far as possible, of any professional criticism of its work. Any architects who are in the Government service are not allowed to criticise the decisions or acts of their Government Departments from the point of view of architecture. There is a curious difference in this respect between the municipal and the Central Government services. The local government service does have a lot of professional criticism. The Institute of County and Municipal Engineers, for instance, is always full of criticism in its *Proceedings*, its publications; and at its meetings it has papers criticising this or that drainage scheme, or electric light works, from a professional point of view. It does not hesitate to say that a plan has such and such faults. But you find nothing of that kind from the professionals in the Central Government; they are not allowed to give that sort of criticism of the work of the Central Government Departments.

Perhaps that regulation is necessary; I do not know. But if it is, it makes it all the more necessary that some professional criticism of the Government service should be supplied by the professional association. And I would like to see it the duty of a professional association to keep constant supervision, and a very critical supervision, over all the acts of the Government, or any Government Department, or any public authority, falling within the realm of its profession; and to put that criticism publicly on record, and bring it definitely to the notice of all the Government authorities with the view to supplementing the, perhaps necessary, secretiveness of the bureaucracy, and at any rate supplying that criticism without which a bureaucracy can never really be healthy.

I would go further, and say that I think the Government, either particular departments or the Government as a whole, ought to have professional advice and counsel in each vocation. And I would have each Department arrange to have a standing body of professional advisers to whom I would give no power whatsoever. Let it express its views freely and publicly on all the projects and doings of the Government, in a report which should be laid before Parliament and definitely published, and, of course, in an uncensored form. I think every Ministry ought to have an advisory professional council of the profession with which its work is concerned. And whilst that advisory council should have no power whatsoever, it should have a free initiative to say what it liked, the power of publishing its reports, when it thought fit to do so, in an uncensored form.

My third point is this. It seems to me that it is the duty of a professional association—and this is a duty which I think, no professional association, except one, has yet seriously undertaken at all—to bring to the public notice, and to agitate for, the supply of a sufficiency of its service to the community as a whole. Let us begin with the doctors. The professional associations of the doctors have looked after the interests, as they thought, of individual doctors, and they have done their best to get individual doctors properly treated, and the profession as a whole properly treated. But the medical profession has not made its voice heard with regard to the service which it has to render to the community as a whole; it has not clamoured for seeing that there was a proper professional medical attendance and treatment supplied to the whole community. I hope I am not saying anything too hard, but practically the brain-working professions began as the body servants of the rich, and they have not yet sufficiently realised that it is their duty to have developed out of that to become the servants of the community; they have not yet managed to make their service available for the whole of the community which needs their service. They still serve, on the whole, Mammon, and Mammon alone. And, unfortunately, the great mass of the community still has to go without the services which the professions do render to the rich and ought more and more to render to the community in its collective capacity.

If you ask me to apply that to architecture, I am in a difficulty. I cannot help noticing that in the early days of your association—to go back to the early Victorian times—architecture was thought of only as a luxury for the rich, and, even to the end of the nineteenth century, that it

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could be said that ninety per cent of buildings did not require an architect; only those buildings which it was expected or desired should be beautiful required an architect. And that seems to be a totally unworthy view of architecture. It is the duty of architects to claim that they shall be responsible for all buildings, including town-planning. And when you consider the awful buildings and the awful town-planning to which the great mass of England is still subject, the need for more architecture and better is surely very obvious. It should be the aim of the architectural profession to claim that the service which it can render, the service of architects, should be supplied in sufficient quantity to be available for all the buildings and all the town-planning of England. It is a reproach to the profession that any town should be badly laid out. I do not say it is the fault of the profession, but I hold it up, as an ideal, that its business, as an association, is to demand that such arrangements shall be made as may be possible so that the service which the profession can render to the community should be available in sufficient quantity, and of sufficient quality, for the benefit of every person in the community, and not merely as a luxury for a rich class. That is a very big claim to make for a professional association. I am asking that the professional association should not only have this work of elevating the profession, looking after the profession, regulating the profession, as much as it is allowed to do, but I have said it should claim a large participation in the government of the profession, but not the sole government of the profession; that it ought to make it its business to conduct a regular, authoritative, public, responsible criticism of everything that the Government does, that any public authority does, in the sphere of its profession. And, above all and supremely, it ought to regard it as its duty to claim, in season and out of season, that the services which the profession can render to the community should be available in quantity sufficient to enable every person in the community to get the benefit of the service.

The reason why architecture was a luxury of the rich in the past, and still is, to a large extent, a luxury of the rich and of the public departments, is because it is expensive. There is no magic way by means of which you can bring a service which is necessarily expensive within the means of the poor. There are two ways. One is, you might make the poor cease to be poor. But that would take me too far afield to-day. The other way is, that you might take care that that which the poor cannot pay for individually, the community, if it thinks it necessary in the public interest, should pay for. It is what we are doing about teaching and about doctoring, about one profession after another. We are supplying the service of the profession to everybody who needs it, at the common expense. This is how, I think, architecture can be supplied for the needs of everybody who needs it, and not merely to the rich.

With regard to the question as between the salaried architect and the architect on the panel, the analogies of another profession are not very promising about that panel. I am not sure that the buildings, on the whole, which have been put up by the London County Council architectural staff do not compare favourably with the buildings put up by the London millionaires. I think they do. But it is perfectly true that what you call the genius

of architecture may not flourish in that process. I face it: it may be that the way to get the finest flower of architecture may be to leave it as a plaything for the rich patron. That may be the best way. We have had some great art in that way, though the rich patron in past times was very often the communal patron, and the best things have perhaps been done by communal patronage. I would remind you of the cathedral at Florence, and much of the work of Greece, produced by municipal effort, though they did not always call it municipal. It is necessary to remember it was the municipalities and the public authorities of the cities in those times which produced architecture. I am not looking on architecture for the moment as an art, but as a service. If the community gets it as a service, perhaps Art will look after itself: I do not know. . . .

The most important thing I say to you is this: it would do an immense amount of good to the position of the professions in this great democracy if the professional associations would make it their primary and permanent duty to be always considering and insisting how the service which their profession exists to render to the community can be made available in sufficient quantity to be enjoyed by the whole of the forty-seven millions of this country, instead of only five or ten per cent of them, which is what the brain-working professions have hitherto mainly served. And I suggest that the democratising of the service of a profession may be the basis of its new development in the twentieth century not less glorious than anything that it has achieved in the past.*

MR. W. E. VERNON CROMPTON [F.]: I rise to propose an enthusiastic vote of thanks to Mr. Sidney Webb for the speech which he has given us this afternoon. I did not know until a moment ago that I was going to be asked to propose this, but I feel so heartily on the subject myself, and I am sure that the various points which he has given us this afternoon are so vital to us as an Institute, as well as to us as individual members, that I do not think I am going too far in saying I almost consider this meeting may be a starting point for a new policy for this Institute of a very much more drastic type, of very much better national service than we have hitherto thought it our duty to take up. . . .

Mr. Webb was, I thought, somewhat apologetic to commence with, and led us to think that he did not know very much about architecture and architectural relations and functions; but to any of us who have read—and I hope most of us have read—that most remarkable article published by *The New Statesman* on "Vocational Organisations," by Mrs. Sidney Webb, it will be evident that both Mr. and Mrs. Webb have gone to the bottom of the whole of this question of professional organisations, and this vocationalism which is going on before our eyes.

MR. H. V. LANCHESTER [F.]: I should like to say a few words on the three claims which Mr. Webb suggested we should make. It is encouraging that he should have put before us these three definite claims, because we have begun to nibble at them already. I need not expatiate on

*Mr. Sidney Webb at an earlier stage of the proceedings mentioned that owing to another engagement he would have to leave early, and at the conclusion of his remarks he left the meeting.

WAKE UP! ARCHITECTS OF AMERICA!

the subject of our own government, and on our methods with regard to training and ethics. It is obvious that whatever we recommend ought to be approved by the State, or criticised by the State. In regard to our now criticism of public projects, we have now and then made good our point. In the recent case of the Charing Cross Bridge Bill, for instance, certain provisions were introduced into the measure owing to the initiative of the Institute, and there is every hope, I believe, that in the future that will not be overlooked by the Government. But on the third point, the methods by which the services of our profession should be secured wherever they will be of value, I would put a proposition, and ask Mr. Webb what his views are. We are quite willing, and I believe we have the strength in our professional societies, to offer the services and to do practically the bulk of the work where architects' services are needed. But there is a very great difficulty owing to the Government Departments having always been obsessed with the notion that they must work by means of a departmental staff. The same applies to local authorities. If there might be some method by which those departments could have what is termed a panel in another profession from which they could draw competent men for special services, would it not enable the profession to be enlisted wherever their services are desirable, and get through the immense amount of work that is waiting for them, and extend their services to the whole community, instead of limiting them to the few, as has been done in the past? I want to suggest the principle of a panel because many of us are convinced that the system of departmental offices is, however good the men filling the posts, inconsistent with the genius of architecture. The departmental responsibilities and details, and the way the architect there has to

do his work, are such that the architect is dragged away from that freedom of outlook, that possibility of keeping his mind fresh and open to new methods—keeping young, in fact. Mr. Webb talks about the age of 58, but the exercise of a profession such as ours keeps men of 58 at 38—so if there is a possibility of reorganising what we may call the official work in such a way as to draw on the profession at large, it would be a great gain to the community.

PROFESSOR W. R. LETHABY [F.]: I am entirely in accord with Mr. Sidney Webb, and it is a pleasure to hear him speak again. I have heard him speak at Technical Education Boards, and he still retains his delightfully conciliatory way. There is no need for him to apologize, because he has said nothing harsh, and his address was most delightful. The only little point I would put to him is this. He spoke to us of our duties—I think properly and rightly—and I suggest to him the reciprocal view, that the community should be a little more willing to accept the public recommendations of architects. They do not do that; they have their own ways of appointing people to public offices, people who are doubtless very valuable, from many points of view, but are not people who represent their calling. They are not the best people of their time, but boards are very jealous of any outside advice on these things. The part of Mr. Webb's address which specially interested me was that toward the end, where he spoke of the possibility of sorts of councils of wise men. We do need that in England, to get outside the dreary, and quickly becoming vicious, circle of politics; we do require some possibility of drawing on the experience and wisdom of the community.

News Notes

Harvard School of Architecture

Arthur Brown, Jr., has recently been appointed lecturer on design at the Harvard School of Architecture. He was born in Oakland, California, May 21, 1874. He graduated from the University of California in 1896, with the degree of Civil Engineer. He was admitted to the Ecole des Beaux Arts in Paris in 1898, where he studied under M. Laloux, the eminent French architect. While a student in that school Mr. Brown won many honors. He took nine first medals in the course of his regular school work, and won also first prize in the Godeboeuf prize competition in 1900, and second prize in the Rougevin Competition in 1903. He received his diploma from the French Government in 1901, and the Grande Medaille de La Société des Diplômés was awarded to him in 1901 and 1902.

Mr. Brown began the practice of his profession in Washington, D. C., in 1904. He moved to San Francisco in the same year, and became a member of the firm of Bakewell & Brown, which firm has designed and executed many important public and private buildings on the Pacific Coast since that date; among the better known are the City Hall in San Francisco and the City Hall in

Berkeley, both won in competition, the Sante Fé Railroad Station at Redlands, the Country Club at Burlingame, the City of Paris Department Store in San Francisco, and the Horticultural Building at the Panama-Pacific Exposition.

Mr. Brown has also had experience in teaching architectural design, as he was on the staff of the University of California, and conducted a successful atelier for the Beaux Arts Society. He is a member of the American Institute of Architects, the Beaux Arts Institute, and the Société des Architectes Diplômés par le Gouvernement Français.—From the Harvard Alumni Bulletin.

The Index to Volume V

An Index to Volume V has been printed and will be mailed to all subscribers upon request.

Bound Volumes

Due to the congestion of the postal and express services, the Journal announces that it will not bind volumes for subscribers this year, but asks that the numbers of Volume V be laid aside until the end of the present year, when, if war conditions permit, arrangements will be made for binding Volumes V and VI at the same time.

What Is a House? V*

By RICHARD S. CHILDS

The House Problem Is a Land Problem

IN ESSENCE, the reason why our workmen and their families do not live in attractive surroundings is because attractive surroundings would raise the rent which in turn would raise the land values. And a raise in rent would chase away the workmen and their families.

When New York opens a new subway and offers to a district where the working people live, a quick, convenient ride down town, the operation of this law promptly chases the aforesaid working people fifty blocks further away. I know a church at 76th Street whose whole congregation moved to the 120th Street region when the subway opened, to avoid the rising rents.

If New York should solve its market and food-supply problem, the landlord, showing a prospective tenant through an apartment would say, "We are only three blocks from the municipal market here; you can save \$10 a month on food. So this apartment at \$70 a month is really just as cheap as it used to be at \$60." Or the vacant-lot owner would say, "Yes, but all the land in this section has gone up because of the advantages of that new municipal market over there."

In a factory town, if the factory encounters adverse fortune and employs its operatives only intermittently, rents and land values are depressed. But if the factory is full of orders and offers overtime work at time-and-a-half, the real estate men brighten up and get their asking prices.

Increase the workers' pay, with the idea that they can have pretty and spacious houses instead of dismal and narrow ones, and you have increased their buying power—a fact of which the land-owners take note. "They're putting in a lot of machine processes over at the plant," says Mr. Landowner as he dickers over a sale, "and several hundred high-paid mechanics will be brought here to live. They'll be wanting homes." And he stiffens his price appropriately. If a group of millionaires had sudden reason to

*Introducing still another author, with several new ones to follow.
—THE EDITOR.

colonize there, his prices would grow vastly more. When Henry Ford jumped the wages in his vast plants, Detroit real estate jumped too, to match the new buying power.

The Fable of the Bungalow

There is a fable told of a man who, choosing between two rural bungalow plots at \$500 each, decided to take both and tendered the owner \$1,000. But the price of the two, he was informed, was \$1,100. For the bungalow he was to erect on one lot would enhance the value of the other lot to \$600. If there had been a thousand such lots on sale at \$500 each, the price of them all (with a certainty that a thousand bungalows were to be erected) would not be \$500,000 but something nearer to \$1,000,000. The early comers would pay \$500. The late comers, entering a neighborhood whose development had become assured, would pay \$600, \$800, \$1,000, and more for lots that were not a whit different or better. And the tax assessor would value them all, quite properly, at the standard set by the latest sales. So, little by little, the people who could pay \$500 a lot, but no more, would find themselves unable to enter the colony.

So we see the real-estate developer buying the big old suburban farm, cutting it into lots, laying sewers, roads, sidewalks and wires, and offering frantic inducements to the first comers, for the sake of profits on later sales after his forlorn, bare tract becomes a nice neighborhood. He wins or loses, as his fate may be, but his bitterest burden is the flimsy parasite development that presently rises just beyond his boundary line and undercuts those later prices by which he hoped to recoup those earlier sacrifices whereby he got the people coming. This unearned increment which he earns for his idle neighbor is perhaps the straw that breaks his back.

Imagine, if you can, an enthusiastic city planner building a model suburb piecemeal! He would buy a few lots, erect a group of pretty houses, sell them and buy land again just beyond, build there, sell, and buy more land beyond that! Would he? Not if the land-owners saw him coming! They would build up a dam

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of inflated prices on their lots against his approach, as if he were a leper. His pretty houses, so far from encouraging the erection of more model houses in the neighborhood, would actually tend to make them impossible by compelling other builders to spend for unearned increments of land value more and more of the money they intended to put into plumbing and verandas.

Assessable and Non-Assessable Benefits

When the city builds a sewer, it can assess the cost against the property benefited; the City Club of New York demonstrated, a few years ago, that even so large an enterprise as the subways could have been easily financed in that way by the lands whose value they enhanced; but a good and wholesome housing development that benefits a neighborhood is not assessable, even in part, upon the neighboring land. If it could be, what a fine stimulus we would have for the kind of housing that improves a neighborhood by its very presence! How it would alter the financing of the enterprise if the landowner across the street or around the corner could be charged with a fair share of the cost of thus bringing new people to that section, in due proportion to the resultant enhancement of his land values.

Concede, then, that no real solution of the problem of getting the vast majority of our population into attractive homes is possible unless we first solve the problem of the unearned increment which now banks up in front of economic progress, including housing progress, like snow before a snow-plow!

Wages and Land Values

Of course, there is a wage-problem, too. Numerous workers are paid so little that they cannot possibly meet the rent that should fairly be charged for a barely decent home, even on low-priced land, and employers sometimes go in for philanthropic housing at charity rates to compensate for their own niggardliness. But that is a separate problem—not strictly a housing problem at all.

Wages should be sufficient to obtain for the workers at least enough of the products of other labor to feed, clothe, and house their families in decency and health. In the workers' budget the variable element which has no relation to a

definite cost of production is the tribute he must pay to land.

When the Lackawanna Steel Co. put its big plant on a stretch of vacant land near Buffalo and offered work there for several thousand men, the town land was worth \$1,279,000. The city of Lackawanna, 14,000 population, grew up there, and the land values skyrocketed from \$91 per person to \$644 (the plant land being eliminated in each case). That inflated value for standing-room was, in fact, enough to keep about half the Lackawanna Steel Company employees from making their homes there at all, while many of those who do live there, huddle in dingy saloon lodgings and leave large areas idle in the hands of the land speculators. The annual value of a man's full share of Lackawanna land for himself and family of five at 6 per cent is, at the original value, $5 \times \$91 \times .06$, or \$27.30; at the enhanced value, \$193. Money spent on land rent cannot be spent on house rent. The annual cost of a wholesome house is, let us say, \$125 a year. If his modest lot cost only an additional \$10 or \$20 annually, the worker could more nearly afford those superior accommodations which the housing and city-planning experts yearn to give him.

The net unearned increment which Lackawanna has given as a princely gift to miscellaneous lucky private land-owners and speculators is \$6,788,000, a figure large enough in itself to explain why Lackawanna is mostly ragged and squalid instead of dainty and wholesome.*

The Lackawanna Steel Co., after creating the increment, finally bought additional land at the enhanced values and erected a group of good houses for some of its employees, but was unable to charge to its low-paid workers rents high enough to make the operation anything but a philanthropic proposition.

The U. S. Steel Corporation has taken the logical next step by purchasing town land in various places at the same time as the land for the new plants, thus in some degree anticipating and capturing the increment for the benefit of its workers. In some degree, I say, for the coming of a mysterious purchaser who buys land by the square mile cannot be altogether concealed, and the Corporation which, of course, has no power of condemnation, gets mercilessly

*These figures are taken from an elaborate unpublished report by H. S. Swan, of New York, prepared for the Committee on New Industrial Towns, of which the writer is Secretary.

mulcted by the land-owners who get wind of the operation in time to raise their prices.

Having thus acquired the town-site, the Steel Corporation plans the streets and sells off the lots without attempting to reap a profit. But as population arrives, the unearned increment arrives too and confers profits promiscuously upon the successive land-owners. In Gary, Indiana, which this Corporation created, in 1906, on vacant sand-dunes, this generous policy resulted in distributing \$22,358,900 net to various private owners and speculators during the next ten years, a heavy burden upon the steel-workers in their efforts to buy housing accommodations or anything else.*

Philanthropy and Paternalism

At other places, under similar circumstances, many companies have bought and kept the town-sites, erected good cottages, and rented them to the workers. Sometimes this has been largely and beautifully done; sometimes cheaply and shabbily. The old New England factory villages, the mining towns and modern creations like Morgan Park, Minnesota (U. S. Steel Corporation), are types. Sometimes the manufacturer collects a profit on his housing operation. More often he runs it at cost, and sometimes frankly and purposely at a deficit, considering it in effect a supplement to his wage-scale. This latter system thwarts the unearned increment nicely. The increment exists, but the owner forbears to take advantage of the power to charge more rent than his actual costs dictate. But the system is paternal and often suggestive of feudalism or of "Lady Bountiful," which irritates self-respecting labor. The corporations' policies and practices as a landlord become entangled with its policies as an employer. In case of a strike, shall it insist on dispossessing strikers who are unable to pay the rent and give the newspapers an opportunity to publish pictures of Mr. Striker and his wife and seven children with their pitiful pile of chairs and bedding on the sidewalk? Or shall it help finance the strike by generously remitting its claims for rent in the cases of those who assert themselves unable to pay? Wise employers dislike to be the landlords of their workers.

*From a report to the Committee on New Industrial Towns, by Dr. R. M. Haig, of Columbia University, republished in part in the *Political Science Quarterly*, March, 1917. Reprints obtainable from the Committee.

The Workman as Home-Owner

The attempt of manufacturers to sell houses and lots to employees on easy terms or otherwise is, from labor's standpoint, not generous but positively sinister. Except in towns where there is great diversity of employment, the effect is to tie the worker to the mill-owner like a feudal peasant to his lord. It interferes with the mobility of labor. As the Welfare Director of a large company enthusiastically explained to me, "Get them to invest their savings in their homes and own them. Then they won't leave and they won't strike. It ties them down so that they have a stake in our prosperity."

Another informant commented on the labor troubles that brought about the permanent dismantling of a certain old plant in a New England village. "Those fool workers!" he said. "There a lot of them had invested the savings of years in their homes and then had to sell out for a song and move elsewhere. That's what they got for quarreling with their bread and butter!"

Community Land Ownership

Are we agreed, then, that the housing question is partly a land question? That an influx of population to a new area enhances land values and thereby burdens the incomers to the full extent of their paying power? That an improvement in housing likewise enhances land-values and promptly balks the progress of better housing by a swelling barrier of unearned increments? That increments must be anticipated and in some way eliminated as a barrier before we can hope to see our army of workers happily housed on any extended scale? That effective housing operations must be on a large enough scale to reserve to the enterprise the bulk of the increments they create instead of handing easy money to the neighbors? That this requires a single ownership and control of the whole tract, rather than diversified ownership with each owner trying to capitalize the benefits of his neighbor's progressiveness? That such single ownership may not wisely be in the hands of a manufacturer who employs the tenants?

In whose hands, then?

In the hands of the future community, as a whole!

The medium may be a non-profit land com-

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pany, the conduct of which the future tenants may control—a private government, so to speak; or the government. Either might earn a surplus but would have nothing to do with it save to distribute it in some kind of services among the tenants.

Letchworth and Land Values

In England it is this principle that underlies the garden city. The story of Letchworth has been told already, but let us have it again in these particular terms as a problem in land. The First Garden City Ltd., seeking no profits beyond a cumulative 5 per cent on actual investment, but intent simply upon an interesting public service, bought some 7 square miles of vacant land at agricultural prices, planned a beautiful city for 30,000 people in the center of it, with a belt of farms around it, and put in the necessary paving and utilities to make it habitable. The belt of farm land was a valuable feature; it prevented neighboring land-owners from reaping fruits of the Company's sowing. Any purveyor who wanted the trade of Letchworth must set up his shop and home in Letchworth and not just over the border, for the border was far away. Anyone who obtained a job in Letchworth must live and trade there, too. So when the Company induced manufacturers to come to Letchworth with their operatives, Letchworth property got all the benefit. The lots were not sold but leased for 99 or 999 years on terms governed by a foreknowledge of just how populous Letchworth was to be allowed to be and just what it was destined to be like in each street and square. Some of the unearned increment did escape, due to the length of the leases. The early lease-holds doubtless have some salable value today, and later leases, made after part of the population had arrived, were on an ascending scale of rentals. But the bulk of the increment has been so successfully reserved to the Company, and thus to the community, that at the first general appraisal of the Company's value in 1907, four years after the founding of the town, there was already a net increment of £169,058 above the total cost to that date of £247,806. Since then, of course, the increments have been vast, and Letchworth shows annual profits. For the present, the Company, with its self-imposed limit of 5 per cent annual return on its investments, is itself directing the expen-

diture of the revenues and performs the functions of practically a municipal government. The property will some day be turned over to the people of Letchworth, and Letchworth will be owner of all its underlying land and of miles of adjacent farms, with revenues beyond the dreams of ordinary governmental avarice.

Between a typical group of private owners and the First Garden City Ltd. there is a gulf. For the annual value of the lands at Letchworth is not expended upon the private comforts and necessities of a certain few land-owners, but upon the property for the benefit of the rent-payers. The landlords of Letchworth were eager to attract population, but they wanted it to come and build, not congested new slums, but attractive homes that would enhance neighboring values. And terms were accordingly offered that left a margin in the worker's budget sufficient to pay for a decent house.

So it came about that the people who left city slums to come to the green charms and sunshine of Letchworth, found that their wages would secure for them attractive cottages on land that was still reasonable despite its desirability. The miracle had been achieved of establishing a spot where good money could be earned and city conveniences obtained without encountering a land-cost so inflated as to exclude the possibility of spending money enough on housing to secure wholesome accommodations.

In the case of those new and charming towns which the English Government has built to house munition workers, the unearned increment has been likewise carefully squelched. The land is taken at pre-war valuation, and the right is reserved of taking more land adjacent thereto, if needed, at the same speculator-defying terms. The Government, of course, disdains to grasp any of the increment and has fixed its rentals at figures dictated by actual costs of land and buildings rather than by the necessities and paying power of the well-paid munition workers. So the munition workers are left able to pay for adequate housing.

From time to time, in America, some great corporation goes forth and establishes a big new plant on vacant land and creates a new town. Thus, the U. S. Steel Corporation created Gary, with 40,000 population, Morgan Park, Minn., Fairfield, Ala., and various ore towns, while a square mile of land at Ojibway, opposite Detroit,

has been expertly planned for 22,000 people and waits its time. So did the Corn Products Refining Co. create Argo, Ill., the Lackawanna Steel Co., Lackawanna, N. Y. and there are numerous other cases. Graham R. Taylor has told about them in his "Satellite Cities."

The next time that is done, the company should buy land enough for the plant and the town, too, create a non-profit land company, sell it the town-site, and accept in return its first-mortgage bonds. The land company should plan the city, pave it, provide water and other utilities, stake out the building-lots, determine which shall be business streets and residential streets, and establish a minimum cost of buildings in the various districts to protect the land values. It should lease, not sell, the land, fixing the rentals at a figure sufficiently low to keep the workers from going outside the tract to find homes. Unless the size of the future population can be definitely foreseen, rentals of business frontages should be adjusted every five years, to correspond with the growth of the population, or perhaps, of the factory payrolls. Residential rentals could be made for fairly long terms—say fifteen years—since such land values, even in a rapidly growing town, do not necessarily alter much. The employer, if it be destined to remain a one-industry town, would have to become a partner in housing operations in some round-about way, such as financing a building and loan association or helping with the financing of a housing corporation, in case private capital proves timid about building on leased land.

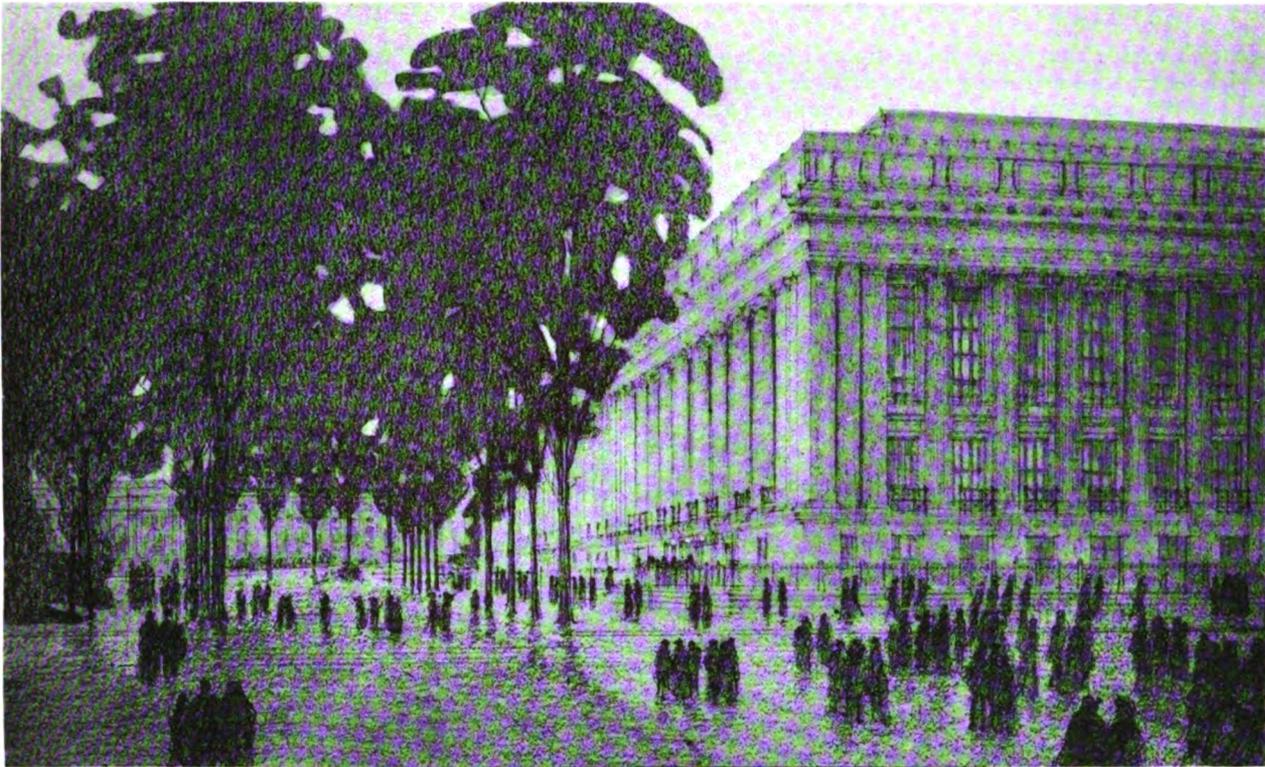
The income from land rentals at the modest rate of 4 per cent on the enhanced land values would be enough to amortize the investment and

leave twice as much money for community purposes as the town would normally obtain from taxation. At least, that is the way it figures out in both Gary and Lackawanna.

The land company could afford to charge less than the traffic would bear, as the English companies do, and thus leave the worker money enough for good housing. Or, as I should prefer, it could charge close to what private landlords would exact and use these great revenues for services that would reduce the cost of living and have the same easing effect upon the personal budgets of the workers.

The same principles apply to the pressing problem of housing our American munition and shipyard workers. Let our Government create a Housing corporation with an appropriation. Let it condemn the lands it needs, build the villages and cities that are required, and rent the houses during the war. Then, when the war industries have been readjusted to permanent peace conditions, let the Government write off the excess and emergency cost of its housing adventure as a cost of war, and recoup the balance by selling the property, not to individuals, but to local non-profit land companies to be operated for community revenue. Thus will be created communities that are the owners of their underlying lands, possessors of all present and future increments therein, and enjoying revenues a hundred per cent above those of ordinary towns of equal size. In such towns, good housing could easily be achieved and maintained.

I would like to be the manufacturer, competing in the markets of the world, who drew his labor from such a town!



THE TREASURY DEPARTMENT NEW BUILDING DESIGNED BY CASS GILBERT

The New Program for Public Buildings in Washington

[NOTE.—The Public Buildings Commission, according to the act creating that body, was to have the advice of the National Commission of Fine Arts. Portions of the communication of the latter commission are given below.]

OBVIOUSLY the two great centers are the Capitol and the Executive Offices. Prior to 1902, the question of relocating the White House was discussed from time to time; but ever since the restoration completed in 1903, all such ideas have been abandoned. The historic White House on its original site may now be taken as a fixed fact. At the time of restoration the Executive Offices were removed from the residence to a building designed by the architects as a temporary structure. Then it was anticipated that in a not distant future Congress would provide for executive offices of a more dignified character, with suitable approaches. Congress, however, provided for doubling the size of the temporary building. Further expansions will necessitate a careful study of this perplexing problem. To build a second story on the present building would detract from the White House itself. This Commission calls attention to the seriousness of the problem and the necessity of careful study of all its phases before Congress shall commit itself to any further enlargement of the Executive Offices.

The Department of State

When the State, War, and Navy Departments were located in their present building, thirty-eight years ago, the State Department was well provided for. Its offices

were convenient to the White House and were adequate in size. As the activities of the other two Departments have increased, the State Department has been compressed into smaller and smaller space, in spite of the fact that its own needs have grown with rapidity. As a consequence, this ranking Department, which represents the means of communication between the United States and foreign nations, has not space in which to use its current files.

In 1908, Congress recognized the necessity of a new building to be used exclusively by the State Department, and for that purpose purchased land on Fifteenth Street, south of Pennsylvania Avenue. When plans for departmental buildings were prepared, two years later, the State Department found itself shoved over into the Washington Monument grounds, on lands the use of which Congress never had sanctioned.

The location of the State Department far from the White House (with which it is necessarily in frequent intercourse), and also far from the natural center of diplomatic activities, has led successive secretaries to endeavor to secure a location both convenient and adequate. The location favored is Square 167. A tunnel connection could be made with the Executive Offices, and thus the close and confidential relations which must prevail between the two would be facilitated.

Again, that location would enable the State Depart-

ment to relieve the White House from those functions which are too large and of too general a nature to be accommodated properly in a building which is primarily a residence. The plans prepared eight years ago provided for apartments to accommodate guests of the nation—a need which was strikingly manifested during the year 1917, when foreign delegations of high diplomatic importance, on coming to Washington, were entertained in private houses.

The plans made in accordance with the requirements of the State Department in 1910 call for a building which would occupy nearly all of Square 167; and these requirements certainly are not less today than they were eight years ago. The square is adequate, but it is none too large for the purposes of the State Department.

Square 167 is not only the location best adapted to the requirements of the State Department, but it is also the most available area for purchase. The Government already owns a considerable portion of the land; other parts are rented for governmental or semi-public purposes; many of the buildings are of the kind known as "tax-payers," and none is of great importance. Degeneration has set in throughout the square, and ultimate Government occupation is foreshadowed. The location is desirable, not only from the standpoint of availability and convenience, but also because it is an essential part of the plan of locating public buildings around Lafayette Square, thereby creating for the Executive branch a group of buildings dominated by the White House. Such an arrangement would be comparable with the legislative group created by Congress, under the domination of the Capitol.

The Treasury Department

The Secretary of the Treasury has been authorized (by an act approved September 27, 1917) to erect at the corner of Pennsylvania Avenue and Madison Place "a suitable building, complete, for the use of the Treasury Department," at a limit of cost of \$1,250,000, including the underground connection with the Treasury Building. Furthermore, he is authorized to secure special architectural and expert services, at such compensation as he may consider just and reasonable.

It may be presumed that Congress used the word "suitable" to mean that the structure shall be so designed that it will be in harmony architecturally with the White House and the Treasury, with both of which buildings it sustains close relations. Also, it may be assumed that the authorization to employ the aid of special architectural services was meant to empower the Secretary to secure the best ability in solving the problems of good taste, due subordination, and good order involved in the construction of a building to occupy so important a site.*

The real problem, however, involves more than the construction of a building to occupy about one-third of the frontage on the east side of Lafayette Square. Sooner or later this building must be enlarged to accommodate the fast-growing activities of the Treasury Department. This can be done by taking the frontage now occupied by a theater and a club. The building to be erected, therefore, should be designed with a view to such enlargement. Any

*Mr. Cass Gilbert has been selected to design the building.—EDITOR.

other solution of the problem would prove both unsatisfactory and uneconomical.

Whether in the years to come the entire square will be needed is a matter for the future to settle. It may be pointed out, however, that the really important buildings in the block could be adapted to Treasury purposes. Such is the logical conclusion of the determination already reached of occupying one corner of a square which holds vital relations to the orderly development of a group of Executive buildings.

The necessary expansion of the Bureau of Engraving and Printing can take place on lands now occupied by the old buildings of that bureau. These buildings were unsuitable for occupancy long before they were replaced by the present bureau building. The force of Treasury auditors now occupying them should be housed in buildings of an office type located in the area between Pennsylvania Avenue and the Mall. In designing the new buildings for the Bureau of Engraving and Printing, consideration should be given to the fact that the present bureau building was very carefully studied as to its conspicuousness from the Lincoln Memorial. The extension building will occupy a site related intimately to the Washington Monument and the Agricultural Department buildings. These relationships should be recognized and provided for in the location and character of the new buildings. At the same time the extension of Fifteenth Street through the Monument grounds should be studied in its relation to the plan for creating a more adequate setting for the Washington Monument.

The War Department

If Congress shall see fit to assign to the War Department the entire building now occupied in part by that Department, the building will still be too small to accommodate all the War Department activities. It may be possible to gain additional space by reconstructing the roof, and, at the same time, possibly, the building may be improved by the removal of light-obstructing porticos and other architectural excrescences; and the architecture may be brought into more harmonious relations with the White House and the Treasury.

In addition to the main building the War Department will require all the Seventeenth Street frontage from Pennsylvania Avenue to New York Avenue. This requirement will permit the construction of a series of buildings of the office type, which can be connected under ground with the main building.

There will still be functions which may best be administered in buildings more remotely located. The Army Medical Museum, for example, will press its claims for enlarged space; and the same considerations which originally gave to that institution a location on the Mall would dictate its retention there, with space for enlargement. The museum character should be preserved, but at the same time various functions of the Surgeon General's office may be provided for in the new structure.

It is impossible to forecast the future requirements of the War Department. For many years to come the various bureaus will expand in ways now unforeseen, and temporary buildings will continue to be occupied for periods far beyond their natural life. The result will be that, as

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APPROACH FROM PENNSYLVANIA AVENUE TO THE DEPARTMENT OF AGRICULTURE

The location of public buildings in the area between Pennsylvania Avenue and the Mall would provide dignified approaches to the Mall buildings

the temporary buildings deteriorate, large areas of Washington will present sad spectacles of dilapidation and squalor. This unfortunate aspect can be mitigated, provided that when conditions become reasonably permanent in any bureau, suitable buildings conveniently located be provided.

The Navy Department

The contemplated removal of the Navy Department from its present location involves the construction of a building in character suited to the importance of that Department and so located as to provide for the expeditious transaction of the business with the Executive Offices and the State, War, and Navy Departments. The importance of proximity cannot be overstated. This fact makes a location on Lafayette Square desirable—probably necessary.

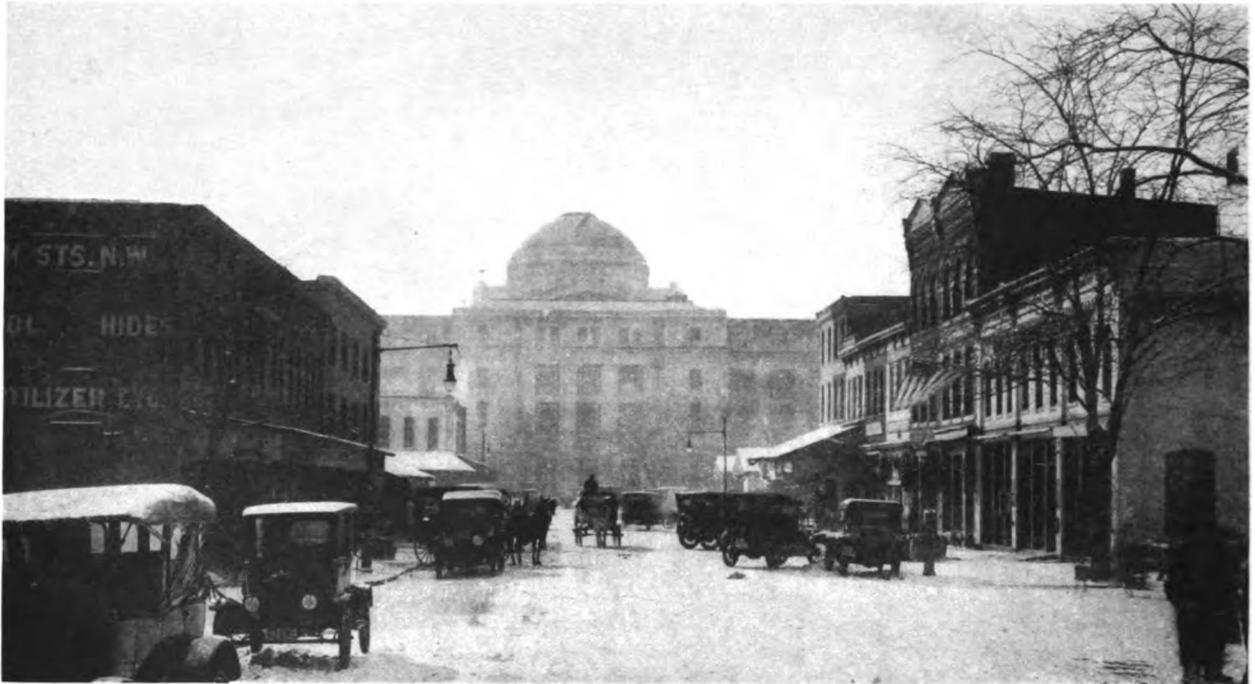
It happens that on the site of the old Arlington Hotel a building 125 feet in height is now under construction. The extreme height of this building, combined with the character of its design, make the contemplated structure a menace to the architectural supremacy of the White House and to the new Treasury Building already provided for. This Commission regards the proposed hotel building as a menace to good looks and good order. If it shall be completed as designed it will disfigure an area on the proper development of which depends the dignity of an Executive group of buildings. It is inconceivable that such action should be taken with the assistance of the Government itself; yet the rental of the building for Government purposes has been proposed.

Even aside from the question of appearance, it should be considered that the upper floors of the hotel building will command the White House grounds from a distance of 200 yards and an elevation of 125 feet. During the summer the leaves of trees screen the White House, but during half the year there are no such obstructions. It is unwise to give such invitations to mischief.

The need of additional building areas in proximity to the White House is a reason why the present opportunity to acquire a site already cleared of buildings should be seized. A brick building suited to the needs of the Navy Department and of a suitable height could be built with the least possible expenditure of time; and, as opportunity offered, this building could be faced with stone and ultimately extended in that square. There are difficulties to be overcome, but there are objections to every suggested site, and in this instance the advantages far outweigh the objections.

The Department of Justice

Ten years ago Congress initiated legislation to provide for the Department of Justice a building located at the southeast corner of Pennsylvania Avenue and Fifteenth Street, but that Department is now occupying a private building, the erection of which was financed by its action. The policy of securing the erection of buildings by private parties for Government uses is open to so many objections that it can continue only until Congress shall develop some adequate plan to meet the emergency arising out of the unusually rapid increase in Government activities—an increase which the war has speeded up, but which began years ago.



APPROACH FROM PENNSYLVANIA AVENUE TO THE NATIONAL MUSEUM
These markets should be housed in government owned and controlled buildings

Legislation for a suitable building for the Department of Justice is now in such shape that the enacting of Section 10 of the latest Public Buildings Act, as a separate measure, would result in a proper structure in due time. The location of the Department of Justice on the proposed site is a step in the direction of "cleaning up the south side of the Avenue," which phrase has become a slogan with those persons who advocate restoring the preëminence of Pennsylvania Avenue as the great thoroughfare between the legislative and executive branches of the Government.

The Post Office Department

The Post Office Department occupies a building constructed for a city post office. The location adds to the importance of Pennsylvania Avenue as a thoroughfare. A quarter of a century ago this Department was housed in a building which possessed decided architectural charm. This latter building (now used as the temporary overflow offices of Chief of Engineers of the Army) deserves a permanent occupancy corresponding to its architectural importance. It is located on F and Seventh Streets, in one of the busiest (and noisiest) situations in Washington, but even so it has possibilities which should be improved.

The present Post Office Department building was designed at the time when American architecture was in a transition state, before the necessity for an adequate amount of light and air was sufficiently recognized even by Government builders. The style of architecture adopted had its brief day of novelty and popularity; then it retired because of its failure to fulfil modern requirements. The Government is fortunate in having but one such example among its public buildings.

The Interior Department

The office building on Rawlins Square was designed, not as the administrative building of the Interior Department, but as a means of housing the Geological Survey, the Bureau of Mines, and certain other bureaus. The Secretary of the Interior formerly had his offices in the building now known as the Patent Office, one of the most dignified and impressive structures in Washington. Ultimately, a departmental building will be required.

The Interior Department office building is of great size and houses a very large number of clerks; consequently it has had an important effect in shifting the center of departmental activity to the west; and this movement has been accelerated by the construction of privately owned buildings for the War, the Navy, and the Commerce Departments, for the Interstate Commerce and Civil Service Commissions, and also by the erection of temporary buildings for war purposes. The result has been to isolate the Capitol and to widen the gulf between the executive and legislative groups, as well as to create congestion in an area that had been devoted to small buildings of a semi-public nature (the Corcoran Gallery, the Red Cross Building, Continental Hall and the Pan-American Building), each of which depends for its effectiveness on park and landscape settings. Means for mitigating this unfortunate condition are discussed below.

The Departments of Commerce and of Labor

When the Departments of Commerce and of Labor shall be provided with buildings located on the lands along Fifteenth Street purchased for their use, a corrective of the westward movement will be applied. Both of these

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VIEW OVER WASHINGTON FROM MERIDIAN HILL PARK

This outlook may be entirely shut off by the construction of an apartment house of present legal height

Departments now occupy rented buildings ill-adapted to use by large clerical forces, because of low ceilings, narrow corridors, inadequate elevator service, lack of storage space, and a character of construction which rapidly deteriorates and quickly gives to the buildings a shabbiness inconsistent with Government usages. None of these specially constructed buildings reaches the standards of construction used in private office buildings of the first class in the city of Washington.

Before final plans are prepared for these two Department buildings, consideration should be given to the activities they are destined to house. Among the newly created commissions are several which vie in importance with the Departments themselves. The character of the activities of these commissions would properly class them with one Department or another and in time (after the present exigencies shall have diminished) doubtless they will be so grouped. These manifest tendencies should be considered in the planning.

On the other hand, there are bureaus attached to these

Departments which can most economically develop on locations especially selected for the uses of the particular bureau. An example is found in the Bureau of Standards, one of the bureaus of the Department of Commerce. When this activity was separated from the Coast and Geodetic Survey and established as a separate bureau under the Treasury Department, some seventeen years ago, sixteen acres of suburban land were secured; and from year to year one building after another has been added to this growing institution until now there are seven in the group. The buildings are of brick, substantial but modest in character, and harmonious one with another. The entire group of five buildings, together with the site, has cost \$881,250, and there is still room for expansion. Moreover, the scientific workers of the Bureau of Standards have established a congenial community; the remoteness of the situation allows them to prosecute their work in freedom from interruptions and distractions due to urban conditions, and in summer they enjoy a temperature lower by some ten degrees than prevails in the city.

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While it is not possible to enumerate all the activities which should have suburban locations, it is suggested that the Coast and Geodetic Survey, the Bureau of Mines, and the Geological Survey would find it to their advantage to secure suburban sites, and Congress would consult the economies by so providing, when questions of housing for these activities come up.

The Bureau of Fisheries, also attached to the Department of Commerce, now has a location on the Mall, and the museum features of its aquarium dictate that the much-needed new building shall be constructed on the site now occupied.

The Department of Agriculture

From a comparatively small bureau in 1889, the Department of Agriculture has had a permanent development more rapid than that of any other Department. So closely related are the functions of this Department that while a certain amount of segregation is practicable (as in the case of the Arlington Farm and the Weather Bureau), yet in the main a rather close proximity is desirable.

This Department requires for its efficient working the completion of the present main building. When this shall be accomplished, the inadequate, unsafe, and unsightly old administrative buildings now occupied can be demolished. Further expansion may be accommodated by a structure on the northern side of the Mall, which, because of convenience of access from Pennsylvania Avenue, might properly house the Secretary's offices. The various scientific activities may be accommodated in the area south of the present buildings. The type of building having already been established, it is necessary only to provide that new Mall buildings shall maintain the standards now fixed.

The Mall

The Mall was designed as a park connection between the Capitol and the White House, and the early plans call for a continuous development of the entire space, about one mile in length. During the slow growth of Washington, the Mall was cut into sections, each of which was subjected to special and individual treatment under a theory that avoided straight lines. The approach from the west to the Capitol, planned as an open public square, was fenced about and called a Botanic Garden. This garden was never put on a scientific basis, nor is it now attractive or effective as a garden. Congress annually provides an appropriation for the removal of the fence, and also has located within the garden precincts both the Grant and the Meade memorials, with the evident intention of restoring the area to its original purpose as an approach to the Capitol. This intention should be carried out.

Gardens might be established in the area purchased by Congress for the extension of the Capitol grounds on the north, where they could be developed in relation to the avenues, as a constituent portion of the Capitol approach. Like gardens might be established on the south of the Capitol. The propagating activities may well find a location on the spaces created by filling the James Creek Canal. The adequate solution of the problem, however, is to be found in the establishment of a national arboretum and botanic garden of the highest scientific standard. A careful consideration of the subject shows that this garden

should be located on the Mount Hamilton tract, adjoining the Anacostia Water Park.

The general character of new buildings to be located along the Mall is determined by present occupations. The Smithsonian Institution, the National Museum, the Army Medical Museum, and the aquarium of the Bureau of Fisheries bring into the Mall daily throngs of visitors and sight-seers. The Freer Art Gallery, with its highly specialized collections, and the proposed George Washington Memorial, with its auditoriums for gatherings great and small, are essentially in character, and the nature of the Agricultural Department activities is not out of keeping with prevailing conditions. With continuous development of the roadways, the planting of the rows of elms, and the opening of the vista from the Capitol to the Monument, the American people will enjoy a composition which for dignity and attractiveness is unsurpassed in any city in the world.

In this area should be located the National Gallery of Art. Collections are now being gathered by the Smithsonian Institution, in accordance with its charter, which recognizes the fine arts equally with the sciences. Continuity in the administration of the Smithsonian Institution, together with the distinguished membership of its Board of Regents, marks this organization as the one pre-eminently fitted to receive and administer gifts made by patriotic citizens. The continued recognition by Congress of the Smithsonian as the trustees of the nation in handling trusts established for the information and enjoyment of all the people will encourage such gifts, and thereby will enhance the attractiveness of the National capital, both to visitors and also to those whose service makes them residents of Washington for longer or shorter periods. Due to the activities of the Government, this city has already become the scientific as well as the legislative and administrative center of the country. It may readily become, also, the general intellectual center of the nation. The Library of Congress and the Smithsonian Institution are the most potent instruments for attaining this end. Ample space in the Mall should be reserved for galleries and museums to house collections that are now offered only to be declined for want of room.

The Area South of Pennsylvania Avenue

Pennsylvania Avenue is the great thoroughfare connecting the legislative and executive branches of the Government. The character of the occupancy of the area between the Avenue and the Mall is low, and the tendency of retail business toward the northwest is steadily working for further deterioration. Nothing short of radical measures to bring this area into a higher grade of occupancy will save the situation.

The approach to the National Museum and the Smithsonian is now through streets largely given over to the sale of produce, live animals, and other concomitants of open-air markets. If the markets are to remain in this area, they should be put in order, preferably by the construction of market buildings around an open court. For this purpose some of the existing streets might be included in the market arrangement. The ownership and supervision should be in the District of Columbia, as in the case of the Fish Market now approaching completion on the water-

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THE SOUTH SIDE OF PENNSYLVANIA AVENUE

The fence should be removed from the Botanical Garden and the buildings should give place to public structures with suitable landscape settings

front. The entire market problem should have comprehensive study, to the end that present disorderly conditions may be remedied and each of the approaches to the Mall from Pennsylvania Avenue be made suitable.

Such public buildings as may conveniently be placed in this area should be so located. These buildings would include an armory, office buildings for auditors of the Treasury, like buildings for the permanent commissions, and the subordinate buildings of the Post Office, the Commerce, and the Labor Departments, and of the District of Columbia.

Here, too, may be located the Bureau of Archives, an institution urgently demanded on the score both of economy and utility. At present the Government archives occupy valuable space in buildings of the first order, and even there they are packed away so that they are not available to the Departments themselves. They are always a fire-risk to the building in which they are stored, and they are in constant danger of being destroyed, as has happened from time to time. By reason of theft and mutilation, many of the most significant and valuable archives have been lost or destroyed. No other civilized government is so regardless of its archives.

The archives of a nation are the basis of its history. They should be housed in a fireproof building and should be classified, arranged, and indexed so as to make them available both to Government employees and to students of American history. The building should be designed chiefly for the purpose of storing documents; it may be simple in character, with adequate rooms for the office force and for the consultation of documents. So constructed it would relieve the Departments, where space is always in demand, and at the same time it would expedite their work in making researches.

In the location of permanent Government buildings consideration should be given to restoring the balance now so seriously disturbed by the renting of buildings west of Seventeenth Street. This result can be accomplished by occupying with public buildings the south side of Pennsylvania Avenue from the Treasury to the Capitol. This consideration gains importance when the housing of employees

is concerned. The great area of moderate-priced residences lies in the vicinity of the Capitol. At a time when improvements along the Anacostia tend to bring into residential use very large areas of the most attractive lands in the District, it is not good policy to mass office buildings in portions of the District where fashion is the controlling element in creating prices. The convenience of the great body of clerks would be consulted by the location of public buildings east of Seventeenth Street, and this should be the policy, except in cases where relations to dominant buildings already established control the locations of subordinate buildings.

Another and strong consideration is the convenience to Senators and Congressmen in conducting their daily business with the executive branch of the Government. The present westward trend is calculated to consume unnecessarily the time of legislators, whereas the location of public buildings between the Capitol and the White House groups would aid materially in reducing the time necessarily spent on executive visits.

Experience teaches that once the Government acquires land in the District of Columbia, there are activities ready to use it advantageously. The main thing is to direct the location of public buildings so as to produce a harmonious development of the city. In this case it is the Capitol group which needs such protection as may be given simply by directing aright the purchase of building-sites that must be secured in one locality or another. The utilization of the area south of Pennsylvania Avenue would benefit the very center of Government life.

The Legislative Group

The Capitol was located nearly in the center of the city of Washington as originally laid out. The development of the city toward the northwest has been going on at a constantly increasing rate until now Capitol Hill is remote from social and business life. Meanwhile a legislative group of building is developing, with every promise of a final result of the very highest character.

The settlement of the railroad problem fifteen years ago made possible improvements of an ideal kind. The tracks



VIEW FROM THE LINCOLN MEMORIAL—LOOKING NORTH

If the new buildings of the Public Health Service shall be built upon a terrace, a larger area will be gained and a frame will be made for the Lincoln Memorial

were removed from the Mall, thus permitting a restoration of that space to its intended purpose as a continuous park. When a monumental Union Station, with a spacious plaza, was constructed as the entrance to the District of Columbia, the architects carefully studied its relations to the location and designed the station in such manner as distinctly to subordinate it to the Capitol. The same idea of subordination was expressed again in the city post office building adjoining the station.

Also, the architects employed by Congress to design office buildings for the Senate and House exercised like restraint, and thereby enhanced the dignity and grandeur of the Capitol. Next, Congress purchased the squares on the north, between the Capitol and the station, thus making possible on that side an approach of the highest impressiveness. The proper development of this now vacant area requires the location on it of buildings as well as gardens. These buildings when constructed doubtless will maintain the same high standards.

On the east, the square between Maryland Avenue and East Capitol Street should be reserved for a building to be erected for the use of the Supreme Court, at such time as its own requirements or the pressure by Congress for space in the Capitol shall lead to the removal of the Court. When this time comes, Maryland Avenue should not be closed, as was Pennsylvania Avenue when the Library of Congress was built, with the result of destroying one of the great vistas so carefully planned.

The development on the Senate side of the Capitol establishes the precedents for the treatment of the House side. There conditions are much the same as those which prevailed on the north before the purchase of squares between the Capitol and the Union Station. The objective which the station supplied on the north may be found on the south in the Army War College and Engineers' School of Application. The continuous development of Delaware Avenue and a boulevard treatment of the James Creek Canal spaces would enhance the appearance of the Capitol, and develop an area sorely in need of such treatment.

The Height of Buildings

Congress has undertaken to limit the height of private buildings fronting on Government-owned structures, but no provision has been made to protect the parks, which need such protection quite as much as do the public buildings. Meridan Hill Park, for example, was purchased because of its commanding view over the city, but today the chief value of that park may be destroyed by the erection of buildings which will completely obstruct the outlook from it. The same is true with Potomac Park in the vicinity of the Lincoln Memorial, where irreparable injury may be done by the construction of high buildings along B Street.

This Commission recommends that on streets adjacent to public parks no building shall be erected to a height exceeding 85 feet. And throughout the city a like limit would result in a more uniform development and a consequent equalization of land values. Whatever height the Government sets for its own office buildings should likewise be imposed on private structures.

The preparation of plans and the beginning of construction will require one or two years. By the adoption of a comprehensive and carefully considered building programme at this time, Congress will be able to provide for the adequate permanent housing of the forces employed in executive work as the temporary structures now resorted to fall into decay. Hesitation and delay will bring the National Capital to a condition of seeming dilapidation.

The necessities of the present time are the opportunities of the future. The Secretary of the Treasury expressed succinctly the advice the Commission of Fine Arts would offer, when he said

"It is to be hoped that the work of the Public Buildings Commission will result in the adoption of a logical, continuous building programme, having in view, not only the adequate housing of all Departments, but also the harmonious development of Washington."

Ways and Means of Securing Improved Housing

By EDWARD T. HARTMAN, Secretary of the Massachusetts Civic League

WHEN I went to school, the youngsters spent a great deal of time trying to demonstrate that if A, B, C, and D worked it right, A could lift B, B could lift C, and D could lift C, and D could lift A. The four were therefore expected to ascend indefinitely. But they didn't.

This illustrates most of what has been done in this country toward a solution of the housing problem. It has been studied and worked in a too isolated way. We have written laws to make houses better. Laws do not enforce themselves, and political administrators do not particularly well enforce them. Laws will not make people build homes to rent; they tend rather to prevent people from building. Laws do not reduce the cost of homes; they increase the cost. Housing laws do not increase wages; they, in effect, decrease wages.

There is no mystery about what the country needs. It isn't that something should be suppressed, like dark and poorly ventilated rooms. It is that something should be promoted, like light and well-ventilated rooms. The thing sought is a number of healthy homes sufficient to supply the needs of the people.

A manufacturer is perfectly willing to write off his machines and junk them when better ones appear. House-owners write off the cost of the houses and then continue to use them and to force others to use them. There's a reason.

If, then, we want to secure improved housing, we must go at the problem directly. Houses are an economic problem. By the operation of proper economic laws an abundant supply of good homes can be provided. The operation of such economic laws will even make laws regulating light and ventilation unnecessary. They will promote the building of homes, and the abundance of homes will mean that they will be good homes or they will not be used.

What can the Government do? One thing it can't do is to build and supply homes at the cost of the taxpayers. That would only add to present unreasonable burdens. Government can, however, put into operation the necessary economic laws. It can go farther. It can lay out land and build homes, to be sold at a slight advance above all costs, to show how lands should be laid out and homes built.

To build at a charge to the taxpayers is trying to make the mass lift the mass. To put economic laws into operation is to apply proper engineering principles to lifting the mass.

Let us illustrate. A man in Massachusetts built toilets in a number of his tenements. The taxman came along and assessed an additional \$500 on each tenement. The man built the toilets voluntarily, but the result would have been the same if our housing law writers had forced him to do it. The tenements were improved, but the rents were increased or the man lost money and will improve no more tenements. Wages were not increased. The lifting process didn't lift.

Another illustration. A man built a house. The assessors came along and assessed the house at 115 per cent of

its cost. They assessed the land at 600 per cent of the assessment on the land from which the lot was bought, at 1400 per cent of the assessment on land on another side and at 1900 per cent of that on land on a third side.

All the laws in Christendom aren't going to promote the production of good homes under such conditions, and the production of good homes is what we are after. The system we use effectively prevents the scrapping of houses long after it should be done. This is why homes are not scrapped, but are used and used and still used till slums are found in every city and town.

There is no hocus-pocus about the production of homes, though a lot of it is being tried. We have tried much at relieving the scales of our weight by lifting at the platform of the scales. Most of what we have tried is useful if properly applied. Laws will help. They voice the sentiments of the people and establish standards, but they do not provide good homes; they do not encourage the building of fit and proper homes in abundance.

I was asked to discuss methods of providing good homes in a general way. Now that I am at it, I feel with the Irishman who, upon seeing his first giraffe, remarked to his companion, "Pat, there ain't no such animal."

Let us get at it directly. The home a man can build for himself or that another can build and rent to him is a purely economic problem. He must carry the fair costs of the home. It is not a solution to give the man a subvention or to give one to the man who rents it to him, in lieu of rent lost. He must pay his own way.

Taxes have been mentioned. What have they to do with it? Practically everything. Taxes are laid for the purpose of meeting communal expenses. But we use a system of taxation which takes from men's earnings while we should use a system which takes from communal earnings. There are communal earnings in abundance for all needs, but these we allow individuals to appropriate while we tax upon earnings what we need, and a lot that we waste in addition.

There exists a barren and unoccupied space. Let's call it Gary. Homes are built. Streets, transportation facilities, water-supply, sewers, schools, churches, all sorts of conveniences are supplied, and the land becomes very valuable. Everybody created that value and everybody, that is the community, should have it. We give it, however, to the man who holds idle land and tax heavily improved land and improvements. We should tax equally all land of equal value.

To take the community increment would relieve wages and industry. It would prevent the holding of idle lands and give every man all he needed for a home, for a garden, for industry. The land would call for workers, and wages would be not only untaxed but high. Industry would be freed and could expand. Lots in the partially developed area would be available and would be used in preference to outlying lots, thus doing away with the necessity of still further taxing earnings to provide more streets, water-

supply, sewers, and transportation and all else over enormous areas only half utilized and adding more unearned values to still more idle land.

Homes would be plentiful and therefore cheap. If a man improved his home he would not be taxed an additional amount. So he would have a good home. If he rented he would have a good home because of the competition provided by the abundance of homes.

As long as we allow the individual to appropriate the community-created increment, generally not even taxing him on it, we give him that with which he increases rent, increase upon increase. He has capitalized what the people produced and should have. This is the greatest single factor in the housing problem, and to solve the one we must solve the other.

Put it in the words of Henry Campbell Bannerman: "You and I side with the public interest. Let the value of land be assessed independently of the buildings upon it, and upon such valuation let contribution be made to those public services which create the value. This is not to disturb the balance of equity but to redress it. There is no unfairness in it. The unfairness is in the present state of things. Why should one man reap what another man sows? We would give to the landowner all that is his, but we would prevent him taking something which belongs to other people."

In short, we would attach to land a use-value, and the man who held land would pay the use-value. If he had no use for it he would not hold it. What would this mean? What would it not mean? It would do more than any other one thing to solve the housing problem. And it would solve a lot of other problems quicker than the methods now being applied to them. For most social problems are at bottom economic problems. We, our laws, our courts, our customs, and our institutions recognize this, but we make it the problem of the few while we must make it the problem of all. The property rights of the little fellow must be just as sacred as the property rights of the big fellow.

There are a few things incidental to the problem and its solution as outlined. Laws are needed because the community must be in a position to look after all conditions which may arise. There is no universal panacea. Useless as they are alone, laws will help till the millenium is more visible than at present. They will prevent poor homes from being forced upon people while proper economic laws are working towards universal supply of good homes.

Having looked after the main economic principles, the establishment of which will do so much, I would crave a word with laborers. Anyone who has read thus far will not doubt that I consider the laborer worthy of his hire. But let him take thought of himself and his duties in all that must be done. Studied loafing, measured stints, and such like will not help solve the problem. If a man must charge rental in proportion to the cost of construction, what will happen if he employs a group of loafing laborers to build homes to rent to this same group? It works ultimately to the same end, whoever rents the homes. Every day of loafing reacts on the laborer just as much as does the appropriation of an equal amount of unearned increment by someone else.

Just a word as to architects, critical but intended to be constructive, for no one doubts their importance or possibilities in the matter. They give too little attention to service and convenience inside and too much to isolated façade. Convenience and effective service are big problems largely awaiting development by architects. We can also practise in architecture what we may so readily observe in nature. The leaves of no two trees are alike, either in form or color, and yet they are all shot through with that quality which spells harmony. This is true at all stages of development and of changing color. No two apples on a tree are alike. There is individuality, there is variation in size, but there is harmony. On the other hand, a study of practically any street, even where houses are expensive, and each is specially designed by an architect, will show a medley of architectural design which lacks harmony. It is not restful. The work on units may have high artistic value, but the whole is unharmonious, it is incongruous, it is not pleasing. I do not need to point out why.

The home, to be worthy of the name, must be healthy and convenient and, to serve its fullest purpose, it must form a fitting part of the community in which it is located. For this quality we must look to the architects. They will doubtless do their part when the people are ready for them. As long as people will buy façade by the square foot, they must expect to have it supplied to them in that way.

When it is better to have land in use than idle, when homes seek use, when a useful and beautiful home is not made to pay a penalty for its usefulness and beauty, then will homes be plentiful, useful, and beautiful.

Home-Ownership in New York City

To the Editor, Journal of the American Institute of Architects:

The November issue of the Journal contained some general statistics relating to home-ownership. A study of the conditions surrounding this now almost extinct institution in New York City should be of more than local interest.

The proportion of rent-payers is increasing; the proportion of home-owners decreasing. Tenancy is becoming the universal rule and home-ownership the rare exception. The ownership of a free home is a tradition of the past. If the present tendency continues, it will only be a question

of time when the ownership and use of land in New York City will be completely divorced, and the whole city will, in effect, stand in the relation of a tenant to an absentee landlord.

The percentage of owned homes in the city is declining; that of rented homes increasing. In 1900, one family in every eight owned its home; in 1910, only one family in every nine owned its home. In 1900, one family in every twenty owned a free home; in 1910, only one family in twenty-eight owned a free home. In 1900, 42.2 per cent of the

HOME-OWNERSHIP IN NEW YORK CITY

owned homes were free homes; in 1910, 30.2 per cent of the owned homes were free homes. During this ten-year period the total number of homes in the city increased 41.2 per cent; the number of free homes declined .8 of 1 per cent. The number of free homes in the city, instead of being increased by the erection of new homes, lost one of the homes owned free in 1900 for every thousand new homes constructed during the decade.

Out of every thousand new homes constructed in the decade, 110 were owned homes. In Chicago 290 were owned homes; in Cleveland, 312; in St. Louis, 327, in Philadelphia, 451. In only one of the next five largest cities was the number of owned homes per thousand new homes less than in New York. In Boston it was 88. Of the fifty-one cities in the United States with a population exceeding 100,000 the number of owned homes per thousand new homes was probably greater in Spokane than in any other city. There it was 584.

The number of free homes per thousand new homes was a minus quantity in New York City, but in Philadelphia 95 out of every 1,000 new homes built were free homes; in Cleveland, 112; in Chicago, 126; and in St. Louis, 173. Even in Boston it was 8. In Spokane it was 283.

Chicago, with less than half as many homes, has more

owned homes than New York City, which has only two-thirds as many free homes as Chicago. Philadelphia, with less than one-third the number of homes, has more free homes than New York City.

The situation affecting home-ownership in the city may be epitomized under four points:

1. The number of rented homes is increasing faster than the number of owned homes.
2. While there is an increase in the number of owned homes, this increase occurs not among the free homes, but exclusively among the encumbered homes. In fact, there are more homes mortgaged in a given period than there are homes purchased. In other words, the encumbered homes are increasing at the expense of the free homes whose owners are gradually either mortgaging them or disposing of them to join the tenant class.
3. The owners of encumbered homes are not paying off and canceling their mortgages in order that they might become the owners of free homes. A new lien is contracted for every mortgage liquidated on an owned home.
4. Only a moiety of the equity is acquired in any new home purchased. For every home in which a full equity is acquired, another home is mortgaged.

Yours very truly,
HERBERT S. SWAN.

The New Income Tax*

The computation of income tax under the new law, has been officially explained by the Treasury Department, which announces that, in the case of an unmarried individual, the figures would be as follows:

Net income	\$10,000 00
Specific exemption	6,000 00
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Subject to excess profits tax	\$4,000 00
Taxable at .08	320 00
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Net income	\$10,000 00
Less excess profits tax	320 00
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	\$9,680 00
Less specific exemption	3,000 00
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	\$6,680 00
Normal tax of 2 per cent	133 60
Net income less excess profits tax	\$9,680 00
Less specific exemption	1,000 00
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Taxable at 2 per cent (new law)	\$8,680 00
Tax thereon at 2 per cent	173 60
Net income in excess of	\$5,000 00
Surtax at 1 per cent on	4,680 00
Surtax of 2 per cent on	2,500 00 \$25 00
	2,680 00 43 60
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Summary:	
Excess profits tax	320 00
Normal income tax (old law)	133 60
Normal income tax (new law)	173 60
Supertax under new law	68 60
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	\$695 80

*See the tentative calculation published in the Journal for November.

The Department points out that in the case of corporations, the new law imposes no surtaxes but a graduated excess profits tax. The exemption or deduction to which a corporation is entitled is measured by a certain percentage (not less than 7 per cent nor more than 9 per cent) of its invested capital. Assuming this sum to be \$50,000.00, with pre-war earnings of 9 per cent thereon, the computation would be as follows:

Invested capital, \$50,000 00	Net income	\$10,000 00
Percentage deduction at 9 per cent		\$4,500 00
Specific deduction		3,000 00
		<hr/>
		7,500 00
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Amount subject to excess profits tax		\$2,500 00
Amount of net income in excess of the deduction and not in excess of 15 per cent of the invested capital		2,500 00
Rate of tax applicable, .20		<hr/>
Amount of excess profit tax		\$500 00
Net income of corporation	\$10,000 00	
Less excess profits tax	500 00	
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Taxable at 2 per cent (normal income tax)	\$9,500 00	190 00
Taxable at 4 per cent (war income tax)		380 00
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Total tax against corporation		\$1,070 00

For these figures the Journal is indebted to Franklin H. Wentworth, Secretary of the National Fire Protection Association, who has made his correspondence with the Treasury Department available to us.

Letters* from an American Architectural Student in France

June 16, 1917

We are back again now at the front, at quite a famous place—in fact the Mecca of all American Ambulances. And there is going to be something doing—we are all pretty sure of it. Enormous preparations and great bodies of troops and “ravitaillment” on the road. “Ravitaillment” is a peculiar word; it means supplies of any kind from a pair of shoestrings to a marine gun.

Two weeks ago Sunday we played soccer with the team from the 47th Regiment. Of course they won—2 to 0—but then it was lots of fun, and they were good sports and played an exceedingly clean game. Their team was composed of both officers and privates, which shows how democratic this French army is. The audience was entirely made up of soldiers, the men and officers mingling. I never had as much exercise in all my life as that game. Afterward we all had our pictures taken together. Then we went to a little glade beside a town in which they had built a small open-air stage, and there was an amateur entertainment. Quite good, however, one man playing the violin very well, while another was a good acrobat.

Last Saturday I was sent over to a little town twenty miles away, the headquarters of the “Service de Santé” of this section. We all take turns at it—four days at a time. Over there we sort of play messenger-boy and chauffeur for any stray doctors who happen to have need of us. I had contemplated a rather dull time, but after it got started I rather enjoyed it, and before it was over I decided that I had never really had quite so interesting a time in my life. To begin with, it was a little town boasting only four streets, each one about twice as long as the ordinary football field. There was very little work done—almost none—merely taking officers to a dentist or something like that. I ate with a bunch of brancardiers and hostlers. It was regular French army rations. They were all right. Coffee and bread between 7 and 8 A.M.; a plate of meat and macaroni, one cup of wine, salad and bread at 11 A.M.; and a plate of soup, one cup of wine, one plate of meat and vegetables and bread, occasionally jam, at 5.30 P.M. I heard that the German prisoners get the same fare (minus the wine and jam), which I should say was very ample, as it satisfied me—one who has practically always had his hunger satisfied to his taste.

The runs from that town were fine. On one occasion I got lost with a sick man in the car. True to the family failing, I kept on going. Finally I came to a canal. At the edge of the canal there was a little forge, and, lying by the banks, were some specially made barges on which were mounted huge naval guns. I went down to the forge to ask the way and was met by an elderly seafaring man with an enormous black beard covering a striped jersey; his ears were ringed and he was unspeakably grimy. He insisted on shaking my hand, and before I could ask him anything he launched forth into his family history and past, which speech lasted some fifteen minutes. He came from Brest, had been to America several times, and was loud in

*The letters of Edmund Randolph Purves, continued from the last issue.

his praise of our country. In fact, at the present moment they all are the same way over here, and I understand gave Pershing quite a reception when he arrived. They expect great things of the American division and are eagerly looking forward to its coming. I am afraid that our first contingent will have a lot to live up to and will undoubtedly be up against it, for they will be given a hard nut to crack—like Craonne—and it is up to them to come through. They can't come over here and sit tight, but will be more or less like the Canadian, Australian and French colonial troops.

I also met there a young engineer, a sous lieutenant, who had lived in England. He spoke English quite well, and told me lots about the prisoners. The Germans, when they are taken from the trenches, look wretched. This is true; I have seen them. After a month or so of prison fare and healthy work, they pick up and look quite well, pink-cheeked, and seem contented. I have seen squads of them going out to work, and one certainly can't say that the German army is made up of old men and young boys. These were men in the prime of life. Several wore the coveted Iron Cross.

July 23

Last Sunday I started work in earnest. It seems that everything happens on Sunday, at least that has been my experience. Well, last Sunday I had to do about the meanest piece of business that I have ever done—if one can describe it that way. Nauseating is perhaps a better adjective, but here one has not time to think of that affliction. Two of us went up to the “Tirage” in the town to wait for any special calls that might come in—a sort of emergency car. We had been sitting there several hours bemoaning our fate and lack of excitement, when, whizz! bang! the Germans began to toss some shells into the town—real big ones. We could tell by the noise that they were falling about a quarter of a mile away. Soon the call came for us. It appears that the Germans had been trying their luck at tearing up a railway yard and depot at the end of the line. In a measure, they succeeded. I hope that I never again will see such a sight.

As we neared the place, there was no one in sight, and just as were about to enter the yards a military gendarme rushed up and warned us not to go in as the Germans were still shelling the place. But being somewhat foolhardy from want of excitement, we went in. The place was a maze of little narrow-gauge tracks between which were piles of lumber, munitions, and other military freight. We went to the office, but there was nobody there; they were all in the cellar, having left everything lying round. I could have filled my pockets. Finally a man came up and volunteered to show us where the wounded were. We had not far to go. Around a pile of lumber were three killed and about seven wounded. It was the first time I had seen really bad wounds which had no dressing to speak of on them. (You see, all wounds are fairly well covered at the front-line postes, ordinarily.) All the men hit were old—the men who work the trench engines—engineers and firemen—men for whom the glamor of war does not exist.

LETTERS FROM AN AMERICAN ARCHITECTURAL STUDENT

the glory and the shouting never reaches them. To be struck down and mangled when at work on a daily task is certainly a nasty side of the war, but you must remember the Boches were justified in shooting men who were engaged in the nefarious business of hauling shells. It is this part of the war which people never think of—they imagine it is all a game of charging trenches and spearing Germans. They never think of the luckless devil toiling back of the lines who is sent to his grave or crippled. It has to be, but it seems a shame that old men come in for this, and yet it is a daily occurrence.

We carried away three men; they were lying on improvised couches, and a few men were working feverishly over them. One had his left side torn, his arm mashed, and one eye blown out. One could see with half an eye that he was beyond all help, nevertheless we lifted him onto a stretcher. The stretcher broke; you can imagine how we felt. We finally got him into the ambulance, but he died on the way to the hospital. I have never had a man die in my ambulance before. It is not a very pleasant sensation, I can assure you. There was also a big, fattish, old man; a piece of shell had gone through his thigh, smashing the hip-bone and making a nasty flesh-wound. He started screaming the minute we lifted him onto the stretcher and did not stop. I never heard such yells as he gave vent to when he was being operated on at the "tirage." You could hear him blocks away; you see, anesthetics are not often used. The third one had a pierced hand. He was very stoical and a great help. The whole thing is really beyond description—the heat, the yells, the grime, and the entire setting—nothing exciting about it. I have always been afraid of failing ever since I cut my finger open several summers ago, but really when you come up against it you can always pull through. The only relief came from a French "poilu" who wandered up and asked in good Irish "What the hell is all the row about?" and from the satisfaction of having been the first ambulance on the spot and of doing our work. One man there had had his leg partly blown off, and dirt had been forced into the wound. He was conscious and never groaned once. I hate to think of the noise I would have made had that happened to me.

The other day I was sent up to the poste which we have taken over. We only go up there just before dark and leave at dawn, as the road is supposedly very dangerous in daytime, which may or may not be true, but all at events it is safe compared with the road we used back in the old sector all day long. In the daytime we wait for the wounded by a canal bank. The canal runs at right angles through the lines, and the "blesses" are brought from the front-line poste by motor-boats, which give them a wonderfully comfortable ride.

Nothing more exciting happened than my being sent up in the hills to fetch a wounded man and, incidentally, to help out a Frenchman who had taken a Ford staff car up there and had got into difficulties with his machine. The country up there is peculiarly interesting, having been No Man's Land within the past year. One goes up over the ridge, passes out of sunny French farming land into a wild man-made country, just a low hill, too. The rolling hills were once covered with real tangled forest, of which not a vestige remains. The ground is pitted with shell-holes, but a curious, thick, ragged crop of coarse weeds and grass has

grown up all around, hiding everything but the trenches which crawl over the undulating hills like some great geometric snake. Toward dusk the hills turn dark brown and purple, which must be, I imagine, like the English moorland, which I hope to see some day.

This appearance is enhanced by the little cabins and dugouts that the Frenchmen have built for themselves and which give the whole place a wild sort of look. On the way there we passed a place where an artillery caisson had been hit. The wagon had been removed, but the horses were lying there in the hot sun, all swollen up and covered with great wicked flies—not a very pretty sight either. Coming back, we passed the spot where once stood the village of F———. Now there is just a heap of rocks marking the spot where the church stood—the exact location of the rest of the town is a subject of controversy. We also passed through the remains of a famous woods, of which I have often seen photographs—very interesting, but not very pretty. I never believed that man could so change the aspect of the country in such a short time, by destructive work; constructive work is another matter.

Neither is there much left of the town where out poste is, the one house which still looks like a house; the rest of the place is conspicuous for its absence. The "abri" up there is a work of art.

But to come to the greatest thing that has happened to me yet, and why. Last Sunday was a clear, sunny day. About nine in the morning a German observation aeroplane was discovered, and a French fighter went up after him. The beauty of the whole thing was that it happened in plain sight of our camp, and we saw every bit of the fight. It was a splendid affair. The Frenchman won—it appears that he killed the pilot and wounded the observer. At all events, the German machine suddenly wavered and then commenced to fall, not like a shot, but like a feather, the farther it went the slower it fell, turning over and over like a piece of bent tire dropped in a well. It fell just in the outskirts of the town; the pilot was killed but the observer lived—a very lucky escape.

I was sent up to the "tirage" to do evacuation work later in the day. My first passenger was the German observer. The poor man was all shot to pieces—arm and leg broken by mitrailleuse bullets, and internal hemorrhages. He was quite young—about my age—and except for his uniform he looked exactly like a Frenchman—very intelligent. I gave him as easy a ride as I could, but the road was bad.

That started things going. From then on I drove all that day and all night, save for one hour and a half, till 9 o'clock the following morning. When I say driving, I mean counting in the duration of the stops. Most of the wounded were young French boys—very, very brave fellows—men who never groan, usually smile, and try to look bright and cherry, which is evidence of a splendid morale.

It is funny here—the way things are done. Everything is so quiet and dead in the daytime, and then as soon as it begins to get dark, the roads are thick with auto trucks, wagons, troops, and guns—a continuous procession going up one side of the road and the ambulances tearing down the other. In some ways evacuation is better than front-line work; at all events it is harder. Luckily we have both here.

Institute Business

Nominations for Officers

Mr. Fenner Declines the Nomination for President

To the Secretary of the Institute.

With profound appreciation of the distinguished honor which has been tendered to me by members of the Michigan and Philadelphia Chapters in nominating me for the Presidency of the Institute, and after conference with those upon whose judgment I rely, I have reached the conclusion that the best interests of the Institute will be served by my withdrawing my name from consideration.

Will you be good enough to convey my decision to the members of the Institute through the official channel?

Faithfully yours,
BURT L. FENNER.

Mr. La Farge Nominated for President

To the Secretary of the Institute:

For the office of President of the Institute for election at the next Convention, we, the undersigned members of the Institute, nominate Mr. C. Grant La Farge by this petition, according to Article IX of the By-laws:

Robert D. Kohn, Charles Butler, F. L. Ackerman, Frank E. Wallis, Frank Goodwillie, F. H. Bosworth, Jr., New York Chapter; Edward A. Stevens, Boston Chapter; Irving K. Pond, Allen B. Pond, Melville C. Chatten, Albert Moore Saxe, R. W. Zimmerman, Charles H. Prindeville, Henry K. Holsman, Howard Shaw, Charles D. Waterbury, Illinois Chapter.

Mr. Jensen Nominated for Second Vice-President

To the Secretary of the Institute:

The undersigned Fellows and Members of the American Institute of Architects place in nomination for Second Vice-President, Elmer C. Jensen, F.A.I.A., of Chicago, Ill., member of the Illinois Chapter, Past President of the Chapter, and now finishing his term as Director of the A. I. A.

Parke T. Burrowes, Seth J. Temple, R. J. Clausen, Walter O. Kruse, Eugene H. Taylor, Chas. A. Diemen, J. M. Gardner, H. E. Hunter, Fred J. Heer, Geo. H. Washburn, W. F. Weibley, G. M. Kerns, Frank E. Wetherell, H. O. Rawson, W. T. Proudfoot, Wm. L. Steele, of the Iowa Chapter; John M. Donaldson, Wm. B. Stratton, D. J. von Schneider, M. R. Burrowes, H. Maxwell Grylls, Fred L. Smith, R. Mildner, Adolph Eisen, John Scott, Arthur H. Scott, Geo. D. Mason, of the Michigan Chapter; Allen B. Pond, C. Herrick Hammond, M. C. Chatten, W. Carbys Zimmerman, Albert M. Saxe, R. W. Zimmerman, Webster Tomlinson, Richard E. Schmidt, Ira W. Hoover, Charles D. Waterbury, Henry K. Holsman, D. H. Burnham, George W. Maher, Charles H. Prindeville, Robert C. Berlin, N. Max Dunning, George Beaumont, H. B. Wheelock, F. W. Puckey, Arthur G. Brown, Arthur Woltersdorf, Irving K. Pond, of the Illinois Chapter; Thomas L. Rose, Fitzhugh Scott, Peter Brust, Richard Philipp, Alexander C. Eschweiler, H. J. Rotier,

Wm. H. Schuchardt, Walter H. Judell, of the Wisconsin Chapter.

The Next Convention to be held in Philadelphia

By resolution of the Board at its meeting on January 18 last, an account of which will appear in the next issue of the Journal, the next annual convention will be held at Philadelphia on April 24, 25 and 26. In the circulars which were sent out to all the Chapters, asking for an expression of opinion as to the advisability of holding a convention this year, and, in the event one was held, the form it should take, there were outlined two plans. The first of these seemed to be the preference and has been adopted. The plan provides that each Chapter having six or less delegates shall send one, while larger Chapters shall send one delegate in four.

The following important matters were among those considered by the Board:

Amendment to Circular of Advice and Canons of Ethics relative to advertising.

Report of Public Building Commission.

Execution of building contracts by an architect.

War service work of the Institute.

Report of Committee on Building Conditions in the United States.

Suggested amendments to Institute Constitution and By-laws and Chapter Constitution and By-laws.

Fellowships.

A Proposal for a Limited Convention, with the Continuation of the Present Officers Until the Convention of 1919.

In this national emergency the undersigned believe that the Institute is not justified in holding a regular Convention with all the expense involved, and that it would perhaps be well to make no change in the officers.

A limited Convention could be held with little or no expense, and routine business attended to. The election of officers is routine business, and such election, in the opinion of our counsel, must be held.

We believe it is to the interest of the profession to continue the present officers. To reelect the President and the retiring Directors requires a change in the By-Laws, Article 10, Section 2, and Article 11, Section 1. To accomplish this we propose a change in the By-Laws, and, when this is passed, the nomination of the retiring officers.

We propose that the By-Laws be amended by the addition of the following Article 17:

"The provisions of Article 10, Section 2, and Article 11, Section 1, relating to eligibility to reelection of President and Directors are suspended for the duration of the war."

We nominate the following: For President, John Lawrence Mauran; First Vice-President, C. Grant La-Farge; Second Vice-President, W. R. B. Willcox; Secretary, W. S. Parker; Treasurer, D. Everett Waid; Directors: Charles A. Coolidge, Charles A. Favrot, Elmer C. Jensen.

INSTITUTE BUSINESS

These nominations were signed by: Arthur Wallace Rice, R. Clipston Sturgis, Henry H. Kendall, J. Randolph Coolidge, Jr., Harry J. Carlson, Frank W. Ferguson, C. H. Blackall, Charles D. Maginnis, of the Boston Chapter; M. B. Medary, Jr., John P. B. Sinkler, C. L. Borie, Jr., Frank

Miles Day, of the Philadelphia Chapter; Wm. A. Boring, of the New York Chapter; S. S. Labouisse, of the Louisiana Chapter; E. C. Klipstein, Wm. B. Ittner, Theo. C. Link, G. F. A. Brueggeman, James P. Jamiseon, of the St. Louis Chapter.

Report of the Special Committee on Emergency Construction for the Navy Department

AN INTERESTING EXAMPLE OF THE COST OF ARCHITECT'S SERVICES ON GOVERNMENT WORK

JOHN LAWRENCE MAURAN, Esq.,
President, American Institute of Architects.

Dear Sir: In the early part of last summer you appointed a Committee, consisting of Mr. Bannister, Mr. Peck, and myself as Chairman, to do such work of hospital planning as the Navy Department might ask for.

In the last days of July the Bureau of Yards and Docks notified me of their wish that my Committee should undertake the preparation of plans and specifications for an emergency hospital for about 250 beds, and for a power-house, both in the Medical Reservation at Brooklyn, New York. My Committee accordingly promptly made the necessary arrangements to undertake this work.

The terms agreed upon were that each member of the Committee should receive \$1.50 an hour for time actually expended upon the work, though such amount should never exceed \$12 per day; in addition to this, the salaries of draughtsmen, plus 100 per cent, to cover all overhead charges. Direct expenses allowed to be charged were necessary traveling expenses, telegrams, and long-distance telephone calls. It was further agreed that we might employ, in our discretion, such engineers as were needed, their compensation to be upon the same terms as our own. All payments were to be made upon bi-weekly requisitions.

The Bureau of Yards and Docks made a contract for services with me personally, preferring to have it with an individual, and I being Chairman of the Committee.

It was decided by the Committee that the work should be carried on in my office, and for its conduct the Committee agreed that it was in every way desirable to employ a thoroughly competent and responsible man to act as its representative in direct charge of the work. This was done because a Committee cannot act with the same prompt and constant efficiency as an individual; and hence the alternative would have been to have the work entirely in charge of some one member of the Committee, which would have made it too much a personal rather than an Institute matter. We accordingly employed Mr. F. H. Bosworth, Jr.

As engineers, we engaged the services of Werner Nygren for heating, ventilating, and plumbing; Elwyn E. Seelye for structural engineering; and J. F. Musselman for electrical engineering—all men of the first rank in their professions, and all having their offices in the same building where mine is.

The plans and specifications for the hospital were completed and delivered to the Bureau of Yards and Docks

on October 10; those for the power-house were completed and delivered on November 14.

Bids have been taken on the hospital, and the contract is about to be let in the neighborhood of \$300,000. I do not know what the cost of the power-house will be, but it is safe to say not less than \$250,000. We therefore have two buildings, amounting in cost in the neighborhood of \$550,000, which required for their proper designing a close study of engineering problems by experts. The whole amount of all requisitions up to November 15 was \$17,377.11, and there remains but very little to be added to this, although the Bureau has requested us to continue rendering some services, such as the checking up of shop drawings. The work therefore is practically finished; a fair judgment can be arrived at as to the cost to the Bureau of the professional services rendered and as to the quality of those services. Upon the latter point I refer you to the letter received by me from the Chief of the Bureau of Yards and Docks concerning the hospital, copy of which you have.

As to the cost of services, it is interesting to compare the amount of the requisitions with the fee that would properly have been charged for similar services in private practice at the rate of 6 per cent on the cost of building, plus the customary disbursements for blue prints, a very large sum in this case, and further plus allowances for the very extensive and necessary special engineering work. The whole cost of services in this case runs somewhere in the neighborhood of $3\frac{1}{4}$ per cent of building cost. At the regular private rates such fees would probably be around \$50,000, because the special engineering is a heavy item. But leaving that element aside, if we compare these costs with the figures worked out a few years ago, showing the cost of doing work in the office of the Supervising Architect of the Treasury Department under the conditions of a steady organization, dealing constantly with established requirements and not with a violent emergency, I think we shall surely find the advantage to be well upon the side of employing the private practitioner, even when he is allowed, as he certainly should be, to earn a substantial remuneration for his services.

Without going into burdensome detail, I wish to review the history of this work, particularly holding in view its bearing upon the important question of employment by the Government of technical services, in a civilian capacity, for war work.

The Medical Reservation at Brooklyn covers a large

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

area, upon which stand a big hospital building erected about 1825-30; an antiquated heating plant; a medical supply depot about to be abandoned, as a new one is being constructed elsewhere; and various other structures. Besides the hospital we have planned, at least one other is contemplated at some time when funds are available; the medical supply depot will at some time be converted into wards; and the old hospital requires extensive remodeling to modernize it. The power-house therefore is designed not merely to take care of the new hospital but of all existing buildings and all such future buildings as may reasonably be expected.

There have been in the working out of these two structures a great many intricate and difficult problems to be solved of such a character that, unless the work had proceeded in a spirit of genuine coöperation, the opportunities both for errors and for quite serious misunderstandings would have been abundant. It is therefore with a very lively appreciation that I record the fact that from the very inception of the work I have met with nothing but courtesy, open-mindedness, and a helpful attitude on the part of those in the Bureau, as well as the medical staff at the Reservation, and such officers at the Navy Yard as we have had to deal with.

The Bureau of Yards and Docks is evidently overburdened, as all other branches of the Government are today. In these circumstances it most naturally follows that preliminary plans sometimes cannot receive the careful consideration necessary to make it certain that they are all they should be; and in the development of such plans, when committed to the hands of a private architect, many questions must arise for determination. This happened in the present case. The Bureau has an able designer in Mr. Southworth, and from him we received the preliminary layout of the hospital and a general description of what was required for the power-house, as well as a designation of its approximate site. Had Mr. Southworth and the Bureau officials been disposed to insist in any narrow way upon a close adherence to a plan evidently prepared under overwhelming pressure, and to resent offers of such modifications as we believed would be improvements, an unfortunate situation would have been created. But, on the contrary, we were given great freedom in the making of suggestions, and such as were made were received with open minds and a spirit of understanding. Consequently, it came to pass, upon a study of fixed topographical conditions, that an entirely new plan of the hospital was arrived at and approved by all parties concerned.

The same holds true of similar matters throughout. There have been such questions as the centralizing of the laundry system and the refrigerating system in the power-house, for the administrative advantage to be gained thereby for all time. There have been important questions of underground service connection, and there have been various difficulties connected with the cost of building which have made necessary the preparation of extensive alternative schemes for bidders, which, of course, added considerably to the cost of preparing the drawings and specifications.

The question of time has been urgent. It became obvious that, under ordinary governmental procedure,

the power-house on somewhat difficult foundations might not be started until late in the season, and no difficulty was experienced in arranging with the Bureau to accept a specification for the boilers, which was delivered on August 24, and the boilers ordered; for the complete foundation plans, including concrete piling, delivered September 13; and to award very speedily a contract for building foundations before the superstructure of the power-house was advanced beyond a sketch state.

I think I have now sufficiently described this work. In conclusion I wish to point out what is, to me, its lesson. To settle without delay, and wisely, all of the questions—some of which I have briefly indicated—the best means is, and in this case has been, by informal friendly conferences. As a private individual, not under military orders, acting as an expert adviser, I have been entirely free to bring these about. I have been equally free to engage in this work whatever engineers of reputation seemed to me most available and best qualified to render the highly skilled service required and best fitted to work together and with myself. I have been free to use my own organization, to which I am accustomed, and which is accustomed to me, and to pick draughtsmen with reference only to their known skill and industry—to select them moreover according to their individual special abilities. Had I been an officer under orders, with such persons assigned to me as might happen to be available, the work could not have been done, in all probability, as quickly, as well, or as cheaply.

It is a highly advantageous thing, from every point of view, for the Government to avail itself in this way of civilian service; and the formulation by the Government of a consistent policy for such employment is, in my judgment, an absolute essential, if the technical qualifications of this country are to be most efficiently mobilized for the conduct of the war.

I have written a good deal in the first person, but this implies no assumption of credit to myself, or any lack on the part of my fellow-committeemen. They have stood ready at all times to do whatever they could and have manifested a most helpful and also a generous spirit in making it easy for me to assume the burden which was inevitable, since the work was done in my office.

It is not proper to omit from this report all reference to the work of the Quantity Survey Company, who have worked with us from the early stages of development of the drawings. It is too soon to give a final opinion upon the value of their services, because that can be determined only when building is completed; but it certainly can be said now that those services have been given very promptly and efficiently; that they have been of much help as a continuing check upon the completeness and accuracy of both drawings and specifications; and that there is reason to believe that the Survey has been of distinct advantage to bidders.

In closing I should like to call particular attention to what Mr. Bosworth had done. He has shown the utmost devotion, unflinching industry, and the highest degree of competence.

Yours very truly,

C. GRANT LA FARGE,

Chairman, New York Committee, A. I. A., War Service Construction Work

The Architect and the Decorator

THE REPORT OF THE SPECIAL COMMITTEE OF THE NEW YORK CHAPTER ON THE RELATION OF THE ARCHITECT AND THE DIRECTOR AND METHODS OF CHARGES FOR DECORATING SERVICES

To the New York Chapter:

Your Special Committee on the Allied Arts and Trades begs to submit at this time a report of progress. We have had two meetings, in which we particularly took under consideration the relation of the architect to the design, purchase, and installation of decoration and furnishings. The members of this Committee also attended the meeting of the Architectural League recently, to which decorators had been invited, and on which occasion, by means of a series of questions placed before the meeting, there were brought forth the points of view of decorators who are designers, decorators who are salesmen, and decorators who are brokers or purchasing agents.

Mention was made of decorators who secure business without respect to the rights of the architect of the building. The charge was made that some architects accept discounts as contractors and depart from the professional relation to their clients when decorating their houses. A problem which seemed most interesting to decorators, and most troublesome, was the question of discounts. It appeared that decorators who have to charge a profit to include large overhead expenses disapprove of architects securing the same discounts for their clients and regard such a procedure as unfair competition from a commercial point of view. It was claimed that owners, on learning wholesale prices, thereby acquire a false scale of values which is demoralizing in its effect on legitimate business. There was revealed a regrettable lack of perception of what constitutes the professional relation of an architect to his client.

On the other hand, there was made evident the fact that a considerable number of the higher class decorators recognize the proper function of the architect and wish to cooperate with him and work under his direction (rather than supersede him) in decorating and furnishing a building in harmony with the design of that building. Definite announcement was made that the decorators are now under-

taking to organize themselves into a body which shall observe a code of ethics in consonance with that of the American Institute of Architects.

Your Committee believes that the chief concern of our profession, in this as well as other problems, is that the practice of our members shall be along right lines. If we have a clear conception of a right line of action and act as a unit on our conviction, we shall soon find that we have won the respect and cooperation of our clients and also all fellow workers in the allied arts and crafts.

In order to afford an opportunity for discussion, your Committee offers the following resolutions:

WHEREAS, The canons of ethics of the American Institute of Architects declare that it is unprofessional for an architect to engage directly or indirectly in any of the building trades, and

WHEREAS, It is the sense of this meeting that the architect's interest and right in his design demand that he shall have a controlling influence in its execution, including its decoration and embellishment, when they would affect the character of the artistic result, be it

Resolved, That it is the sense of this meeting that the Institute canon above quoted applies to decoration and furnishings as well as to any other portions or accessories of buildings, and be it therefore

Resolved, That architects should be careful to maintain a strictly professional relation to their clients and refuse to accept for themselves commissions, discounts, or profits in any form, save the fees paid knowingly and directly by the clients.

Committee: EGERTON SWARTWOUT
WILLIAM ADAMS DELANO
JULIAN CLARENCE LEVI
A. B. TROWBRIDGE
BURT L. FENNER
D. EVERETT WAID, *Chairman*

Book Reviews

Chinese Art Motives Interpreted. By Winifred Reed Tredwell. G. P. Putnam's Sons, New York City. \$1.75.

A delightfully written volume which takes the reader by pleasant paths that wander among the rich history of Chinese life, in which art becomes a medium of narration—a teller of stories—full of the symbolism of flowers and the mysticism of gods and their immaterial domains. If one comes to see a greater beauty in one's Chinese vase or in

one's bit of embroidery, through Miss Tredwell's interpretations, one is also likely to gain a greater love and respect for that China which seems so remote from the western world as to be a part of another solar system. I cannot disagree with Miss Tredwell about anything she has said, nor point out any inaccuracies, nor question any facts or dates. I merely record an hour of the purest pleasure in reading her interpretations.—B.

Obituary

Francis G. Newlands

Elected as an Honorary Member of the Institute in 1907
Died at Washington, December 24, 1917

Senator Newlands marched in that thin file of men in Congress who have idealized Washington as the capital of the Nation. Moreover, he worked and fought for his ideals continuously, consistently, and intelligently. From the day in January, 1902, when Senator McMillan reported to the Senate the plan for Washington prepared by Daniel Burnham, Charles McKim, August Saint-Gaudens, and Frederick Law Olmsted, Senator Newlands was a defender of that plan throughout years of hesitation, uncertainty, and threatened overthrow. With Senators Root and Wetmore he helped to turn the tide in favor, not of the plan as a whole—for it is still too large for general comprehension—but in support of such portions as have staked it down and made realization reasonably secure in the future. In the losing fight against a power-house located so as to dominate Potomac Park, Senator Newlands fought almost alone against two Senators who were members of the subcommittee under which the Plan of 1901 was prepared. They won a Pyrrhic victory. The intelligence and the patriotism of the country was aroused by his seemingly fruit-

less struggle. Congress and the executive departments were made to understand that the people resented the attempt to mar the beauty and retard the development of their capital. The place which he filled for so many years is vacant, but the gratitude and honor he gained should be encouragement and incentive to his colleagues to carry on the good work.

Charles Mulford Robinson

Charles Mulford Robinson, of Rochester, N. Y., widely known in America as a city-planning expert, died suddenly in Albany on December 30, 1917. Mr. Robinson held the first professorship of civic design in this country, at the University of Illinois, and had made city plans and been consulted in making plans for a score or more of cities in this country, including Denver, Omaha, Colorado Springs, Los Angeles, Columbus, Detroit, Honolulu, etc. He was the first secretary of the American Civic Association. He was author of many books, among them "The Improvement of Towns and Cities," which has gone through eleven editions; "Modern Civic Art," "The Call of the City," "The Width and Arrangement of Streets," and "City Planning."

Latest Developments in Housing at Washington

Since the forms containing our editorial comment went to press, there have been changes in the situation which very considerably qualify our statements as to the progress of work in this connection. On the 21st inst., we are informed, Chairman Hurley of the Shipping Board issued an order suspending all construction work on houses in connection with ship-building plants, except that confined to bunk-houses and barracks. It is also stated that the Shipping Board has decided that all efforts to correct the house-shortage will be confined to the erection of structures of this character. We hesitate to believe this, and in view of the fact that all other governmental agencies dealing with the problem appear to have reached an *impasse* which prevents any action at present, we are willing to risk a prediction that the utter inadequacy of the plans so far proposed has finally impressed the administration with the importance of this house question, in which case, it is not unlikely that an important public announcement may have appeared in the press before this issue of the Journal is in the hands of its subscribers.

In view of the kaleidoscopic and chaotic conditions in Washington, we are perhaps foolish to record any such prediction. A long-deferred hope may have influenced our judgment. Six months spent in watching the slow and painful maturing, first, of an appreciation of the gravity of a situation which the Board of Directors of the Chamber of Commerce of the United States, over a month ago, recorded as the most urgent necessity with which the nation

was confronted; and, second, the inadequate, inordinate, and ill-conceived methods evolved for dealing with the problem have in nowise contributed to our ability to do more than guess the cause for all the bungling and juggling that has gone on.

We have a considerable sympathy for the men who have labored long and unselfishly in a heroic effort to gain headway, but we cannot conceal our feeling that the greatest obstacle in their path was their lack of knowledge and their consequent inability to deal with the problem on a broad, constructive, and far-sighted plan. In such a crisis the nation should have had the counsel of those men whose equipment of knowledge and experience was the best in the country, and not risked dependence upon those who had to collect and digest, in a short period, what others have spent years in studying.—EDITOR.

A New War Map of the Western Front

S. S. Labouisse, 730 Gravier Street, New Orleans, La., a Fellow of the Institute, has drawn a map of the western front at a scale of 5 miles to the inch, on which may be found more than 5,000 cities, towns, and villages in an area of 25,000 square miles. There are also shown all the railroads, highways, rivers, canals, forests, forts, and many of the farms and hills mentioned in reports. A key map shows the line of advance. Copies may be obtained of Mr. Labouisse at the price of \$2, postpaid.

Structural Service Department

D. KNICKERBACKER BOYD, *Associate Editor*

(In cooperation with the following Committees of the Institute)

BASIC BUILDING CODE		CONTRACTS AND SPECIFICATIONS		FIRE-PREVENTION	
WILLIAM B. ITTNER, <i>Chairman</i>	St. Louis	FRANK MILES DAY, <i>Chairman</i>	Philadelphia	ROBERT D. KOHN, <i>Chairman</i>	New York
W. W. TYRRE	Minneapolis	M. B. MEDARY, JR., <i>Vice-Chairman</i> , Philadelphia	Philadelphia	W. L. PLACK	Philadelphia
G. F. A. BRUEGGEMAN	St. Louis	ALLEN B. POND	Chicago	G. C. NIMMONS	Chicago
OWEN BRAINARD	New York	SULLIVAN W. JONES	New York	JOHN R. ROCKART	New York
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E. D. LITCHFIELD	New York	JOS. EVANS SPERRY	Baltimore	LYMAN A. FORD	New York
MATERIALS AND METHODS		J. A. F. CARDIFF	New York	QUANTITY SYSTEM	
*THOMAS NOLAN, <i>Chairman</i>	Univ. of Pa.	GOLDWIN GOLDSMITH	Lawrence, Kan.	SULLIVAN W. JONES, <i>Chairman</i> ,	
		JULIUS FRANKE	New York	Washington, D. C.	

*(Each Chapter has a corresponding member who is chairman of the Chapter Subcommittee.)

Foreword, 1918

As nearly as possible the sequence followed during 1917 will be followed this year. Additions to subjects formerly treated will be made throughout to record the progress of the past year. Many new phases will be incorporated.

The twelve monthly issues will, at the end of 1918, with revisions and any needful additions, be bound and will constitute Volume 2 of the Structural Service Book, a companion to Volume 1, now on the press.

Beginning in the first Serial with a general survey of all factors in investigational work to-

ward standardization, under 1A, the regular course of procedure in planning for and constructing a hypothetical building, with its appliances and accessories, will be divided into twelve subdivisions, approximating the monthly stages of a one-year program of construction.

Only a limited number of references in each industry can be given, and a part of the service of this Department will be to furnish any inquirers with additional sources of information, titles of other publications, names of authors and publishers, cost of volumes, and to provide any other information possible, for which purpose address The Journal of the American Institute of Architects, The Octagon, Washington, D. C.

INDEX TO SUBJECTS TREATED IN THIS ISSUE

(For index of materials previously treated, see Index on page 49 and General Index to the Structural Service Book, Vol. I, 1917.)

Research, Tests, Inspection Service, and Standardization	1A
Preliminary Procedure, Office and General Administration	1B
Contractual Relations, Specifications and Drawings	1C
Estimating Conditions, Quantities and Cost Data	1D
The Site, Excavation, Piling, Foundational Requirements	1E
Damp-proofing, Waterproofing and Under-Water Construction	1F
Structural Iron and Steel	1G

Research, Tests, Inspection Service and Standardization. 1A

Throughout the vast and varied literature of materials and products, and of appliances and systems pertaining to buildings and their accessories, there constantly recur the names of national, state, and municipal departments and bureaus, of testing laboratories, universities, and technical institutions, with tables and diagrams, results of tests and analyses and references to approvals, labels, lists of inspected materials and devices, regulations and other standards.

These relate not alone to the materials employed but to considerations which are more and more being given to the methods used and to means of safety in their use.

This is indicative of a widespread interest and service

on the part of some of the people, involving activities which need to be better understood by all of the people, especially the building public, in order that their significance shall be more fully appreciated. It is also vitally necessary that a full understanding of the functioning of these activities and of the methods employed in securing the results shall prevail among architects, engineers, builders, and all constructors.

To aid in bringing about this better understanding and to assist in accomplishing the results striven for shall be the part and purpose of the Structural Service Department.

[NOTE.—The numerical, alphabetical designations which follow each title or precede any paragraph are for reference purposes only.]

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Recognition of investigations and tests for the purposes of use intended and of those made by organizations or other agencies whose findings are known to be generally acceptable to all concerned should be a pre-requisite to their adoption as "standards."

Educational Research and General Instruction. 1A1

(a) Exceedingly important work is being done in many educational institutions of the country which maintain laboratories, conduct experiments, and make tests of building materials. (See 1A3.) These, while primarily in connection with the work of the students, add annually to the general public understanding of materials used in building construction, their qualities, action, protection and proper use.

Many of these institutions distribute bulletins, circulars, and reports contributing toward this end. Among these institutions may be mentioned the following: (In those marked † are located branches of the American Society of Mechanical Engineers where regular meetings are held.)

- | | |
|---|-----------------------------|
| † 1. Agricultural and Mechanical College of Texas | College Station, Texas |
| † 2. Arkansas, University of* | Fayetteville, Ark. |
| † 3. Armour Institute of Technology* | Chicago, Ill. |
| † 4. Bucknell College | Lewisburg, Pa. |
| † 5. California, University of | Berkeley, Calif. |
| † 6. Carnegie Institute of Technology | Pittsburgh, Pa. |
| † 7. Case School of Applied Science | Cleveland, Ohio |
| † 8. Cincinnati, University of | Cincinnati, Ohio |
| † 9. Colorado State Agricultural College | Fort Collins, Colo. |
| † 10. Colorado, University of* | Boulder, Colo. |
| † 11. Columbia University | New York, N. Y. |
| † 12. Cornell University* | Ithaca, N. Y. |
| † 13. Dartmouth College | Hanover, N. H. |
| † 14. Georgia School of Technology | Atlanta, Ga. |
| † 15. Illinois, University of | Urbana, Ill. |
| † 16. Iowa, State University of | Iowa City, Iowa |
| † 17. Kansas State Agricultural College | Manhattan, Kans. |
| † 18. Kansas, University of | Lawrence, Kans. |
| † 19. Kentucky, State University of | Lexington, Ky. |
| † 20. Lafayette College | Easton, Pa. |
| † 21. Lehigh University | South Bethlehem, Pa. |
| † 22. Leland Stanford, Jr., University | Stanford University, Calif. |
| † 23. Lewis Institute | Chicago, Ill. |
| † 24. Louisiana State University* | Baton Rouge, La. |
| † 25. Maine, University of* | Orono, Maine |
| † 26. Massachusetts Institute of Technology* | Boston, Mass. |
| † 27. McGill University | Montreal, Can. |
| † 28. Michigan, University of | Ann Arbor, Mich. |
| † 29. Minnesota, University of* | Minneapolis, Minn. |
| † 30. Missouri, University of | Columbia, Mo. |
| † 31. Nebraska, University of | Lincoln, Neb. |
| † 32. New York University* | New York, N. Y. |
| † 33. North Dakota, Agricultural College of | Fargo, N. D. |
| † 34. Ohio State University* | Columbus, Ohio |
| † 35. Princeton College* | Princeton, N. J. |
| † 36. Pennsylvania State College | State College, Pa. |
| † 37. Pennsylvania, University of | Philadelphia, Pa. |
| † 38. Polytechnic Institute of Brooklyn | Brooklyn, N. Y. |
| † 39. Purdue University* | Lafayette, Ind. |
| † 40. Rensselaer Polytechnic Institute | Troy, N. Y. |
| † 41. Rose Polytechnic Institute | Terre Haute, Ind. |
| † 42. Rutgers College | New Brunswick, N. J. |
| † 43. Stevens Institute of Technology* | Hoboken, N. J. |
| † 44. Syracuse University* | Syracuse, N. Y. |
| † 45. Texas, University of* | Austin, Texas |
| † 46. Throop College of Technology* | Pasadena, Calif. |
| † 47. Tulane University | New Orleans, La. |
| † 48. Virginia Polytechnic Institute | Blacksburg, Va. |
| † 49. Washington State University | Seattle, Wash. |
| † 50. Washington University* | St. Louis, Mo. |
| † 51. Wisconsin, University of* | Madison, Wis. |
| † 52. Worcester Polytechnic Institute* | Worcester, Mass. |
| † 53. Yale University | New Haven, Conn. |
| † 54. Oklahoma A. & M. College* | Stillwater, Okla. |

(b) Other contributions to the wider understanding of building materials and appliances are the series of handbooks and other volumes comprising extensive technical libraries published, in connection with "correspondence courses," by:

- (1) American School of Correspondence, Chicago, Ill.
- (2) International Correspondence Schools, Scranton, Pa., and its subsidiary, the
- (3) International Textbook Company, Scranton, Pa.

(c) The Smithsonian Institute, in Washington, the Franklin Institute in Philadelphia, the Cooper Union, in New York, the American Association for the Advancement of Science, the American Academy of Political and Social Science, and other distinguished bodies interested in science, invention, sanitation, and sociology maintain important technical libraries. Some of them conduct schools of mechanic arts or their equivalents, hold exhibitions, and give lecture courses, or have papers or addresses read which are published in the journals, proceedings, or otherwise. These also form an important contributing link in the development of the art and science of building and of its social and economic aspects.

Professional and Technical Societies. 1A2

In this field a vast body of individuals is constantly at work making investigations, developing methods of procedure, and determining best practices to be followed. The activities of these organizations and of their various committees will be described, together with their publications, in the Serial numbers under which these activities would naturally fall. A few, however, of these organizations concern themselves with so many phases of building materials and methods that their inclusion in this issue, embracing the subject in general, is obvious.

Among these is one of the four great engineering societies, and the oldest, namely:

American Society of Civil Engineers. 1A2a

Secretary: Charles Warren Hunt, 220 W. 57th Street, New York City.

Publications:

1. "Proceedings," monthly (except June and July). Contain minutes of meetings and Society announcements.

A valuable classified list of articles in the principal current engineering, professional, and technical periodicals, and a list of new books received in the Society Library, appear in each issue.

Under the heading "Papers and Discussions" all papers, in advance of their presentation at a Society meeting, and all of the discussions to which they subsequently give rise, are published in the "Proceedings."

2. *Transactions*," annually. Contain all the technical matter which has been issued serially in "Proceedings," collated so as to make a permanent record.

3. "Year Book." Contains Constitution of the Society, officers, committees and membership lists, and other general information. The above publications are distributed without charge to the entire membership.

The object of this Society is the advancement of engineering knowledge and practice and the maintenance of a high professional standard among its members.

The American Institute of Architects. 1A2b

Secretary: W. Stanley Parker, The Octagon, Washington, D. C.

Publications:

(Others referred to under 1B and 1C) and Industrial Section, p. xxxii.

1. Constitution and By-laws, in which are set forth requirements for membership.
2. Circular as to Size and Character of Printed Matter Intended for Architects' Files. The above are free on request.
3. Monograph on the Octagon. An illustrated history of this charming house. \$12.50.
4. Journal of the American Institute of Architects. \$5 per annum; \$3.50 to members of the Institute; foreign, \$5.
5. The Structural Service Book. \$3.50.
6. The Annuary, containing a list of members and committees.
7. The Proceedings, being the transactions of the Annual Convention.

6 and 7 are free to members only; to others, \$5 each.

For list of Chapters and officers, see the Journal.

Its objects are to organize and unite in fellowship the architects of the United States of America, to combine their efforts so as to promote the esthetic, scientific, and practical efficiency of the profession, and to make the profession of ever-increasing use to society.

The chief activities of the Institute concerning structural matters center in the work of certain committees, the titles and personnel of which appear at the beginning of this issue. This work, when it concerns any branch of construction, will be referred to thereunder.

American Railway Engineering Association. 1A2c

Secretary: E. H. Fritch, 910 Michigan Avenue, Chicago, Ill.

Publications:

- (1) "Proceedings," annually, contain complete committee reports, full discussions and special articles.
- (2) Bulletin, ten issues annually, committee reports and monographs.
- (3) Manual of the A.R.E.A. The current edition contains a comprehensive revision of the action of previous conventions. Included in the contents are:

STRUCTURAL SERVICE DEPARTMENT

- (a) Principles of practice.
- (b) Suggestions and recommendations.
- (c) Specifications adopted (Standards).
- (d) Standard form of contract and bond.

Members receive all of the above. Others may purchase them from the Secretary or book-dealers at: (1) paper, \$6; cloth, \$6.50; half morocco, \$7; (2) per annum \$8; (3) paper, \$4; cloth, \$4.50; half morocco, \$5.

The A.R.E.A. was organized in 1899 under the name of the American Railway Engineering and Maintenance of Way Association, which name was abbreviated in 1911 to the present title.

The object of the Association is the advancement of knowledge pertaining to the scientific and economic location, construction, operation and maintenance of railways. What an important relation much of this has to building construction will become evident from the references to the work of this Association which will be made under the various industries, as treated, in the Structural Service Department.

The recommendations and specifications above referred to, which are adopted through procedure outlined in Structural Service Book, Vol. I, under 1A9 and subsequently published in the Manual shall be considered in the direction of good practice, but shall not be binding on the members.

Society of Constructors of Federal Buildings. 1A2d

Secretary: Frederic A. Hills, Quarantine Station, Portland, Maine.

Publications:

1. Journal, devoted to professional papers and discussions, cost data, and contract news relative to United States Public Buildings. Architects, engineers and other constructors will find much of interest and value in the papers and discussions published.

Is a voluntary organization of the technical personnel of the Office of the Supervising Architect, Treasury Department, but has no official connection with the Department. Its members are employed in the design, construction, equipment and maintenance of United States Public Buildings.

It has a Committee on Manufacturers and Materials which it is intended shall act as a clearing-house to report upon new devices, methods, and materials incidental to building construction.

American Institute of Consulting Engineers, Inc. 1A2e

Secretary: F. A. Molitor, 35 Nassau Street, New York City.

Publications:

1. Constitution and By-laws and list of members and committees containing also:
 - Code of Ethics, adopted by the A.I. of C.E., Inc.
 - Schedule of Fees, adopted by the A.I. of C.E., Inc.

Its objects are to promote ethical standards and practical efficiency in all branches of engineering as a profession and to increase the usefulness of the profession to the public at large.

Other Organized Bodies 1A2f

Associations of Producers, Manufacturers, Contractors, Builders' Exchanges and others whose activities contribute toward improvement in structural materials and processes will be mentioned under various Serial numbers.

The first known attempt to list these and all interests allied structurally has been made in the Structural Service Book, Vol. I, in which is included the Internationals comprising the Building Trades Departments of the American Federation of Labor.

Many of its Local and State Councils issue publications and take part in developing structural specifications and data such as mentioned in the Structural Service Book, Vol. I, under 9K1, 11D6f and I, 12E6, 12J and others later to be referred to.

Investigative and Testing Facilities 1A3

Many of the institutions listed under 1A1a conduct this character of work only in connection with their instructional activities. Others will make tests on materials which involve investigation and research elements as distinguished from tests of a purely routine or commercial nature. In those from which we have heard, where, either through one of the departments or by arrangement with members of the instructive staff, experiments or tests will be conducted for those desiring them, the institution is indicated thus under 1A.1 a.

Some governmental facilities and others of national scope and semi-public nature, are:

Bureau of Standards, Department of Commerce, 1A3a *U. S. A.*

Functions of the Bureau pertaining to building construction in general described under 1A5a.

With respect to testing, the following is taken from Circular No. 45, "The Testing of Materials," which contains full information and a schedule of the fees charged, and may be had upon application to the Director of the Bureau:

Serial No. 1

"Tests of materials are made for the public where the Bureau is asked to act as referee or where an authoritative test is demanded by the nature of the case, or in other cases where the Bureau is primarily interested in the test in connection with investigation. The right is reserved to make such use of the results of these tests as is deemed desirable. The Bureau will cooperate with investigators, manufacturers, testing laboratories, and others, not only in executing tests, but also on request, in furnishing any information at its disposal concerning materials or methods of testing."

The Bureau does not compete with private testing laboratories, but endeavors to assist them by the development of standard specifications, methods of measurement, and other matters where uniformity is desirable.

Watertown Arsenal, War Department, U. S. A. 1A3b

Watertown, Mass. (Address correspondence to Commanding Officer.) "Testing Laboratory, Watertown Arsenal, Watertown, Mass."

Publications:

1. The results of all public tests are published in the Annual Report of the laboratory, entitled (a) "Tests of Metals," the first volume of which is dated 1881. When available, these volumes may be purchased at cost by applying to the "Superintendent of Documents, Government Printing Office, Washington, D. C."

All classes of constructive materials are tested, such as iron and steel, in the form of test specimens or full-sized members, cement in briquettes or concrete columns and cubes, brick, or stone.

Under the law any citizen of the United States may have tests made by defraying the cost, an estimate of which will be furnished. A sum equal to this estimate must be deposited before work for private parties can be begun.

An official report will be furnished covering each test. All data for private tests is considered confidential, and information concerning same will be furnished only to the party for whom the work is done or his order.

A list of all such tests, giving the name and address of the party for whom made, date of test, and kind of material is published in the Annual Report.

Bureau of Mines, Department of the Interior, U. S. A.

Director: Van. H. Manning, 710 E Street, Washington, D. C. 1A3c

The Bureau of Mines may make tests of fuels, explosives, and certain mining appliances, such as lamps, timbering, etc. When such work is performed other than for the Government of the United States or state governments, a reasonable fee to cover the necessary expenses is charged.

Office of Public Roads and Rural Engineering— *Department of Agriculture, U. S. A.* 1A3d

Director: Logan Waller Page, Washington, D. C.

A laboratory is maintained wherein it has been the policy of the office to test, free of charge, for any citizen of the United States, samples of rock, gravel, sand, clay, etc., provided they are submitted strictly in accordance with printed instructions which are furnished upon request. Such tests relate to the value of material for use in road-work and a report as to such value only is furnished.

Forest Products Laboratory, Madison, Wis. Forest *Service, U. S. Department of Agriculture.* 1A3e

Forester: Henry S. Graves, 928 F Street, Washington, D. C.

It is the policy of the Forest Service to undertake any investigative work pertaining to the use of forest products, provided the problem is of general interest, and it seeks at all times to secure the cooperation of the various associations affected, so far as funds and equipment are available.

Other Governmental Department Activities. 1A3f

Reference will not here be made to the researches and investigations which are constantly being conducted by various divisions of the Treasury, War, Navy, Interior, and other departments of the Government, the conclusions resulting from which form important factors in the national development of building construction. These will be referred to in connection with the industries and branches of construction affected.

American Society for Testing Materials. 1A3g

Its functions are to establish various kinds of standards, and these are referred to under 1A5c. It does not conduct tests other than those which are made by the Society for and through its various committees, results of which will be found in its publications.

Certain Government branches are prepared to cooperate with the work of the standing committees, announcements concerning which, prepared by or with the directing heads of the Government branches concerned, are printed in the A.S.T.M. Book of Standards.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Testing Laboratories and Inspection Services. 1A4

Underwriters' Laboratories. 1A4a

President: W. H. Merrill, 207 E. Ohio Street, Chicago, Ill.

It is the task of the Underwriters' Laboratories, incorporated in 1901 and maintained by the National Board of Fire Underwriters for service—not profit—to secure and make available to all who may be benefited the best obtainable opinion regarding the merits of materials, appliances, and systems in respect to the fire and accident hazards. It issues publications which will be listed in Serial No. 3.

When the product of a manufacturer is admitted to the Label Service, following suitable investigation of sample goods, inspection is established in his factory. Inspectors and engineers in the employ of the Laboratories follow the daily run of material through various processes of production and conduct such tests as have been specified, and to goods thus found to be of suitable quality Underwriters' Laboratories' labels are attached.

Factory Mutual Laboratories. 1A4b

Engineer: W. O. Teague, 31 Milk Street, Boston, Mass.

The Laboratory, established in 1890, is designed primarily for the use of mill-owners whose properties are insured in the Associated Factory Mutual Fire Insurance Companies. In general only such devices and subjects are investigated as will be of interest to Mutual members, and there is no charge for this service, either to the parties submitting the appliances or to the members.

It issues no publications, as these emanate from the Inspection Department, and will be later listed in Serial No. 3.

(c) Apart from the contributing factors already mentioned, due credit should be accorded to those individual producers, manufacturers, and organizations thereof which maintain laboratories and investigational facilities of their own and who thus, and through cooperation with governmental departments and others mentioned, endeavor to effect continual improvement in production and utilization of building materials and appliances.

(d) For the practical business assistance of architects, engineers, and others in conducting tests and analyses of cement and building materials generally, and in inspecting the manufacture and erection of steel and other structural members, there exist a number of testing laboratories and engineering concerns of national scope which are conducted as private business enterprises. Many include in their management or on their staff prominent members of the leading professional and technical societies.

Final Progress toward Standardization. 1A5

It has well been said by the Director of the U. S. Bureau of Standards: "A standard of quality for a given material necessarily takes into account the purpose thereof; too low a standard results in losses, poor efficiency, and even loss of life; too high a one may result precisely in the same thing: that is to say, the material must be suitable for the purpose intended. The Bureau's investigations are to enable the user of materials, first, to select intelligently the material best suited for the purpose; second, to specify it in terms which the producer cannot mistake; and third, to make the necessary tests to ascertain whether the material supplied is in accordance with the specifications.

"The time is coming when all materials bought or sold must be as represented. This is impossible except where proper standards of quality and methods of measurement have been developed.

"The Bureau's activities are not devoted principally to the interests of the user or consumer, for its work most deeply concerns manufacturers, who are fundamentally concerned, directly or indirectly, with the improvement of methods of production or quality of output, for it is upon quality, as well as upon price, that competition must finally depend.

"A part of the problem of making the results of the Bureau's work available and useful to the public, the Journal will be able to effect through its columns.

"It is hoped that the acquaintances formed with architects, manufacturers, dealers, and consumers, will result in mutual advantage to them and to the Bureau, and that they will feel more inclined to place their problems before the Bureau for solution. Thus the Bureau will be better able to understand their difficulties, and be of the fullest possible service to the people of this country."

Foreign Governments and Institutions. 1A5a

The importance of maintaining scientific institutions for the investigation and standardization of materials, including those entering into building construction, has been recognized by the leading countries of the world. The most notable organizations of this character which cooperate directly or indirectly in normal times, as does the American Society for Testing Materials, with the International Association for Testing Materials, will be found listed in the Structural Service Book, Vol. 1, under 1A1a.

In the United States, as will be noted below, and throughout the

Serial No. 1

Structural Service Department each year, the Bureau of Standards combines the functions of many of the foreign institutions and maintains cooperative relations with various governmental departments and professional, technical, commercial and other organizations throughout this country.

A list of foreign architectural societies is given in Kidder's Pocket Book, 1916, pp. 1698-1703.

Bureau of Standards, Department of Commerce, U. S. A. 1A5b

Authorized by Congress, March 3, 1901; organized July 7, 1901.

Director: Samuel W. Stratton, Bureau Laboratories, Washington.

Publications:

1. Annual Report of the Director. Limited number for free distribution upon request to the Bureau.
2. Scientific papers, (3) technologic papers, and (4) circulars: Published as investigations warrant; obtainable upon application to the Bureau or the Superintendent of Documents at Washington, at prices quoted or without charge if no price is given.
5. Miscellaneous Publications: Reports of weights and measures, conferences, metric charts, tables and equivalents, obtainable upon application to the Bureau.

Laboratories:

Main Laboratories: Washington, Pierce Mill Road, near Connecticut Avenue. Branch Laboratory: Pittsburgh, Pa., temporarily located in buildings of the War Department, Arsenal grounds.

The Bureau is authorized to deal with: Standards of measurement, of values of constants, of quality, of mechanical performance, and of practice.

In addition to general research investigations, it studies problems which arise in the preparation of specifications or the development of methods of testing required in the determination of the qualities of materials.

The work of testing and investigating the properties of structural materials was taken up and is carried on primarily for the needs of the Government in its structural work, but this information is just as necessary to the public in construction work, and every effort is made by the Bureau to make its findings in a form available to the public generally.

The work of the structural engineering and miscellaneous materials division includes the investigation, testing and preparation of specifications for these materials, such as the metals and their alloys, stone, cement, concrete, lime, the clay products, paints, oils, paper, textiles, rubber and other miscellaneous materials. Questions pertaining to the manufacture, specifications, testing, and use of the metals and their alloys have become so important that a metallurgical division has been formed of the experts engaged in these problems.

Many inquiries are received annually from architects, engineers, contractors, and builders as to methods of waterproofing concrete, methods of construction to be employed in sea water, physical properties of concretes of various mixtures, the cause of staining of plaster walls and ceilings, methods of preventing the dusting of cement floors, suggestions for building code requirements, the physical properties of marbles, specifications for stucco, fire-resisting properties of structural materials, the corrosion of metal lath, and reinforcement of gypsum plasters.

From the general public requests are received for information on methods of mixing concrete, laying of concrete sidewalks, waterproofing basements, suitability of various materials for use in concrete, durability of composition magnesite floors, physical properties of stones, effect of frost action on concrete, suitability of concrete for oil and acid storage tanks, damp-proofing brick and tile walls, dusting of concrete floors.

The engineering data resulting from investigations which the Bureau is conducting in reference to fireproofing of building columns and partitions should serve as the foundation upon which building codes must be constructed. Some progress has been made recently in compiling the municipal building codes, both with a view to furnishing information to state and city building bureaus and to others interested, and to permit a comparative study of existing codes, to assist in planning a systematic program of investigations of the many important questions about which there are still great differences of opinion.

American Society for Testing Materials. 1A5c

Secretary: Edgar Marburg, University of Pennsylvania, Philadelphia.

Publications:

1. "Proceedings," published annually in two parts, containing:
 - (a) Reports of technical committees and tentative Standards published for one or two years for criticism before final action toward their adoption (of which there are now 61).
 - (b) Technical papers and discussions.
2. Book of A.S.T.M. Standards, about 800 pages, published biennially in the even years and containing the Standards adopted by the Society in their latest revised form (there are now 107).
3. Standards, also published individually at 25 cents each; to members, 15 cents.

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4. A pamphlet annually, containing list of members, personnel of committees, and general information concerning the Society and the International Association.
5. Circulars of information to members are also issued at irregular intervals, averaging about one a month.

Each member receives the above publications, except (3) by virtue of his membership. Current issues obtainable by non-members at (1A), paper, \$5; cloth, \$5.50; (1B), same; (2), cloth only, \$7.50; (4), paper, \$1.

The American Society for Testing Materials was organized 1898 as American Section of the International Association for Testing Materials. Incorporated 1902 as American Society for Testing Materials.

Its purpose is the promotion of knowledge of the materials of engineering, and the standardization of specifications and methods of testing.

Membership may be held by individuals, firms, corporations, technical or scientific societies, companies, teaching faculties, and libraries. For information address the Secretary.

The work of the Society is done largely through its technical committees, which present reports and recommendations at the annual meeting, usually in June. There are now 38 technical committees with a total membership of 1,022.

On committees dealing with subjects having a commercial bearing, either an equal numeric balance is maintained between the representatives of consuming and producing interests, or the former are allowed to predominate with the acquiescence of the latter.

For detailed description of methods of procedure regarding proposed new Standards or proposed amendments to existing Standards, see the quotation from "Regulations Governing Technical Committees," given in the Structural Service Book, Vol. 1, under 1A4.

The various standards affecting materials or methods of building construction will be separately referred to throughout the Structural Service Department under the especial material or industry affected. A pamphlet giving a complete list of all Standards may be had upon application to the Secretary of the A.S.T.M.

Standards of the A. S. T. M.

1A5d

The Committee on Materials and Methods of the American Institute of Architects called attention last year to the increasing use of the Standards of the A.S.T.M. in federal, state, and municipal circles, and specifically to the use of many of these Standards by the Purchasing Department of the Panama Canal, and in connection with the Boiler Code prepared by a committee of the American Society of Mechanical Engineers.

At this time the Committee further calls attention to the fact that

the A.S.T.M. Standards are now in course of translation into foreign languages under the auspices of the United States Department of Commerce, with a view to placing them in the United States Consular Offices in the foreign countries, and making them conveniently available to American interests in relation to export trade.

The United States Steel Corporation is also making a translation of certain specifications, and it was the desire of the Department of Commerce to have the benefit of mutual comparison, to avoid conflict in phraseology. The progress of this work has been somewhat delayed, however, owing to the vast amount of official work which is now crowding the Government offices.

The Institute's Committee on Basic Building Code last year called attention to the fact that the current Building Code of the city of New York prescribed in several instances that certain Standard Specifications of the A.S.T.M. should be conformed to.

Other Standards and Building Codes.

1A5e

1. Attention could similarly be called to official and other recognition of the Regulations of the National Board of Fire Underwriters and Standards of the National Fire Protection Association which have a most important effect on certain phases of building construction. These will be referred to in later Serial numbers, as will also the Building Code suggested by the N.B.F.U., described in Structural Service Book, Vol. 1, under 3A4, 4B2b, and 4B3.

2. Building Codes. The mandatory provisions of all codes, state or municipal, govern construction in each locality. It is the duty of all architects, engineers, contractors and owners to co-operate with officials and with other agencies before mentioned, not only in the fulfilment of all requirements, but in raising the general standard of building construction in every way possible and to take part, as has been done in many localities, in movements to improve existing codes or portions thereof. On this point the Institute, in its Document 107 (1B5a) says:

"An architect should be mindful of the public welfare and should participate in those movements for public betterment in which his special training and experience quality him to act. He should not, even under his client's instructions, engage in or encourage any practices contrary to law or hostile to the public interest; for as he is not obliged to accept a given piece of work, he cannot, by urging that he has but followed his client's instructions, escape the condemnation attaching to his acts. An architect should support all public officials who have charge of building in the rightful performance of their legal duties. He should carefully comply with all building laws and regulations, and if any such appear to him unwise or unfair, he should endeavor to have them altered."

Preliminary Procedure, Office and General Administration.

1B

(See, also, some of the references under next two succeeding sections.)

1. The American Institute of Architects has for some time had in course of preparation, "An Architect's Handbook of Professional Practice and Business Administration" for use in connection with the Institute documents.

Were this book now completed, reference to it here as the centralized source of information would practically constitute this section so far as architects are concerned. The book is intended as an aid to proper practice and efficient business administration. To the student who intends making architecture his profession and to the young practitioner, it will be of service in a field to which experience has heretofore been the only guide, while to the architect in full practice, it may offer valuable suggestions. To the owner, the Handbook should be of value as enabling him, the more intelligently, to cooperate with his architect.

The book covers such subjects as the various forms of service performed by an architect, methods of choosing an architect, agreement between owner and architect, the architect's legal status, the owner's duties, the organization of an architect's office, drafting-room practice, competitive bidding, methods of contracting for the execution of work, the use of the Institute's contract documents, notes upon proposals, legal details of agreements, the administrative conduct of the work, with examples of its certificates, vouchers, schedules, etc., notes upon supervision and superintendence, notes upon cost accounting and book-keeping for architects and upon the legal relations of architect, owner, and contractor.

This Handbook, which has already passed through several preliminary drafts, will shortly appear in the pages of the Journal for the purpose of receiving the constructive criticism of the whole profession, after obtaining the benefits of which it will appear, perhaps within the year 1918, in book form.

(a) It is not in our province to treat of the qualifications for "admission to practice" of architects nor of the legal requirements of various states for the registration of architects, but it seems desirable, on account of their relation to good practice and administration, to call attention to the following "Rules":

A 20-page booklet is issued (June, 1917) on "Registration of Architects in the State of New York—The law

in relation to the practice of architecture and the rules of the State Board of Examiners and Registration of Architects approved by the Regents of the University of the State of New York." The synopsis of subjects is illuminating as to what a qualified architect should know of history, composition, architectural engineering and practice, the latter including building laws, contracts, specifications and drawings. Copies of this, as Bulletin No. 35 of the University of the State of New York, are obtainable without charge from Director of Examinations and Inspections Division, Albany, N. Y.

2. With respect to engineering practice and procedure and that of other professions concerned with structural matters, see the respective publications of the societies and other organizations to be listed throughout this department and included in Vol. I, 1917, of the Structural Service Book.

3. See, also, "Business Law for Engineers," C. F. Allen, C.E., etc., 1917. Part I: Elements of Law for Engineers; Part II: Contract-letting.

4. See "A Dictionary of Architecture and Building, Biographical, Historical and Descriptive," Russell Sturgis, F.A.I.A., and many architects, painters, engineers, and other expert writers, American and foreign.

5. The currently obtainable documents of the American Institute of Architects dealing with the more important phases of professional practice consist of:

(a) A Circular of Advice relative to the Principles of Professional Practice. This is the Institute code of ethics and, while not going into the full details of all the ethical questions which come before the architect, nevertheless acts as a safe guide to conduct in general.

(b) Professional Practice of Architects and Schedule of Proper Minimum Charges. This document has been in existence for fifty years or more. It has undergone many revisions, the latest of which occurred in 1917. It indicates a basis upon which competent and complete professional services can be performed, and states the essentials of the service thus to be rendered. The fees in this case are based upon percentages of the cost.

- (c) **A Form of Agreement between Owner and Architect on the Fee Plus Cost System.** This document, with its accompanying circular descriptive of the use of the system, bears upon a method of remunerating the architect essentially different from that on the percentage basis, a method rapidly coming into greater use and on the whole more equitable as between the parties than the other system (covered by *b*).
 - (d) **A Standard Form of Agreement between Owner and Architect when a Percentage of the Cost of the Work Forms the Basis of Payment.** This document gives to the owner and architect a clear understanding of their relations and obligations and is of the utmost importance in practice. It states much more fully and clearly than does the "Schedule of Charges" (*b*), the many unforeseen situations that may arise during the designing and erection of a building, situations that neither a verbal agreement nor a mere exchange of letters can cover.
 - (e) **Architectural Competitions, a Circular of Advice and Information.** This circular, with its accompanying standard form of competition program, deals with the whole subject of competitions and is a safe and necessary guide to the technical details of that much-abused subject.
6. The University of Illinois Engineering Experiment Station has issued the following:
 - (a) Bulletin 13: "An Extension of the Dewey Decimal System of Classification Applied to Architecture and Building," N. Clifford Ricker. 1907.
 - (b) Bulletin 9: "An Extension of the Dewey Decimal System of Classification Applied to the Engineering Industries," L. P. Breckenridge and G. A. Goodenough. 1912.
 7. "The Law of Operations Preliminary to Construction in Engineering and Architecture," John Cassan Wait. Rights in real property, boundaries, easements, and franchises for engineers, architects, contractors, builders, public officers, and attorneys-at-law. 638 pp.
 8. For "Dimensions and Data Useful in the Preparation of Architects' Drawings and Specifications," see information under this heading in "Kidders' Architects' and Builders' Pocket Book," 1916, pp. 1557-1575.
 9. For "Miscellaneous and Useful Information Concerning Building Engineering, Trades and Materials," see tables, formulæ, Symbols, Details of Construction, etc., in "Handbook for Architects and Builders," Illinois Society of Architects, Vol. XX, 1917, pp. 375-400.
 10. For "General Instructions issued to draftsmen by the Chief Mechanical and Electrical Engineer, Office Supervising Architect, Treasury Department," see the section in "Mechanical Equipment of Federal Buildings," referred to in the Structural Service Book under 6L17.
 11. See "Consulting an Architect," What an Architect is and What He is Not—Costs and These Times, H. F. Sedgwick, *House and Garden*, November, 1917. Illus.
 12. Consult, "Architect, Owner and Builder before the Law," T. M. Clark.
 13. Read "The Architect as Arbitrator," W. L. Bowman, *The Brickbuilder*, Vol. for 1913.
 14. Read "Legal Hints to Architects," 1911, and "Architectural Jurisprudence," 1913, both by W. L. Bowman, C.E., L.L.B., in *The Brickbuilder*.
 15. For the way in which the offices of several well-known architects are planned and arranged see series of articles by D. Everett Waid, Architect, in *The Brickbuilder*, volumes for 1911-13.
 16. For suggestions as to office management and systems see series of articles in same periodical by Grosvenor Atterbury, Architect.
 17. "Engineering Office Systems and Methods," John P. Davies. 554 pp.; illus.
 18. For a discussion of the best methods of filing correspondence, catalogues and drawings, see "Architectural Filing," being Chapters 27 and 28 of "Indexing and Filing" by E. R. Hudders. 1915.
 19. "The National Association of Purchasing Agents" advocates and is working for, a standard size of catalog. It recommends the adoption of letterhead size, 8½ x 11, for all catalogs or other advertising literature designed for filing purposes. This action is in consonance with that of the American Institute of Architects which adopted this size as Standard and issues a "Circular as to Size and Character of Printed Matter intended for Architects' Files" (1A2b2).
 20. "Building Superintendence—A Manual for Young Architects, Students and Others Interested in Building Operations," T. M. Clark, F.A.I.A.
 21. Many are those who in practice today recall the first insight structurally which they received through "Clark's Superintendence." There now exists a large number of Handbooks, Pocket Books, and other practical general guides which will be found mentioned with frequency throughout the S.S.D., several of them, including Kidder and Trautwine in this Serial Number. Trautwine, Jr., and 3d continue the work of the original author, and we are informed that the next edition of Kidder will be known as "Kidder-Nolan" in recognition of Prof. Nolan's long-continued services as Editor.
 22. See "A Handbook for Superintendents of Construction, Architects, Builders and Building Inspectors," H. G. Richey.
 23. Also "The Building Foreman's Pocket Book and Ready Reference," H. G. Richey. 1,118 pp.; illus.
 24. "The Building Trades Handbook." A convenient reference book on building construction, mathematics, and estimating, by the International Correspondence Schools.
 25. "Technology and Industrial Efficiency," edited by a committee appointed by the Massachusetts Institute of Technology. 486 pp.; fully illus.
 26. "Construction and Management," Wm. O. Lichtner and Sanford E. Thompson, *Journal*, Association of Engineering Societies, 1915, p. 109.
 27. "Primer of Scientific Management," Frank B. Gilbreth, with an introduction by Louis D. Brandeis. 116 pp.
 28. "Principles of Industrial Organization," Dexter S. Kimball. 300 pp.; illus.
 29. "Popular Education in Architecture and Landscaping." A Summary of the Work of Federal and State Agencies, C. F. Pilat, *Architectural Record*, June, 1917, p. 542.
 30. Architects and interested citizens should have in their possession a copy of the "Congressional Directory," which sets forth all functions of the National Government and gives the titles of Departments, Bureaus and other subdivisions with the names and addresses of all officials as well as the names, addresses and bibliographies of all Representatives in Congress.
 31. The Curtis Publishing Co. has issued:
 - (a) "What You Should Know When Building a Little House," Charles E. White, Jr. 40 pp. (4 pp. of diagrammatic illustrations).
 - (b) "How to Finance the Building of a Little Home," C. M. Keys. 19 pp.

Contractual Relations, Specifications, and Drawings.

1C

(See, also, some of the references under the preceding and the next succeeding Section.)

An agreement, drawings and specifications are the necessary parts of a building contract. Many conditions of a general character may at will be placed either in the agreement or in the specifications. It is, however, wise to assemble them in a single document, and, since they have as much bearing on the drawings as on the specifications, and even more on the business relations of the contracting parties, they are properly called by the American Institute of Architects the "General Conditions of the Contract." As the agreement, general conditions, drawings and specifications are the constituent elements of the contract and are acknowledged as such in the agreement, they are correctly termed the **Contract Documents**. Statements made in any one of them are just as binding as if made in the agreement.

1. In addition to the Documents of the American Institute of Architects referred to in the preceding Section, which apply for the most part to the relations between architect and owner, the Institute issues the below-mentioned documents which apply, for the most part, to the relations between owner and contractor.

- (a) **Form of Agreement and General Conditions of the Contract.**

- (b) **Bond of Suretyship.**
- (c) **Form of Subcontract.**
- (d) **Letter of Acceptance of Subcontractor's Proposal.**

The documents may be used as complete sets or separately and are obtainable from the Executive Secretary, A.I.A., The Octagon, Washington, D. C., or from the dealers listed on page xxvii of the Industrial Section.

The Third Edition of these "Standard Documents of the Institute" has just received official final approval and been ordered issued. This edition represents a consensus of opinion of many architects, builders, and contractors who have cooperated as individuals and as representatives of many local and national organizations to bring about desirable revisions of earlier editions.

The present third edition defines the equitable conditions that should exist in a building contract, and, in addition to the approval of the American Institute of Architects which issues the documents, they have received the approval of several national organizations, as will be noted on the cover, in addition to the following whose approval was given to the second edition.

National Association of Builders' Exchanges, the National

STRUCTURAL SERVICE DEPARTMENT

Association of Master Plumbers, the National Association of Master Steam and Hot Water Fitters, the National Association of Sheet Metal Contractors of the United States, the National Electrical Contractors' Association of the United States, and the National Association of Marble Dealers.

These forms, although intended for use in actual practice, should also be regarded as a code of reference representing the judgment of the Institute as to what constitutes good practice. They are equally applicable to a single or general contract, or to an operation conducted under separate contracts.

The general use of these Standard Documents by architects, builders and owners should not only simplify matters of procedure but tend to a reduction in the ultimate cost of properly executed work.

2. At a meeting of the representatives of eleven associations of building contractors of the city of Milwaukee, November 28, 1917, it was:

(a) "Resolved, that the Standard Documents of the American Institute of Architects, third edition, and all revisions of the same or additions thereto, as adopted and approved jointly by the Institute and the National Association of Builders' Exchanges of the United States, are hereby approved; and that the associations here represented shall be and the same are hereby instructed to request the exclusive use of the said documents in connection with all contract work estimated upon or undertaken by them from and after January 1, 1918. And it is hereby further

"Resolved, that the foregoing resolution be mailed by the Secretary of this joint meeting to each and every architect in the city of Milwaukee, the Board of Public Works, the building department of the School Board, and to other bodies, individuals, firms, or organizations in the city of Milwaukee and the state of Wisconsin as may be deemed expedient for the purpose of advising them of the above resolution and requesting their co-operation in putting into effect the universal use of these documents."

(From *American Contractor*, Dec. 8, 1917, in which is a list of the names of the eleven endorsing organizations).

3. The American Railway Engineering Association has adopted and publishes in its "Manual" (1A2c3.) "Uniform General Contract Forms," consisting of: Construction Contract Form, 2 pp.; Form of Proposal, 1 p.; Construction Contract, 10 pp.; Bond, 1 p.
4. Consult "Handbook of the Law on Contracts," Wm. L. Clark, Jr.
5. See "Part II, Contract letting" of "Business Law for Engineers," C. F. Allen. 1917.
6. "The Law of Architecture and Building," Clinton H. Blake, with a special introduction by Aymar Embury II; 352 pp.
7. "Engineering and Architectural Jurisprudence," John Cassan Wait. A presentation of the Law of Construction, for engineers, architects, contractors, builders, public officers, and attorneys-at-law; 905 pp.
8. Read, "Do Engineers Need Standard Contract Forms Backed by National Societies," *Engineering Record*, May 27, 1916.
9. "Equitable Specifications and Contracts," Hillis F. Hackedorn, "Transactions," American Society of Mechanical Engineers, May, 1916.

10. "Contracts, Specifications and Engineering Relations," Daniel W. Mead. Discusses relations of the engineer and of the architect in practical life, legal and contractual relations, and presents the analytical system for preparing specifications which Professor Mead has used for many years.
11. "Engineering Contracts and Specifications," Prof. J. B. Johnson. 563 pp.
12. "Contracts in Engineering," James I. Tucker. 307 pp.
13. "Law and Business of Engineering and Contracting," Chas. Evan Fowler. 170 pp.
14. "Wright on Building Arbitrations—A Manual for Architects, Students, Contractors and Construction Engineers," G. Alexander Wright. June, 1913. 48 pp.
15. "Cyclopedia of Architecture, Carpentry and Building," American School of Correspondence. Vol. 1 contains sections on "Contracts and Specifications" and "Building Law."
16. "The Law of Contracts," John Cassan Wait. A textbook for technical schools of engineering and architecture. 331 pp.
17. See "Specification Reminder," prepared by William H. Sayward.
18. Read "The Definite Specification Viewed from Different Angles," *The American Architect*, December, 1914, p. 358.
19. Also, "Planning the Specification," F. N. Reed, *Architecture*, April and May, 1916.
20. "Specifications and Contracts," J. A. L. Waddell and J. C. Wait. A full presentation of typical contracts, and the "Law of Contracts," "general clauses" of contracts and specifications.
21. "The Elements of Specification Writing," Richard Shelton Kirby. A textbook for students in civil engineering. 125 pp.
22. For useful detailed drawings of various phases of building construction, showing materials, and features of design, see
(a) "Building Details," Frank M. Snyder.
(b) "Details of Building Construction," Clarence A. Martin.
(c) "Construction Details," Francis W. Chandler.
23. For "Symbols used in marking drawings" see Index to Structural Service Book, Vol. 1, under Symbols, or referring to Electricity, Serial 6; Gas, Serial 7; Mechanical Equipment, Serial 9.
24. The practice of the U. S. Navy Department with respect to awarding of contracts on the cost plus percentage basis is set forth in Bulletin "Public Works of the Navy" for July, 1917.
25. Accident Prevention, Safety to Life—Workmen's Compensation:
(a) Preparatory to and during building construction consideration should be given to all phases of these important related subjects. It had been the intention to describe them here, but the exigencies of the occasion make it necessary to postpone their consideration until a later issue. For list of those organizations mainly concerned, see Structural Service Book, Vol. 1, under 12K.
(b) At a meeting of the Board of Control of the National Association of Builders' Exchanges held last November it was decided to make "Accident Prevention" an important feature of the program for the coming convention to be held at Pittsburgh in February and to recommend membership of the Association in the National Safety Council.
(c) For information and illustrations pertaining to falling and slipping hazards, see "Make Walking Safe" on 2d. cover, American Abrasive Metals Co.

Estimating Conditions, Quantities and Cost Data.

1D

(See, also, some of the references under the two preceding sections.)

1. The Quantity System:
(a) This system, as applied to estimating conditions, is receiving constantly increasing attention. The subject has been before the American Institute of Architects for a number of years, and, at the forty-seventh annual convention in New Orleans was reported upon by the Committee on Quantity Surveying, Sullivan W. Jones, Chairman.
The present status of the situation is given by Mr. Jones, who presided at a conference held under the auspices of the A.I.A. under "Signs of Change" in this issue of the Structural Service Department.
- (b) Important contributions toward present developments in this country, the system having been in operation abroad for some time, have been made by G. Alexander Wright, including an address given before the General Contractors' Association of San Francisco, 1913, entitled: "A Plea for a Better System of Estimating Cost of Buildings in the United States."
- (c) In addition to its inclusion within some of the publications elsewhere referred to, this subject will be found treated in the *Journal* of the Society of Constructors of Federal Buildings for January, 1916, which contains a paper on "An American Quantity System—The Modern Aid to Better Work and Better Contract Methods," by G. Alexander Wright.

- (d) A year ago the *Pictorial Review* published a series of twelve designs of small country houses by different architects, a feature of which, in each case, was that quantities for all items of construction were fully listed by the Quantity Survey Company, Inc.
- (e) For services in connection with this system see data, on back cover, of the Quantity Survey Company, Inc., which has long been identified with this movement.
2. See address on "The Nelson Form of Choosing Bidders and Awarding Contracts" delivered before the sixth annual convention of The National Association of Builders' Exchanges, February, 1917.
- (a) At a recent meeting of the Board of Control of this Association, H. W. Nelson, of Moline, Ill., made an address on this subject and referred to the quantity system, relations between architects and contractors and between contractors and subcontractors. It was decided that at the coming convention of the Association at Pittsburgh, in February, the discussion of "Nelson Forms" should be taken up.
- (b) The address of President John Lawrence Mauran of the American Institute of Architects before the February, 1917, convention of this Association should be read by those interested in closer co-operation between architects, builders, and other constructionists.

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3. "The Building Estimators' Reference Book," Frank R. Walker. 1917.
4. "Handbook of Cost Data," Halbert P. Gillette. 1,900 pp.
5. "The New Building Estimator," William Arthur.
6. "Contractors' and Builders' Handbook," William Arthur.
7. "Modern Estimators' and Contractors' Guide for Pricing Builders' Work," F. T. Hodgson, Architect. 318 pp.; illus.
8. "Estimating the Cost of Buildings," Arthur W. Joslin. 205 pp.; illus.
9. "Estimating," Edward Nichols. 140 pp; illus.
10. "The Estimator's Price Book and Pocket Companion," I. P. Hicks. 172 pp.
11. For "Revised Basis for Pricing Extra Work," as recommended by twelve organizations, see "Handbook for Architects and Builders," Illinois Society of Architects, 1917, p. 367.
12. Read "Cost-keeping System for Building Contractors," D. B. Duncan, *Engineering-Contracting*, Sept. 27, 1916. Illus.
13. "Cost-keeping and Scientific Management," H. A. Evans. 260 pp.; illus.
14. See "Purchasing," H. B. Twyford. 252 pp.; illus.
15. See, also, "Purchasing," C. S. Rindsfoos. 165 pp.

The Site: Excavation, Piling, Foundational Requirements.

1E

(Footings and foundations of stone, brick, wood piling, etc., will be treated in later serial numbers; cement and concrete in No. 2.)

Problems connected with soil conditions are encountered throughout the country. Pending actual investigation of the site, an acquaintance with the source of data concerning conditions likely to be found, the requirements of various cities as to floor-loads and bearings allowed, methods of overcoming obstacles similar in nature, the character of engineering or constructional assistance to be obtained, and other information tending to simplify investigation and facilitate subsequent treatment, should prove helpful.

The following, in addition to many locality bulletins and publications of universities and other institutions, are among those which might be mentioned:

1. The U. S. Geological Survey has published about four hundred reports on various phases of water-supply and conditions likely to be met with in excavating and similar work. Request should be made for information concerning a specific section of the country.
2. The U. S. Department of Agriculture has issued, among others, the following Farmers' Bulletins at 5 cents each:
 - (a) No. 150: "Clearing New Land," Franklin Williams. 1902.
 - (b) No. 235: "Cement Mortar and Concrete," P. L. Worsley. 1905.
3. The Bureau of Standards has issued, among others, Technologic Paper No. 26: "Earth resistance and its relation to the electrolysis of underground structures," Burton McCollum and K. H. Logan. 1915. 48 pp.; illus. 15 cents.
4. The National Board of Fire Underwriters has issued: (See Structural Service Book, Vol. I, for complete list of its publications, under 3A4.)
 - (a) "Building Code Recommended by the N.B.F.U.," 1915, which contains information on: "Excavations, Foundations and Footings," pp. 25-32; "Bearing Capacity of Soils," p. 28; "Concrete Piles," pp. 32-34.
 - (b) "Dwelling Houses, A Code of Suggestions for Construction and Fire Protection," 1916.
5. (a) In "Manual" of the American Railway Engineering Association (1A2c3) will be found specifications for "Clearing, Grubbing, Grading, Surfacing and Subsurfacing, Drainage and Price and Measurement of Grading."
 - (b) See, also, "Reports of Committee on Masonry," in this "Manual," which treats of various phases of underground and foundational work and gives practice recommended with respect to many of them.
6. (a) A special committee exists in the American Society of Civil Engineers (1A2a) to "Codify Present Practice on the Bearing Value of Soils for Foundations." (See "Proceedings" of this Society for reports.)
 - (b) The U. S. Bureau of Standards in latest available report (1916) stated that an investigation of the resisting power of earths is being conducted by the Bureau and a cooperative committee of the A.S.C.E. These investigations are briefly described in the Structural Service Book, Vol. 1, 1917 (1C4b). Experiments are being carried out to determine the laws of variation of frictional coefficients in relation to diameter and perimeter of piles and foundations as preliminary to further tests.
 - (c) See, also, the "Transactions" of the A.S.C.E. for the following, among others: "Lateral Earth-Pressures and Related Phenomena," E. P. Goodrich, Vol. LIII, p. 272; "Pressure, Resistance and Stability of Earth," J. C. Meems, Vol. LXX, p. 352; "Earth and Retaining Walls," G. H. Darwin, Vol. LXXXI, p. 350.
7. See, "An Apparatus for Determining Soil Pressures," A. T. Goldbeck and E. B. Smith, paper presented at the annual meeting of the A.S.T.M., June, 1916, and other papers and reports in the publications of this Society. Excavation and earth fills in connection with sewers and pipe trenching as developed by the A.S.T.M. will be treated in the issue devoted to plumbing.
8. The Pennsylvania State College Engineering Experiment Station (1A1a36), Bulletin, June, 1913, "Experiments on the Distribution of Vertical Pressure in Earth," R. B. Fehr and C. R. Thomas.
9. See, "Foundations of Bridges and Buildings," Jacoby and Davis, in which will also be found a very complete bibliography on Concrete Piling and other related subjects.
10. In a report from F. H. Quinby, Chairman of Brooklyn Chapter's Subcommittee on Materials and Methods, to Prof. Thomas Nolan, Chairman, attention was called to a foundation method based upon a "bulb of pressure" under each pile. This method, he stated, has been used most successfully during subway construction in supporting buildings up to twenty-two stories in height where the subway excavation extended below the existing foundations of the buildings. With this communication Mr. Quinby transmitted the next-named volume, containing description of this method.
11. "Modern Underpinning"—Development, Methods and Typical Examples, L. White, C. E. and E. A. Prentis, M. E. 1917. 94 pp. of diagrams and illustrations.
12. See *Journal of Society of Constructors of Federal Buildings (1A2d)* for:
 - (a) "Concrete Piling," B. A. Appleyard, May, 1915.
 - (b) "Pile Tests at the Site of the Boston, Mass., Appraisers' Stores," Wm. N. Collier, September, 1915.
 - (c) "A New Concrete Pile Driven from the Point," J. M. Geary, August, 1917.
13. In the *Journal of the Western Society of Engineers* for June, 1914, will be found: "Topography of the Red Rock under Chicago," Roderick Peattie, including diagrams and followed by discussions participated in by several architects.
14. "Allowable Pressure on Deep Foundations," E. L. Corthell.
15. "A Practical Treatise on Sub-Aqueous Foundations," C. E. Fowler.
16. "Masonry Construction," Ira O. Baker.
17. "Foundations," M. A. Howe; also, "Masonry," M. A. Howe.
18. "Building Construction and Superintendence," F. E. Kidder.
19. "American Civil Engineers' Pocket Book," Mansfield Merriman.
20. "Handbook of Cost Data for Contractors and Engineers," H. P. Gillette.
21. "Concrete Pile Standards," Hunley Abbott, C. E.
22. Not alone for various matters connected with foundations but for load and other requirements of building codes in the principal cities of this country, see:
 - (a) "Kidder's Pocket Book," pp. 129-229, 151, 978-982, 1450.
 - (b) "Carnegie Pocket Companion," 1916. pp. 104, 188, 258-262, 318, 348-351.
 - (c) "Jones & Laughlin Manual," 1916, pp. 82-89, 218-222, 243, 284-290.
23. See, also, "Handbook for Architects and Builders," Vol. XX, 1917, of the Illinois Society of Architects, including section on "Rules of measurement for excavation and concrete work," pp. 257, 259-261.

Damp-proofing, Waterproofing and Under-water Construction.

1F

To understand the difficulties which surround the solution of the problems connected with excluding water and other liquids from structures, both above and below ground, and with lessening the absorptive qualities of various containers or enclosing materials, it is only necessary to review the results, or to state the lack of them, in connection with investigations which have been taking place.

Governmental departments, educational institutions, various laboratories, including those maintained by some of the largest manufacturing interests in the country, professional and technical associations, all are working on the problem, and out of these activities there will evolve a clearer understanding of when, where, and how results may be accomplished.

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Committee D-8 on Waterproofing 1F1

The various reports of this Committee of the A. S. T. M. form interesting contributions to progress along these lines.

- (a) This Committee reported in 1915 that five subcommittees had been organized to gather information on waterproofing materials, as directly affecting the classes of construction assigned to each, namely: On Railroads, on Subways and Tunnels, on Hydraulic Structures, on Buildings, and Technical.
- (b) A preliminary report, embodying five proposed specifications, was presented at a meeting of the Committee D-8 early in 1916. These included methods of testing for several materials used in foundations and other construction, tentatively described as applying to "below-grade" conditions. The program further contemplated the preparation of specifications for similar materials applied to "above-grade" conditions, as well as conveying media other than felt, the only one actually specified in the report.
- (c) At the 1917 A.S.T.M. meeting, Committee D-8 submitted four "proposed tentative specifications, for Asphalt, for Primer, for Coal-Tar Pitch, and for Creosote Oil," all when used for damp-proofing and waterproofing under uniformly moderate temperatures (see A.S.T.M. "Proceedings" 1917, Part I [1A5c1], pp. 712-722 for full titles and specifications), and reference to conveying media such as saturated felts and woven fabrics.
- (d) It is of interest to note that the A.S.T.M. at this 1917 meeting amended the above specifications by substituting for the word "waterproofing" the words "Use in Damp-proofing and Waterproofing."

The Subject in General. 1F2

The subject in general is treated in the following publications and articles, among others which will be found by referring to the catalogues of publishers and the files of technical periodicals.

- (a) "Kidder's Pocket Book," 1916, pp. 1629-1637, "Waterproofing for Foundations."
- (b) "The Building Estimators' Reference Book," 1917, F. R. Walker, "Caissons, Concrete Foundations, Water- and Damp-proofing" pp. 123-308.
- (c) "Building Construction and Superintendence," Frank E. Kidder, Part 1, Masons Work.
- (d) "American Civil Engineers' Pocket Book," M. Merriman.
- (e) "Prevention of Dampness in Buildings," A. W. Keim.
- (f) "Modern Methods of Waterproofing," Myron H. Lewis.
- (g) "Waterproofing of Engineering Structures," W. H. Finley, *Journal of the Association of Engineering Societies*, 1912, p. 545.
- (h) See *Journal of Society of Constructors of Federal Buildings* (1A2d) for:
 1. "Waterproofing," Thomas Appleton, May, 1915.
 2. "Waterproofing," A. Grothwell, February, 1917.
 3. "Hydrated Lime in connection with Cement Mortars and the Improvement Thereof," N. L. Whitcraft, March, 1916.
- (j) For other references to the use of Hydrated Lime see "Structural Service Book," Vol. 1, 1917, under 2B₄ to 2B₁₀, in addition to which the subject will be treated under Serial No. 2 next month.
- (k) "Some Practical and Technical Tests on Water-proofing Materials," Joseph Rosenzweig, *The Municipal Engineers' Journal*, November and December, 1917.

Waterproof Concrete. 1F3

- (a) At the International Engineering Conference in San Francisco, Calif., 1915, a paper entitled "Waterproof Concrete," by Richard L. Humphrey, Philadelphia, Pa., was presented. Same contains a complete bibliography on waterproofing and concreting, the references mentioned below from (b) to (o) being selected therefrom as of especial interest to building constructors.
- (b) The U. S. Bureau of Standards (1A5g3) has issued Technologic Paper No. 3: "Tests of the Absorptive and Permeable Properties of Portland Cement Mortars and Concretes, Together with Tests of Damp-proofing and Water-proofing Compounds and Materials," R. J. Wig and P. H. Bates. 1912. 127 pp.; illus. 20 cents.
- (c) The U. S. Department of Agriculture (1A3d). Bulletin No. 230, 1915: "Oil-Mixed Portland Cement Concrete," Logan Waller Page.
- (d) See U. S. Reclamation Record, Vol. VI, No. 4, 1915, for "Waterproofing Concrete Surfaces," J. L. Lytel.
- (e) See in A.S.T.M. publications, among others, the following:
 1. "Permeability Tests of Concrete with the Addition of Hydrated Lime," Sanford E. Thompson, Vol. VIII, p. 500, 1908.
 2. "The Effect of Sodium Silicate Mixed with or Applied to Concrete," Albert Moyer, Vol. X, p. 351, 1910.
 3. Reports of Committee D-8 on "Waterproofing."

4. "Coal-Tar and Asphalt Products for Waterproofing," Samuel T. Wagner, Vol. XIII, p. 955, 1913.
- (f) See the "Proceedings" of the American Society of Civil Engineers (1A2a1); 24 references given in 1F3a.
- (g) See "Proceedings" of the National Association of Cement Users and of its successor, the American Concrete Institute (Serial No. 2); 14 references given in 1F3a.
- (h) American Railway Engineering Association Manual (1A2c3), Reports of Committee on Masonry: "Waterproofing of Masonry."
- (j) American Railway Bridge and Building Association, Vol. XVIII, p. 46, 1908: "Report of Committee on Waterproofing of Concrete-covered Steel Floors of Bridges."
- (k) Dartmouth College (1A1a13), Bulletin Thayer School of Civil Engineering, 1902: "The Permeability of Concrete under High Water Pressure," J. B. McIntire and A. L. Pure.
- (l) The Iowa State College Engineering Experiment Station has issued:
 1. "Experiments on Impermeability and Waterproofing of Cement Blocks, Etc.," B. R. Smith and H. L. Christian, F. E. Cave and G. H. Mack, and W. A. Burton, Vol. IV, Bulletin No. 3, 1908.
 2. "Experiments on Permeability and Waterproofing Concrete, Etc.," R. R. Strothers and Platt Wilson, O. L. Huffman and E. S. Fowler, Royce Heath, and others. Vol. IV, Bulletin No. 4, 1909.
- (m) University of Illinois (1A1a15), *The Technography*, No. 23, 1908, 1909: "Making Concrete Waterproof Tests of Alum and Soap Waterproofing under the Direction of Ira O. Baker," B. L. Bowling and C. G. Derrick.
- (n) Ohio State University (1A1a34), 1901, 1903, "Tests to Determine Causes and Remedies for the Permeability of Cement Mortar."
- (o) University of Wisconsin (1A1a51), Vol. VI, Bulletin No. 1, 1909: "Tests on the Permeability of Concrete," F. M. McCullough.
- (p) See the following publications of the Portland Cement Association (Serial No. 2), available Dec. 5, 1917; mailed without charge upon request:
 - No. 29. Concrete Swimming- and Wading-Pools.
 - No. 30. Concrete Linings for Irrigation Canals.
 - No. 44. Concrete Tile for Land Drainage.
 - No. 48. Concrete Ships.
 - No. 49. Why not More Concrete Tanks?
 - No. 133. Concrete Septic Tanks.
 - No. 141. Concrete Foundations.
- (q) See, also, "Integral Waterproofing," by Mr. Horn, *Journal, Society of Constructors of Federal Buildings*, February, 1917.

Integral Waterproofing Compounds. 1F4

A committee composed of representatives from Government offices, engineering societies, and the various industries, including all known manufacturers of waterproofing compounds has cooperated with the U. S. Bureau of Standards in planning a series of field experiments on concrete tanks, both with and without waterproofing compounds. A questionnaire was submitted by the Bureau to architects, contractors, and engineers, to gather information on the present usage of these materials. Data concerning the progress of this investigation is expected to be included in the 1917 Report, Bureau of Standards.

Concrete in Sea Water. 1F5

- (a) For "Investigation of Concrete Structures in Sea-Water" see Bulletin No. 27, "Public Works of the Navy" (Structural Service Book, Vol. 1, under 8A1). This 24-page report on the condition of concrete structures in sea water at the navy yards, Boston and Puget Sound, by the Bureau of Standards, is profusely illustrated and contains plans, sections, diagrams, tables, and other data.
- (b) For "Durability of Concrete in Sea Water" see 11 pages of bibliographies and abstracts of published papers (not complete) printed in the January, 1917, Bulletin of the Navy above referred to.

Concerning Bituminous and Other Materials. 1F6

See some of the references under 1F2 and see, also, "Heat Transmission, Insulation, Coverings" in Structural Service Book, Vol. 1, which contains many publications of interest.

- (a) "The Asphalt Industry" (from an interview with James L. Rake), "Proceedings," Engineers' Club of Philadelphia, January, 1917. Illus.
- (b) "Asphalts: Their Sources and Utilization," T. Hugh Boorman. Contains addenda treating on general waterproof construction.
- (c) "Effects of Exposure on Tar Products," C. S. Reeve and B. A. Anderton, *Journal*, Franklin Institute, October. Illus.
- (d) See *Journal of the Society of Constructors of Federal Buildings*, issue of February, 1917, "Technical Paints," a paper by A. H. Rhett.

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- (e) See, "The Waterproofing of Fabrics," S. Mierzinski.
- (f) See, also, "Asphalt," by Clifford Richardson.
- (g) The Building Data League has issued (for members):
 1. Standard Specification for **Damp-proofing Exterior Walls above Grade** (Topic No. 395-1).
 2. Findings on Registered Product, being **Damp-proofing for Masonry Walls, Interior Surfaces** (Topic No. 391-1).

- (h) See "Smoke and Water Damage," F. E. Roberts, N.F.P.A. *Quarterly*, Vol. 7, No. 4 (4D1).
- (j) See "Watertight Floors of Mill Construction," Inspection Dept. Asso. Factory Mutual F. I. Co.'s (Serial No. 3), February, 1915.
- (k) See "Waterproofing of Floors," pp. 126, 128, 129, "Building Code Recommended by the N.B.F.U.," 1915 (Serial No. 3).

Structural Iron and Steel.

From the earliest history of the industry the producers have, closely following first the leading members of the older engineering societies abroad and then of those in this country, cooperated in developing the production of iron and steel to the present state. In addition to the governmental and other agencies already mentioned, the following organizations in this country are among those specifically concerned with development on the structural side. Others concerned with the manufacture and use of iron and steel in the form of the various metallic products entering into the equipment of buildings will be referred to in subsequent issues.

The U. S. Bureau of Mines will be referred to in Serial No. 2.

American Institute of Mining Engineers. 1G1

Secretary: Bradley Stoughton, 29 West 39th Street, New York City.

Publications:

- (a) **Transactions**, three volumes annually constitute an important record of research and practice in mining and metallurgy.
- (b) **Monthly Bulletin** contains professional papers, reports of proceedings, a forum for discussion and other matters of interest.
- (c) **Papers and discussions** printed in the Bulletins are also published as individual pamphlets.
- (d) **Year Book** containing a list of members and committees. Members receive (a) and (b) free; to non-members the prices are (a) each volume, paper, \$5, in half morocco \$6; (b) \$12 per annum.

The Institute was organized in 1871. It aims to promote the economic production of the useful minerals and metals, and the welfare of those employed in these industries.

Technical committees are actively at work for the advancement and welfare of the profession and to promote discussion and stimulate the preparation of technical papers.

American Iron and Steel Institute. 1G2

Secretary: James T. McCleary, 61 Broadway, New York City.

Publications. Among these are:

- (a) **Monthly Bulletin**, largely devoted to sociological subjects (housing, sanitation and recreation facilities for employees included).
- (b) **Yearbook**, verbatim proceedings of the general meetings.
- (c) **Annual Statistical Report**.
- (d) **Special statistical bulletins**, published from time to time during the year as advance copy from the annual statistical report.
- (e) **Iron and Steel Works Directory** of the U. S. and Canada, published every few years, latest issue being 1916.

The Institute collects and publishes the statistics of production of all iron and steel in the U. S. and Canada, except the work of fabricators, and is a clearing-house for the iron and steel industry in these countries in connection with activities which promote health and safety in mine and mill.

American Foundrymen's Association, Inc. 1G3

Secretary: A. O. Backert, 12th and Chestnut Streets, Cleveland, Ohio.

Publications:

- (a) **Transactions**, a bound volume containing the papers, addresses and discussions at the annual meeting.
- (b) **Pamphlets** on papers and addresses at the annual convention.
- (c) **Yearbook** containing the names of members and the by-laws. Above are free to members, but may be purchased by others at (a) \$5 each, (b) \$5 annually, (c) \$1.50 a copy.

The Association was founded in 1896, and incorporated in 1916. Its object is to promote knowledge in the production of castings, and its work is concerned chiefly with gray and malleable iron and steel foundry practice and does not take into consideration non-ferrous metals.

The Association of American Steel Manufacturers.

Secretary: Frank A. Robbins, Jr., Care of Bethlehem Steel Co., Steelton, Pa. 1G4

No publications; for Standard Specifications, see 1G7j.

Was formed about 1895 to standardize the practices of the steel trade and its specifications. Many of the specifications of this Association have later been adopted in whole or in part by other associations and societies, and in many cases this Association has gladly relinquished its claims to the original specifications when good use has been made of its pioneer work.

National Erectors' Association. 1G5

Secretary and Treasurer: C. E. Cheney, 286 Fifth Avenue, New York.

Issues booklet containing list of members, which comprises many of the largest firms and individuals concerned with the erection of structural steel, and setting forth the purposes which appear to relate primarily to the policy of the "open shop."

Information Obtainable. 1G6

- (a) It lies outside our province to attempt to give in any instance a complete bibliography; especially is this so where such voluminous literature exists as in the case of structural design and practice. We have, however, through the courtesy of R. B. Woodworth, Sales Statistician of the Carnegie Steel Co., been furnished with a very comprehensive selected list of publications, periodicals, and articles covering:
 - Metallurgy of Steel, Technical, Popular—Materials of Construction—Mechanics of Materials—Structural Mechanics—Design of Structures, General, Special—Detailing of Steel Structures—Reference Books and Standards in Design of Steel Structures—Mill and Shop Testing of Steel Work—Preservation of Iron and Steel—Cast Iron and Castings.**
 A copy of this list will be furnished upon request to the Journal.
- (b) The **Handbooks** and others in the following list will be found to constitute an excellent **workable reference set** with respect to nearly all phases of these subjects:
 - (c) Kidder-Nolan "Architects' and Builders' Pocket Book," 1916.
 - (d) "Civil Engineers' Pocket Book," J. C. Trautwine.
 - (e) "The American Civil Engineers' Pocket Book," M. Merriman.
 - (f) "Civil Engineers' Pocket Book," Albert I. Frye.
 - (g) "Structural Engineers' Handbook," Milo S. Ketchum.
 - (h) "Structural Designers' Handbook," Wm. Fry Scott.
 - (i) "Properties of Steel Sections," John C. Sample.
 - (k) "Curves for Calculating Beams, Channels and Reactions," S. Diamant.
 - (l) "Tables of Stresses in Roof Trusses," H. C. Hearne.
 - (m) "Catalogue of Bethlehem Structural Shapes," Bethlehem Steel Company, 1911.
 - (n) "Handbook Containing General Information for the Use of Engineers, Architects and Builders," Lackawanna Steel Company, 1915.
 - (o) "Handbook of Information Relating to Structural Steel," Cambria Steel Company, 1916.
 - (p) "Pocket Companion," Carnegie Steel Company, 1916.
 - (q) "Manual," Jones & Laughlin Steel Company, 1916. Much of related interest would be found in:
 - (r) Mechanical Engineers' Pocket Book, Wm. Kent, 1916.
 - (s) Mechanical Engineers' Handbook, Lionel S. Marks, 1916.
 - (t) Fire Prevention and Fire Protection, J. K. Freitag, 1912.
 - (u) Fire-proofing of Steel Buildings, J. K. Freitag, 1909. Also in many of the handbooks and other reference books on **Estimating, Cost Data**, etc., previously mentioned in this Serial Number.
 - (v) The **University of Illinois Engineering Experiment Station** has issued, among others, the following **Bulletins** which may be obtained as mentioned in the **Structural Service Book**, Vol. I, under 3C2.
 1. No. 35: A Study of **Base and Bearing Plates for Columns and Beams**, N. Clifford Ricker, 1909. 20 cents.
 2. No. 80: **Wind Stresses in the Steel Frames of Office Buildings**, W. M. Wilson and G. A. Maney, 1915.
 3. No. 86: **The Strength of I Beams and Girders**, H. F. Moore and W. M. Wilson. 1916.
 - (w) "Wind Bracing in Steel Skeleton Construction," W. M. Wilson, "Handbook for Architects and Builders," Illinois Society of Architects, Vol. XX, 1917. Four pages of text and tables.
 - (x) Concerning the use of **cast-iron cores** in concrete columns. Richard E. Schmidt of the Illinois Chapter Subcommittee on Materials brought this matter to the attention of Chairman Nolan and sent him a copy of "Engineering and Contracting" for Feb. 28, 1917. This contained an interesting account of tests conducted at the Pittsburgh laboratory of the U. S. Bureau of Standards,

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undertaken at the instance of L. J. Mensch, M. Am. Soc. C. E. and General Contractor, who had the test columns made. This article is illustrated and contains detailed drawings and tables, as does also a more extensive paper entitled "Tests of Concrete Columns with Cast-Iron Core" by L. J. Mensch, published in "Proceedings" of the A.I.A., Vol. XIII, 1917.

- (y) See "Cast-Iron Columns, Bases and Lintels" in the "Building Code" of the N.B.F.U. for 1915.
- (z) "Non-Technical Chats on Iron and Steel," LaVerne W. Spring. Fully illustrated.

Progress Toward Standardization.

1G7

- (a) An important investigation, in progress for a number of years and of value to the engineering and architectural professions, consists of two series of column tests which the U. S. Bureau of Standards is making in cooperation with the steel column committees of the American Society of Civil Engineers and of the American Railway Engineering Association.
- (b) Brief details of the above tests and a progress report on other tests being conducted in cooperation between the Bureau and the Underwriters' Laboratories and Associated Factory Mutuals Laboratories, with reference to columns and beams under fire tests with different protection coverings, will be found in the *Structural Service Book*, Vol. I, 1917, under 1F7 and 3E3, and the latter will again be reported upon in a later Serial Number by the Institute's Committee Relating to the Work of the Underwriters' Laboratories.
- (c) "Fabrication of Steel Structures." No standards have been officially adopted, but the following have been in use by educational institutions and in general practice:
 1. "Specifications for Steel Structures, Design, Details of Construction and Workmanship," adopted 1912, American Bridge Company. Printed in Carnegie "Pocket Companion," 1916, pp. 154-161. Also in Standard Specifications, distributed by Carnegie Steel Company.
 2. "Standard Specifications for Fabricated Steel Building Construction," adopted, 1915, Jones & Laughlin "Manual," 1916, pp. 370-377. Jones & Laughlin Steel Company.
 3. As these two specifications exist and appear to have no irreconcilable variations, and because no general or basic specifications are extant for the erection, painting and inspection of steel structures, the Editor has received during the past year a number of letters and suggestions which have led him to address himself to the following undertaking:

He has written the American Bridge Company and the Jones & Laughlin Steel Company, suggesting that they cooperate in amalgamating these specifications through appropriate technical committees and bodies of architects and engineers into one standard Specification for Fabrication. He has written to the National Erectors' Association, suggesting that it enlarge the scope of its activities mentioned under 1G5 and undertake, through similar concerted action, to evolve a general specification for erection, painting and inspection. The outcome will be awaited with interest, and the Structural Service Department, with those who have also made these suggestions, will assuredly cooperate in every way possible in bringing about these desirable results.
- (d) The American Foundrymen's Association Inc. (1G3) cooperated with Committee A-3 of the A.S.T.M. in the preparation of standard specifications for Cast-Iron (1G8d).
- (e) See the Proceedings of the A.S.T.M. for these and all other standards on iron and steel referred to below.
- (f) See, also, "Instructions for the Mill Inspection of Structural Steel," in Manual of the American Railway Engineering Association (1A2c3).
- (g) See, also, the Section "Steel Construction" in "Building Code Recommended by the National Board of Fire Underwriters," Serial No. 3, *Structural Service Book*, Vol. I.
- (h) Practice: The Association of American Steel Manufacturers recommends that certain sections of angles, channels, and I-beams be considered as standard for general building construction and other work. These angles are usually indicated in the steel companies' handbooks by a different-faced type; the use of same, whenever possible, instead of avoidable variations, will tend toward economy in construction through lessening costs of rolling and carrying in stock sizes infrequently called for.
- (j) In addition to the "standard specifications" for various other forms of manufactured steel, promulgated by The Association of American Steel Manufacturers, the "Manufacturers' Standard Specifications for Structural Steel for Buildings" have for many years been referred to by architects and engineers to secure uniformity in estimating conditions and practice. While these are still often referred to, as they differ but slightly from the later standards of the A.S.T.M., it is noted that the handbooks of steel companies print the latter speci-

fications rather than the former, and, for the sake of uniformity, it is suggested that architects and other constructors observe the recommendations contained in the statement by Prof. Thomas Nolan concerning the A.S.T.M. standard below.

- (k) See Index to "Lefax Data Sheets," classification (1) Civil, and (2) Mechanical, for topics of interest.

Iron and Steel Standards Adopted.

1G8

- (a) Standard Specifications for Structural Steel for Buildings, A.S.T.M. Serial designation A9-16.

A brief statement concerning the development of these Standard Specifications was made by the writer in the January, 1917, issue of the *Structural Service Department* and appears in the *Structural Service Book*, Vol. I, under 1F6.

The status of this Standard remains as before, Committee A-1 on Steel of the A. S. T. M. having no changes to recommend.

Attention is again especially called to the fact that these Specifications are the standards that should be generally followed throughout the United States, and that the members of the Institute, and all others interested in promoting the very best usages in the materials and methods of construction, should urge their universal adoption.—THOMAS NOLAN, Chairman, A.I.A. Committee on Materials and Methods.

(b) NOTE.—These standards will be found printed and illustrated in the book of A.S.T.M. Standards, 1916; also separately; also printed and illustrated, together with bridge and other standard specifications, in Carnegie "Pocket Companion," 1916, pp. 10-15; also in Jones & Laughlin "Manual," 1916, pp. 342-347; also in "Standard Specifications," distributed by Carnegie Steel Company.

- (c) Paragraph of Application. Without opportunity for action by Institute Committees cooperating with this Department, but after conference with interested members, the Editor offers the following for possible incorporation in specifications to secure the result desired:

All Structural Steel shall comply with the requirements of Standard Specifications for Structural Steel for Buildings of the American Society for Testing Materials, serial designation A 9-16, together with all subsequent official revisions thereof. Structural Steel shall be inspected by Inspecting Engineers of the Architect's selection, the bill for whose services shall, upon approval of the Architect, be paid by the Contractor. The Contractor in his estimate shall allow for and include the sum of _____ per ton to cover cost of mill, shop, and field inspection of all structural steel.

- (d) Of further interest in connection with "Structural Iron and Steel" are the following Standards adopted by the A.S.T.M.:

1. Standard Specifications for Structural Steel for Bridges (Serial designation A 7-16).
2. Standard Specifications for Billet-Steel Concrete Reinforcement Bars (Serial designation A 15-14).
3. Standard Specifications for Rail-Steel Concrete Reinforcement Bars (Serial designation A 16-14).
4. Standard Specifications for Steel Castings (Serial designation A 27-16).
5. Standard Tests for Magnetic Properties of Iron and Steel (Serial designation A 34-14).
6. Standard Specifications for Refined Wrought-Iron Bars (Serial designation A 41-13).
7. Standard Specifications for Wrought-Iron Plates (Serial designation A 42-13).
8. Standard Specifications for Iron and Steel Chain (Serial designation A 56-15).
9. Standard Specifications for Malleable Iron Castings (Serial designation A 47-15).
10. Standard Specifications for Gray-Iron Castings (Serial designation A 48-05).

- (e) The U. S. Navy Department issues specifications as mentioned in the *Structural Service Book*, Vol. I, 1917 (3A1a), among them being:

1. "Foundry Pig Iron," Serial designation 46-11-C.
2. "Iron Castings" Serial designation 49-12-a.
3. "Wrought Iron for the Manufacture of Chain and for Miscellaneous Purposes."

- (f) In the "Handbook for Architects and Builders" of the Illinois Society of Architects, Vol. XX, 1917, is printed "Standard Specifications for Structural Steel," but there is no note indicating from what source these are derived.

The same applies to "Standard Specifications for Billet-Steel Concrete Reinforcement Bars," printed in the above.

Preservation of Iron and Steel.

1G9

- (a) This subject was first touched upon in the *Structural Service Department* for January, 1917, and was again gone into in later Serial numbers in connection with various products and processes. This year it is the intention to treat these subjects collectively in a later issue, and the reader is therefore referred to the *Structural Service Book*, Vol. I, where under 1F8 and in the General Index will be found all references made to corrosion and to protective coatings.

“Signs of Change”

A DEPARTMENT DEVOTED TO ECONOMIC ASPECTS OF THE BUILDING INDUSTRY

SULLIVAN W. JONES, *Associate Editor*

Foreword

THE world's attitude toward business, and, consequently, business methods, is undergoing fundamental changes. These changes, which already have become apparent, are scattered articulations of the struggle to better conditions—economic, social and moral. The tide of reform is rising irresistibly throughout the world.

The war's demand for intensified effort and maximum efficiency in the production and distribution of the world's goods has thrust forward a collection of conditions and problems which must otherwise have developed gradually as the inevitable result of the past. The light of understanding has thus suddenly been turned in the direction in which this tide of reform is moving. The movement must be directed with intelligence and vision, and the time has come to adopt a constructive habit of mind, which is described by H. G. Wells as leading us to think “constantly and by preference of things to come, and of present things mainly in relation to the results that must arise from them.”

In this new department, the purpose is to focus attention on those current events in the building industry which are indications of change; and to point out, when possible, their relation to the unmistakable tendency toward collective action and coöperative effort.

The National Conference on the Quantity System

The American Institute of Architects issued last August an invitation to six professional societies, four contractors' associations, and nine trade organizations, whose members were engaged in either professional or contractual capacities in the building industry, to appoint representatives to confer with the Institute's representative on the Quantity System, or some other measure for improving conditions surrounding competitive bidding for construction contracts.

The Conference was called for October 15, 1917, at the Octagon, Washington, D. C., and was attended by representatives from the Society of Constructors of Federal Buildings, the American Society of Civil Engineers, the Bureau of Yards and Docks, the Supervising Architect's office, the Government Contractors' Association, the National Association of Marble Dealers, the International Association of Cut Stone Contractors, the National Association of Sheet Metal Contractors, the Automatic

Sprinkler Association, the Quantity Survey Company, and the American Institute of Architects. The other societies and associations had, with but three exceptions, two of these being architectural societies, appointed representatives, who, however, were unable to be present.

The meeting was called to order by the representative of the Institute, Sullivan W. Jones, who reviewed the prevailing unhealthy conditions in the building industry as reflected particularly in the steady downward tendency of standards of construction, the increasing difficulty of securing full value in return for money invested in buildings, and the gradual, but none the less evident, undermining of the moral stamina of the contracting fraternity. The belief was expressed that these conditions were rooted in uncertainty regarding the exact contract obligations to be undertaken, or, in other words, the absence of clearly definite quantities of work and materials to be delivered and upon which competitive tenders were asked. In this connection mention was also made of the economic waste involved in competitive bidding as generally conducted, due to the multiplication of the cost of estimating by the number of bidders invited.

The Institute held a view, Mr. Jones declared, that these matters were of vital interest, not alone to architects, but also to everyone who was dependent, either wholly or in part, upon the building industry for a livelihood; and if that was so, that the problem was one calling for coöperative action. It was to bring about such coöperative action that the Institute had proposed the Conference. Mr. Jones gave a brief historical sketch of the movement in the United States for the adoption of the Quantity System, explaining that the Institute had become interested in it because of the belief that this System held greater promise of relief than any of the other corrective measures that had been advocated.

Upon the close of the discussion, the following resolution was unanimously adopted:

“Resolved, First, that it is the sense of this meeting that a permanent organization should be formed for the promotion and adoption of the Quantity System of estimating; and that the organization should also take under consideration all other questions of procedure in the award of contracts.

“Second, that the Chairman appoint a Committee to prepare a draft on a proposed Quantity System to be presented to a second Conference to be held at the call of the Chair, and that all professional societies and contractors' associations interested in the building industry be invited to appoint delegates to attend the second Conference.”

The Chairman has appointed the following as members of the Committee provided for in the above resolution: Henry H. Quimby, representing the American Society of Civil Engineers; Fred G. Webber, representing the National Association of Builders' Exchanges; F. W. Ginder, representing the Supervising Architect's office; Wm. Graves Smith, representing the Quantity Survey Company. The Chairman will sit with the Committee *ex officio*.

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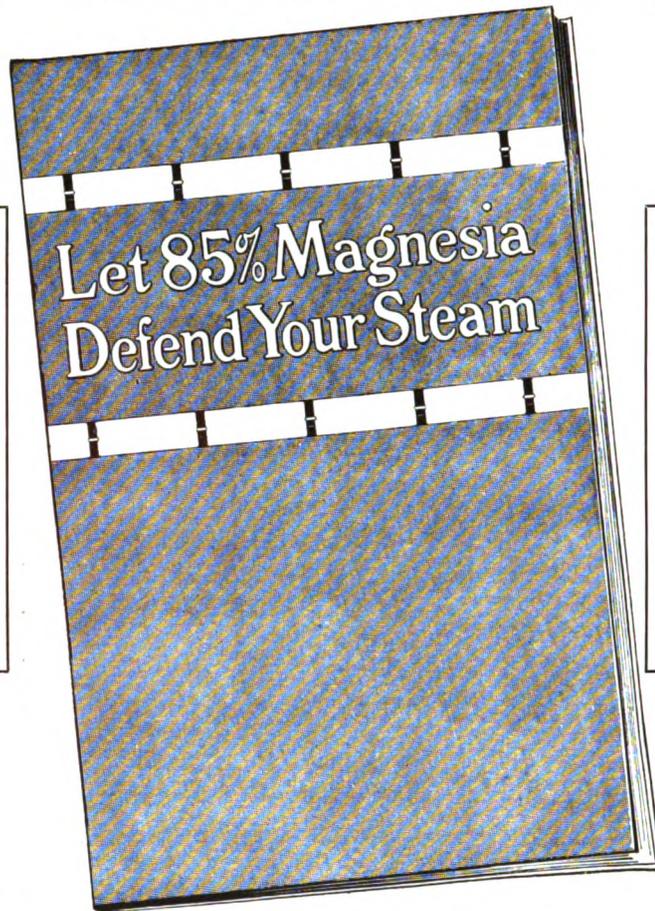
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GRETNA.—Corridor in the Institute

See pages 71-76 for other illustrations of the new munitions town of Gretna built by the British Government under stress of war.

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No. 2

Shadows and Straws

OUR PREDICTION of the then probable imminence of an important announcement on the housing situation, as recorded in the last issue of the Journal, seems to have been verified. About the first of February, the atmosphere of uncertainty suddenly cleared with the announcement that housing would definitely become a function of the Department of Labor. Having been once assigned to that department and then withdrawn from its jurisdiction, all motion was lost for a short period, during which it may be imagined that the political significance of housing was thoroughly discussed. Wisdom apparently prevailed, and, simultaneously with the above announcement, Otto M. Eidlitz, of New York City, was appointed Director of Housing. For the present the Shipping Board will conduct its own housing operations, but we believe that the Department of Labor will undertake the organization of one or more new bureaus to deal with the whole problem of labor in wartime, and it is not unlikely that a Bureau of Living Conditions, with a series of sections, may grow out of the present emergency into a permanent function of the Department. This organization has not yet been perfected, since its progress has necessarily been much hampered by the delay in obtaining the appropriation for which it has asked.

PROGRESS IN HOUSING LEGISLATION by Congress has been slow. The Bill authorizing \$50,000,000 to be spent for this purpose by the Shipping Board has passed both the House and the Senate, but the amendments adopted by the House required that the bill go to a conference,

from which, at this writing, it has not yet emerged. It seems likely that action will occur very shortly.

Another bill, carrying a similar appropriation to be expended under the auspices of the Department of Labor, was reported in the House early in February. It was referred to the Committee on Labor, which held hearings, and the bill was making satisfactory progress, when, on the demand of Congressman Frank Clark of Florida, Chairman of the Committee on Public Buildings and Grounds, the bill was taken from the Committee on Labor and referred to Mr. Clark's committee. A technical question of parliamentary procedure was assigned as the reason for the transfer, although it is safe to assume that other reasons lay behind the proceeding. Housing has fallen a victim to those political exigencies which even a crisis such as now confronts the nation cannot suppress, and a story in many chapters might be written upon this phase of the delay which has occurred. We pass the story by, however, preferring merely to record the fact.

THE BUILDING SITUATION in the city of Washington is receiving the attention of Congress, and the housing problem in that city has reached so acute a point that it will no doubt be dealt with through governmental agencies. It has been proposed to erect a series of buildings on the park space fronting the Union Station, in which may be housed several thousand clerks. Various other suggestions have been made, and gradually there appears to be forming a reluctant conception of the fact that something will have to be done.

There are now before Congress requests for appropriations of something over \$8,000,000 for the construction of more temporary office buildings. This is a tardy recognition of a condition which has been foreseen for months, and while the sites tentatively selected for the buildings cannot but cause a further disfigurement of the Capitol, the necessities imposed by war must take precedence over any other considerations. It seems particularly unfortunate, for example, that a huge office building should be constructed only a few hundred yards from the Lincoln Memorial in Potomac Park, but there appears to be no help for it, and we must trust that the post-war demand for the demolition of these structures will be so insistent as to block the effort which will surely be made to retain them over a long period of years.

How fine a piece of work might have been carried out if, at the outbreak of the war, a competent body, such as the Institute, had been asked to make a survey of the then imperative building needs and their certain increase, and report upon a comprehensive plan for constructing the necessary accommodations! But we do not proceed on those lines. Nothing is done until the emergency has reached the flood-stage, and then we are forced to suffer the inevitable consequences of hasty action. The part which lack of office space and the scattering of governmental agencies all over the city have played in delaying other war activities is both large and costly. One is struck with amazement, at times, at the apparent hostility with which any genuinely expert assistance in these matters is viewed by the Government.

THE SECRETARY OF THE TREASURY has asked Congress for an appropriation of some \$4,000,000 with which to take over the land and the construction work which has already been begun on the building at the corner of Vermont Avenue and H Street, now celebrated in history as the Arlington Hotel site. We understand that in case this project meets with the approval of Congress, the height and design of the building will be modified to make it a harmonious part of the Executive Group described in the last issue of the Journal. Under these circumstances it is greatly to be hoped that Congress will lose no time in granting the money requested.

IN A PROPOSED CHURCH COMPETITION the following letter recently was received by a member of the Institute:

"Immanuel Church of this city was destroyed by fire on December 30, 1917. A Building Committee has been appointed to secure plans and sketches for the erection of new buildings. Do you desire to submit preliminary sketches and plans without cost to us? If so, please advise by January 30, 1918. Preliminary sketches and plans may be based on the following general ideas:"

Then followed a brief description of a church to seat 750-800 and a parish building with Sunday-school, gymnasium, and bowling-alleys, and the limit of cost \$75,000. The architect replied:

"I beg to acknowledge with thanks your letter of January 23 in regard to the Immanuel Church and regret that it is impossible for me to accept your invitation.

"Will you excuse me for saying that, if you think it desirable to attempt to select an architect by means of competitive drawings, there is a recognized, established method of doing this, which is the only way that gives any assurance of satisfactory results. Assuming that what you want is to select the best possible architect for your building, you should invite to compete only those whose reputation is such that you would unhesitatingly commit to any one of them the conduct of the work. Having decided whom to invite, the next step is to engage an architect to outline for you your requirements, and put them into definite architectural form; in other words, draw a programme which will describe a purely professional service in accurate professional language. This programme will constitute a definite agreement between your church and the competitors, and, because you are asking for a definite professional service, you should make a definite payment to each one of the competitors, and a definite agreement that the winner will be given the work; and you should then provide for a jury to examine the drawings when submitted, and make its report to the church authorities, so that in making your decision you will be guided by a professional judgment on a purely professional matter. All the above involves considerable expense, and a considerable loss of time, and as a final result you will merely have succeeded in making a choice of an architect, which you might perfectly well make without this expenditure of time or money. In other words, it is just as easy for you to select an absolutely first-rate architect and appoint him on the basis of his professional reputation, and the work that he has done, as it is for you to select, on the same basis, a good lawyer, or a good surgeon for a critical operation. The work of architects is public, is easily examined, and if you like the work of any one man, it is a simple matter to find out from owners who have employed him, and the contractors who have worked under him, whether his office is efficient, well organized, and reliable. Having satisfied yourself that the man whose work you like is in every way competent, you could then appoint him immediately, and you would be able to make a critical and careful study of your problem with him, such as

SHADOWS AND STRAWS

would be quite impossible to do with various competitors whom you might invite to compete. In other words, my advice to you is that your undertaking is not of the size or character that warrants holding a competition, that it would be far better for you to look over the field and appoint a carefully selected architect."

A COPY OF THIS was sent to the President of the local chapter and he wrote to the same effect and stated that the Chapter would provide a professional advisor if they would hold a competition in accordance with Institute Circular of Advice. To this a reply was promptly received as follows:

"I beg to acknowledge with thanks your valuable letter of the 25th and wish to say for the Committee that after careful consideration we have decided to abide by the suggestion of our Advisory Committee, which is the Architectural Board of the General Council of the Lutheran Churches of America, and also upon recommendation and suggestions by you and officials of the American Institute of Architects in so far that we will not hold a competition for securing plans, but that we will in a very short time select an architect."

If this course were generally followed by architects invited to take part in irregular competitions, the public would very soon understand the aim and object of competitions and how they should be conducted when they are necessary.

TO THOSE WHO ARE REALLY INTERESTED in the housing problem, Mrs. Wood's admirable article on "Constructive Housing Legislation" in this number of the Journal will furnish valuable data for the formulation of a progressive housing policy for America. Particularly admirable is the distinction she draws between the potentialities of restrictive and constructive housing legislation. In reference to the New York Law, the following comment has been prepared by Mr. Robert D. Kohn.

Those who have known the actual results of the New York Tenement House Law know how true this distinction is; yet some of us have lived in constant fear lest the praise of our restrictive law might induce other communities to adopt it textually. To be sure, many large communities are practically without any legislation which restrains the speculative builder. For such communities there is need of immediate legislative action, but there must

be careful consideration of these less desirable effects of the New York law to which reference is rarely made.

No one will deny that the "new law" houses in New York are better from a sanitary point of view than those built under the old law. No one will deny that the law has been fairly and equitably administered. Its weakness lies, however, in the obvious fact that it is not a constructive housing law, that it is restrictive not only as against bad housing, but restrictive in a great measure as against progress in housing design. It is a law which specifies too definitely what shall be done and how it shall be done, instead of limiting itself absolutely to a statement of what is to be accomplished in the way of light and air and sanitary conveniences. It is probably true that its passage was a great achievement, perhaps the best law that could have been secured at that time, but it made no provision for progress in tenement design. Many of those who have built houses under the New York law can cite examples of betterments in design that would willingly have been made but which could not be made because of certain definite requirements of the law. Frequently the authorities have acknowledged that certain proposed features were better than those which the law required, but these could not be allowed because the law is mandatory and there is no appeal; changes can be made only by the Legislature.

The New York law has resulted, in a great measure, in facilitating the work of the man who, without any idea other than profit making, designs and builds along the lines of least resistance, adopts one of two or three standard, utterly stupid, types that can "get away with it" with the least possible expense and the maximum compression. As one young architect, who still has ideas and ideals, put it recently, "When I go down to the Tenement House Department with a plan like this, the examiners say, 'Oh, for goodness sake, what are you going to do next? Why don't you make plans like all the other fellows? You make a lot of trouble with your original schemes.'" There is no question there as to whether or not the proposed scheme will afford better housing, but only as to whether it is in conformity with a type that has been evolved from the law.

The word of warning then is this: By all means "constructive" housing legislation, but in so far as "restrictive" legislation is necessary, do *not* copy the New York law. Visit New York, ask those who know its negative effects (they will not deny its positive virtues), see the Bronx and certain parts of Manhattan with miles upon miles of utterly stupid blocks of prison-like cells badly built, and observe the undesirable degree of congestion produced by those who build up to the limit of what is permitted by the law.

Some of us think we know what is needed to relieve a situation which is the result of our inelastic law joined to the profiteers' cupidity, but it is not necessary to go into these details now. It seemed important, however, to recall the New York situation, as some of us see it, so that it may be known to those who read Miss Wood's valuable contribution to the Journal's series on "What is a House?"

ROBERT D. KOHN.

What Is a House? VI

CONSTRUCTIVE HOUSING LEGISLATION AND ITS LESSON FOR THE UNITED STATES

By EDITH ELMER WOOD*

I. Introduction

CONSTRUCTIVE HOUSING LEGISLATION is that type of housing legislation through which the community itself undertakes to provide suitable homes at cost for such of its citizens as need them. The community may act either directly or indirectly. Municipal housing is direct. The loan of public money to a housing association is indirect. Both are constructive.

Restrictive housing legislation is that form which seeks to prevent the erection of bad houses through the establishment and enforcement of minimum standards of light, air, sanitation, and safety. It may also prevent filth and dilapidation by establishing and enforcing minimum standards of maintenance.

The best restrictive legislation is only negative. It will prevent the bad. It will not produce the good. Especially, it will not produce it at a given rental. Its only answer to a house-famine is the relaxation of its own standards. This was strikingly illustrated in San Francisco after the earthquake and fire of 1906. Instead of taking advantage of the wonderful opportunity presented to rebuild the congested districts on model lines, the need of immediate shelter was so great and private capital so timid that all bars were let down and even the inadequate restrictions of the old building code were suspended. The result was that tenements sprang up, covering 100 per cent of the lots, and a dark-room problem was created which it will take a generation to solve.

A high standard of restrictive legislation will not be enacted, or, if enacted, will not be enforced, when its enforcement would leave a considerable number of people homeless. On the other hand, restrictive housing legislation must not be neglected. The manufacture of new slums must not be allowed to continue, nor would the building of new and good houses in itself cause the abandonment of the objection-

able old ones. It would only cause their rents to drop, and there would always be a residuum of persons, who, through misfortune, improvidence, or excessive thrift, would choose them for their cheapness so long as their occupation was permitted. Effective progress, then, demands a simultaneous and correlated development of both constructive and restrictive housing legislation.

Restrictive housing legislation has attained as high a level of development in some parts of the United States as is, perhaps, possible in the absence of its working partner. *The New York Tenement House Law is the first of the modern type, and remains one of the best. It is certainly one of the best enforced.

Let us take from New York's experience one single example of the limitations of restrictive legislation. The New York Tenement House Commission of 1900, whose recommendations resulted in the enactment of the present law, expressed its regret that it was not possible to insist on air-shafts being put in old houses with dark rooms, because the expense would lead owners to turn their houses to other uses. "Reforms of such a kind," the report goes on, "would harm most the very persons it sought to aid." So the law requires of dark rooms only that windows shall be cut into adjoining rooms. According to the report of the Commission, there were, in 1900, some 350,000 such dark rooms in greater New York. Today, in the language of the Tenement House Department and the press, there are none. But this means only that the cutting of windows into adjoining rooms has been completed.

The old apartments built before the Tenement House Law of 1879, which required air-shafts, were three and four rooms deep. One room had windows on street or back yard; the others were a series of closets of increasing darkness. The doorway from one to another was the only opening. Of course, the windows cut in the

*See the article on page 57 in which Mr. Robert D. Kohn points out the serious failures of the New York law.

*We here introduce the third new author, as forecast in the note to the authorship of Chapter V.—THE EDITOR.

WHAT IS A HOUSE?

partitions between the rooms add somewhat to the possibility of ventilating them. But the rooms are still unfit for human habitation by any proper standard. Half a million people are living in those rooms today. What sort of citizens will the generation make that was born and bred in them?

After fifteen years of operation of the New York Tenement House Law, about three million people, including practically the whole of the unskilled wage-earning class, are still living in old-law tenements. On December 31, 1916, there were 77,604 old-law tenements in New York containing 597,955 apartments. There were at that time 27,149 new-law tenements with 378,442 apartments. Nor may we look forward hopefully to the gradual elimination of the old tenements and the substitution of the newer and better type; for, as was stated by a representative of the New York Tenement House Department at the National Housing Conference in November, 1916, the building of cheap tenements in New York has ceased.

Unless wages of unskilled workers can be practically doubled without rents being raised, which is clearly impossible under present conditions, the outlook for this great class of the population in New York City, under existing legislation, is dark now and will become increasingly so, as the cheap old-law buildings disappear.

What is true in New York is true of other American cities. Their housing problems do not differ from those of New York in kind, but only in bulk.

Mr. John Nolen ("Industrial Housing," Proceedings of the Fifth National Housing Conference, 1916, p. 5) is responsible for the following striking juxtaposition of facts: The simplest acceptable standard of American home, whether single cottage in village or suburb, or wholesome apartment in a large city, costs on an average from \$1,800 to \$2,000 per family, including land and improvements. This means, on a basis of moderate commercial profit (5 or 6 per cent—and capital will not be invested for less), a rent of \$15 a month at the least. It is generally accepted that not more than 20 per cent of the family income should go for rent; yet more than half of all the workingmen in the United States receive less than \$15 a week.

What are we going to do about it? Lower the

standard? Increase wages without increasing rents? Or eliminate the commercial profit? We are up against a stone wall whichever way we turn.

Here is where the experience of the older nations is useful to us. They came to the same stone wall a quarter of a century ago, and they found a way through. It did not lead into paradise. Indeed it only set them on a road. But it took them past the stone wall, and the road points in the right direction.

II. The Experience of Foreign Countries

Constructive housing legislation has developed along four main lines, of which three may be said to involve Government aid of a positive sort and one of a negative.

1. Direct community action. The state, or more usually the city, buys land and builds houses for working people, either in the city itself or in garden suburbs. It may rent them and remain a landlord. Or it may sell them to the tenants on a system of long-term, easy payments.

2. The state may lend money at a low rate of interest to non-commercial building associations, whether of a philanthropic character, or coöperative or co-partnership societies formed by the workingmen themselves.

3. The third type has so far produced fewer houses than either of the others, yet would probably appeal more quickly to most Americans. It is the loan of money on favorable conditions to the individual workingman who wishes to build a home. It may be done through the intermediary of a loan company, as in Belgium, or directly, as under the surprisingly simple and efficient system of New Zealand and Australia. Yet, appealing as the type is, and useful as it is within certain limits, it must be admitted that it does not reach—cannot reach—the class that is in most urgent need of help—the unskilled wage-earners of large cities.

4. Finally, there is the negative, yet often important, aid rendered by tax exemptions on houses of approved standard and rental. The function of this type is auxiliary.

Some countries have developed one or two, and some have all four types of government aid. It has depended somewhat on a diversity of local needs, but more on national habits of thought. The accident of locality has contributed largely, for, other things being at all equal, the example of a near neighbor is most likely to be followed.

Three nations stand out as pioneers in constructive housing legislation—England, Belgium, and Germany. These distinctively industrial nations, whose cities grew with unexampled rapidity during the nineteenth century, were naturally the first to feel the pressure of housing problems. They will be considered briefly in the order indicated.

A. THE PIONEERS.

(1) *England.**

*Scotland is under the same housing laws as England and Wales, but as statistics are given separately, and her experience is similar to that of England, though on a smaller scale, it is omitted from this summary. Ireland is under another dispensation, which involves subsidies from the Imperial exchequer and aid from the local rates. The Irish experience has more in common with outdoor poor relief than with constructive housing legislation.

(a) Description of Legislation.

Lord Shaftsbury first formulated the principles on which modern constructive housing laws are based in his Laboring Classes Lodging Houses Act of 1851, which permitted local authorities to borrow money from the Public Works Loan Commissioners to erect dwellings for working-people. This provision was so far in advance of public opinion that it remained a dead letter for forty years. Another clause, permitting loans to non-commercial building associations, was tried out first. Under it and subsequent acts a series of relatively small sums, amounting altogether to about £1,000,000, were loaned to philanthropic and semi-philanthropic societies.

During this period, England was experimenting with two series of restrictive housing laws, the Cross and Torrens Acts, which gave, as did the Public Health Acts, considerable power to health officers in connection with housing, and permitted the slum-clearance schemes which have been so often criticized on the ground of expense.

Modern British experience dates from the Housing of the Working Classes Act of 1890, the scope of which was much enlarged by the Housing and Town Planning Act of 1909. The act of 1890, coming as the result of the recommendations of the Royal Commission on the Housing of the Working Classes of 1885, was a consolidation of all previous housing acts (which may account for its occasional lack of clearness) and also contained new provisions of great importance. It is in seven parts, of which the first three are the most significant. Part I deals with large, insanitary, or slum areas, and clearance schemes, and with the general obligation of rehousing the dispossessed tenants. Part II deals with single insanitary houses or small groups of them and with obstructive houses, which shut light and air out from others. Part III deals with housing undertakings by the local authorities, with the financing of these projects and the conditions of public loans, whether to local authorities, to societies, or to individuals.

The first two parts, then, except in so far as they involve the rehousing of dispossessed tenants, are restrictive legislation and need not detain us. Their aim is to enlarge the powers of the sanitary officials. Part III and the rehousing sections of Parts I and II are constructive. They permit local authorities, urban and rural, on having convinced the Local Government Board that the need exists, to acquire land and erect workingmen's dwellings, whether tenements or cottages, within their own jurisdiction or in adjoining suburbs, with gardens if desired, of not more than one acre to a house. Under the act of 1909 this part becomes obligatory if the Local Government Board so orders, and any group of taxpayers or tenants may petition the Local Government Board to make an investigation of the needs of their locality.

As to financing these operations, the local authorities may borrow from the Public Works Loan Commissioners on the security of their rates. The 1909 law makes the conditions very favorable, the maximum time being eighty years for land and sixty for buildings, the maximum amount two-thirds of the total value, and the lowest rate of interest $3\frac{1}{2}$ per cent. (This has gone up since the war, reaching 5 per cent in March, 1916, but it is not expected that this increase will be permanent.) The London County Council, which enjoys considerable home rule, is permitted

to finance its housing schemes by the issue of consolidated stock.

The Public Works Loan Board is also authorized to loan money for the construction of workingmen's dwellings to societies, corporations, and private individuals. This does not mean the individual workingman, however, but the philanthropist or employer who is building on a large scale. The need of the individual workingman is met, in so far as it is met at all, by the Small Dwellings Acquisition Act of 1899, which permits local authorities to advance sums not exceeding £300, representing not more than four-fifths the market value of a house whose total value must not exceed £400. No very extensive use has been made of this act, as up to March 31, 1916, only £408,129 had been loaned under it. But the use is evidently growing, for about half of this sum has been loaned in the last three years.

The fourth type of Government aid, tax exemption, is also found in Great Britain, but, like the loan to individual workingmen, it plays a minor rôle. As between the two principal forms, the activities of the private associations were much the more important in early years, but although they have increased steadily, they have recently dropped to second place through the more rapid growth of the work of local authorities.

An interesting controversy has raged between the advocates of the two systems. The municipal housing side is led by Alderman Thompson, of Richmond, author of the "Housing Handbook" and "Housing up to Date," and the opposition by Councillor Nettlefold, of Birmingham, author of "A Housing Policy" and "Practical Housing." Councillor Nettlefold's greatest service lies in having pointed out the possibility, by patient, persistent work on the part of local authorities, of eradicating slums without burdening the taxpayer, by the application of Part II of the housing act to one insanitary house after another, which obliges the owner to repair or remove them at his own expense.

Moreover, in their efforts to prove the superiority of private initiative over municipal, Councillor Nettlefold and his associates have put a great deal of energy into making a success of co-partnership housing companies.

The net result of the controversy has been distinctly helpful. Municipal activity has tended to keep up standards and that of private associations to keep down cost. Each is put on its mettle to prove its own claim to superiority. Far from stifling private initiative, the effect of Government intervention appears to be stimulating. At all events, the greatest private activity has occurred in those localities where public officials have done most.

Under the Housing of the Working Classes Acts, those entitled to receive loans, besides local authorities and private individuals, are employing corporations and public utility societies. These must not be confused with what we call public utilities in the United States. They are what we know as public welfare or limited-dividend associations. They include the philanthropic limited-dividend housing associations and the friendly societies, or mutual benefit organizations of workingmen, which have many objects besides housing, also a great number of coöperative building clubs, and, more recently, the co-partnership building associations.

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The Act of 1909, known as the John Burns Act, has four parts. Part I reenacts the statute of 1890 with amendments. Part II deals with town planning. It permits local authorities and owners of estates, with the approval of the Local Government Board, to prepare plans for undeveloped areas. Its aim is to prevent congestion of population and inflation of land values in the future. Part III is restrictive. It establishes a system of nationwide housing inspection under sanitary authorities reporting to the Local Government Board. Part IV is the usual catchall for miscellany, without which no British statute appears to be complete.

(b) Results of Legislation.

No authoritative publication of general results has been made. Certain figures, such as the amounts loaned by the Public Works Loan Board, the number of persons housed by the London County Council, or the number of houses built by local authorities after the passage of the Act of 1909, are known with perfect accuracy. Certain broad statements are found in the works of Thompson which are probably reliable, although he does not always give his authorities. But they do not carry us beyond 1907. For other data needed to complete the picture, we are reduced to estimates based on more or less inadequate information. The result cannot pretend to scientific accuracy, but may be justified by the importance of arriving at a general impression.

PUBLIC MONEY INVESTED IN HOUSING IN ENGLAND

(From the Forty-fifth Annual Report of the Public Works Loan Board 1915-16.)

Total loaned to Local Authorities in England and Wales . . .	£3,972,390
Total loaned to societies and individuals in England . . .	3,260,078
Total loaned under the Small Dwellings Acquisition Act in England	408,129
Total to March 31, 1916	£7,640,597

This does not take into account what the London County Council has spent (which, exclusive of slum-clearance costs, must be between two and three million of pounds), nor what has been spent by Liverpool and other cities under local acts.

HOUSES BUILT AND PERSONS HOUSED IN ENGLAND THROUGH CONSTRUCTIVE HOUSING LEGISLATION

Agency	Number of Persons
London County Council (to May 31, 1915, Annual Reports)	
3,402 cottages	} { 9,822 lettings } 57,942
6,420 apartments	
1,874 cubicles	
Local Authorities 1910-16 (Forty-fifth Annual Report Local Government Board)	
13,259 houses (estimated)	66,300
Local Authorities, 1891-1910	
Number of houses not given, but total loans are about two-thirds of total loans 1910-16. As cost of building was less, the number of people housed was probably about (estimated)	50,000
City of Liverpool to 1913, mostly under local acts, 2,731 dwellings (U. S. Bureau of Labor Statistics, Bulletin No. 158, p. 314) (estimated)	10,000
All other cities under local acts (estimated)	10,000
10 Philanthropic Societies of London to 1907 (W. Thompson "Housing up to Date," p. 143)	125,000
413 Coöperative Societies to 1907, 46,707 houses (W. Thompson, "Housing up to Date," p. 143) (estimated)	200,000
Co-partnership Societies to 1907, 400 houses (W. Thompson, "Housing up to Date," p. 143)	2,000
Under Small Dwellings Acquisition Act (estimated)	7,500
Total number of persons housed	528,742

The philanthropic societies have not been active since 1907, but the coöperative and co-partnership societies have been extremely so. On the other hand, some of the philanthropic and coöperative societies may have received no public loans. Balancing these two unknown quantities against each other, with the statement that the credit item is likely to be larger than the debit, we are pretty safe in saying that over half a million people in England today owe their comfortable homes to constructive housing legislation.

Results, in decreased death-rates and increased physical development, are very striking. For the year ending March, 1912, the death-rate in the London County Councils' dwellings was 8.5 per 1,000, while for the whole of London, in 1911, it was 15 per 1,000 (U. S. Bureau of Labor Statistics, Bulletin No. 158, p. 307). Speaking of a slightly earlier period, Thompson says ("Housing up to Date," p. 46): "The death-rate in the model dwellings on cleared slum areas is under 13 per 1,000, or one-third of what it was in the old slums before clearance, viz., 40 per 1,000." At the time of which Thompson was writing the general death-rate in London was 15.6 (p. 75). In Liverpool a still clearer demonstration was made when, by special effort, 94 per cent of the former tenants were rehoused on a cleared area. "In 1902 . . . when these areas were condemned, the death-rate within them ranged from 40 to 60 per 1,000, and the incidence of phthisis resulted in an annual death-rate of, approximately, 4 per 1,000 . . . the medical officer of health points out that under the new conditions the general death-rate has fallen by more than one-half, and the average annual death-rate from phthisis in the corporation tenements during the four years 1909 to 1912 fell to 1.9 per 1,000." (Forty-second Annual Report, Local Government Board, Part II, pp. xxii, xxiii.)

It happens that the classic examples of the effect of housing on physical development are furnished by two famous industrial garden suburbs which have received no Government aid—Port Sunlight and Bournville. It would hardly be claimed, though, that the beneficent results recorded were due to the method of financing them, or that similar results would not be found where the Public Works Loan Commissioners supplied the funds. Dr. Arkle made a series of measurements of schoolboys at Port Sunlight, an industrial garden suburb of Liverpool, and on Liverpool schoolboys of the same economic and social class at the same ages. At seven the Port Sunlight boys averaged 2.7 inches taller and 7.5 pounds heavier; at fourteen they were 6 inches taller and 33.8 pounds heavier. (The table is quoted in full in "Personal Observations of Some Housing Developments in Europe," Richard R. Watrous, *Journal of the American Institute of Architects*, July, 1914.) Similarly, Bournville is a garden suburb of Birmingham, and Thompson tells us ("Housing up to Date," p. 3) that the boys at the Bournville school were on an average 4 inches taller than those of Birmingham, and their chest measurement was 3 inches greater.

(2) Belgium.

The Belgians have the honor of having produced the earliest effective national constructive housing law—that of 1889—and, up to the present time, one of the best. It

has also been one of the most influential, having been widely observed and copied in continental Europe.

The vitally distinguishing feature of the law is its liberation of the deposits of the General Savings Bank and Pension Fund (*caisse générale d'épargne et de retraite*) for use as loans to build workingmen's dwellings. This provision was copied directly in the French act of 1894 and may have suggested the German plan of using state insurance funds.

Another important provision of the Belgian law was the appointment of unpaid housing committees (*comités de patronage*) in every *arrondissement* of the nation, reporting to a central body, the *conseil supérieure d'hygiène publique*. They have educational, advisory, and even some administrative functions. They stimulate public interest in housing, assist limited-dividend building associations and individual workingmen who wish to own houses, and they watch over the enforcement of restrictive laws for the sanitary supervision of houses and the eradication of slums. The committees have been copied in French and Italian legislation and evidently suggested the county housing committees provided for in Part III of the British act of 1909.

Municipal housing is permitted under the Belgian law, but has not been developed to any extent. Building societies and individual workingmen have been the active agents, the individual workingmen through the intermediary of non-commercial loan associations. The Savings Bank was at first permitted to loan only 5 per cent of its funds, but when this limit was reached in 1901, it was raised to 7½ per cent. The interest charged at first was only 2½ per cent, but was eventually increased to 3½ per cent.

The individual workingman may borrow not to exceed 5,000 francs on a house and land, the combined value of which does not exceed 5,500 francs. He may borrow for periods of from five to twenty-five years. His payments may be monthly or yearly.

One of the most interesting features of the Belgian law is the insurance plan devised by M. Léon Mahillon, managing director of the General Savings Bank. A workingman borrowing to build a home takes out a policy on his life for the unpaid portion of his loan. Should he die before the payments are completed, the balance of the debt is canceled by the policy, and his widow receives the house unincumbered. The Savings Bank underwrites the insurance itself. This feature of the law has been very widely copied.

Up to 1913 the General Savings Bank had advanced 159,012,589 francs to the various types of societies, and about 57,300 dwellings had been built in consequence. This must have meant the housing of about 300,000 people. On Jan. 1, 1913, there were 176 associations having loan contracts with the bank, of which 167 were joint stock and 9 coöperative. All of the coöperative and 125 of the joint stock organizations were loan companies, only 42 being building societies.

Apparently this governmental assistance has not had the effect of discouraging private initiative, for 39 *sociétés d'habitations à bon marché*, which have received no loans from the General Savings Bank, are listed, which have invested over 65,000,000 francs in workingmen's dwellings.

About three-quarters of this sum represents industrial housing enterprises by employers.

(Ministère de l'Intérieure "Annuaire Statistique de la Belgique et du Congo Belge, 44me Année, 1913, Brussels, 1914, pp. 245-250.)

(3) *Germany.*

Unlike the various forms of social insurance which were embodied in imperial legislation, and so may be said to radiate from the center outward, housing reform in Germany has grown up locally, and its progress has been from the circumference inward. Individual cities tried experiments in municipal housing. The next step was for individual states to pass laws facilitating the supply of funds to cities and to private societies for housing purposes. These laws differ among themselves in their provisions and their character, much as happens in the United States in our varying state legislation. The last to act was the Imperial Government, and there is not yet, although it has been much advocated and debated, a real national housing law in Germany.

As is often the case, the trail leads back to a personality, and the *Oberbürgermeister* of Ulm, Dr. von Wagner, may well be called the father of municipal housing in Germany. He began building in 1888 for municipal employees and later extended the benefits of his activities to all workingmen. His first ventures were tenements, but he soon became convinced of the advantages of the individual cottage and garden type, and these he encouraged the tenants to purchase. A mark a day over a period of about twenty-five years covered the purchase price and interest of a \$1,500, brick, story-and-a-half cottage and garden, very attractive to the eye. German foresight is shown in the stipulation in the deed giving the city the right to repurchase, if certain conditions of maintenance or use are not complied with, at any time within one hundred years, and as this clause is renewed whenever the house changes hands by purchase or inheritance, it is, in effect, a perpetual restriction.

Mayor von Wagner developed, simultaneously with housing, the policy of extensive land purchases by the city, which many German cities have followed. He encountered much opposition at first, but it gradually died out when it had been proved by experience that his housing policy cost the taxpayers nothing, and that the land-purchasing policy brought in substantial profits.

It is impossible to give a clear account of housing in Germany *briefly*, for it is the history of a great number of local enterprises operated under a mass of very diverse local legislation.

The most important single source of funds is furnished by the old-age and invalidity insurance institutes. Authority is found in the law of 1889, much amplified by that of 1899, which permits one-fourth of their funds to be invested in real estate. Loans from this source up to the end of 1914 totaled 532,541,142 marks. ("Amtliche Nachrichten des Reichsversicherungsamts," Vol. 31, No. 5, May 15, 1915.)

The next most important sources of capital are the imperial and state housing funds. The Imperial Government, between 1901 and 1908, appropriated \$7,854,000 for its fund to loan to societies, and in 1904 had spent over

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\$8,000,000 in the direct housing of its own employees. (U. S. Bureau Labor Statistics, Bulletin No. 158.)

The Prussian Diet has operated on a more extensive scale. Its housing fund, raised by the issue of bonds, was started in 1895, and in 1911 had reached the sum of 144,000,000 marks. With this the state was to build for its own employees and loan to societies. In either case rents were to cover the cost of maintenance, administration, interest, and sinking fund. (Bulletin No. 158.) This is the usual German plan, though the administration charges are sometimes carried by the community, and there are sometimes tax exemptions. But there is always a balance-sheet—and it always balances. This practice cannot be too highly commended.

No other state has worked on so large a scale as Prussia, but all have done *something*. The Bavarian Diet, for instance, from 1900-1911 appropriated 25,500,000 marks, of which about half was spent on direct housing for state employees and half was loaned to building associations. (Bulletin No. 158.)

The Grand Duchy of Hesse has proceeded along somewhat different lines. It was the first German state to establish systematic housing inspection (1893). The housing act of 1902, centralized and standardized this service by putting it under a state official, who also has advisory and constructive duties. Another act of the same year established the State Credit Bank (*Landeskreditkasse*), which is permitted to loan to communes for housing purposes up to 90 per cent of the value of land and buildings. The communes may either build themselves or reloan to associations. By an act of 1908 the Bank was permitted to loan directly to associations up to two-thirds of the value. The money is provided by an issue of 3½ per cent Hessian Government bonds, and the rate of interest charged depends on the actual sale price of the bonds, being just enough to cover the expenses.

In 1912 there were 1,271 public welfare building associations in Germany (*gemeinnützige Baugenossenschaften*), of which the 716 reporting had built 15,784 houses at a cost of \$103,000,000. A French official publication of August, 1913 (*bulletin du ministère du travail*), estimates that as early as 1909 about 25,000 houses, containing about 100,000 apartments, had been built by German housing associations. Assuming the accuracy of this estimate, it would mean the housing of about half a million people. And probably the states and cities have done as much directly.

It would be a difficult matter to find out how much Government money, or Government guarded money has been liberated for use in housing in Germany, but \$200,000,000 would certainly be within the truth.

Clearly there is no other country which has gone into housing on so large a scale or in so systematic a way.

B. OTHER EUROPEAN AND LATIN-AMERICAN COUNTRIES.

(1) France.

Housing laws date from 1894, 1906, and 1912. The savings bank and national old-age pension fund have loaned about 55,000,000 francs for housing. The state has made available about 100,000,000 francs for this purpose. The *conseil supérieure d'habitations à bon marché* is under the department of labor. Reporting to it are the

local *comités de patronage*. Nearly all the work has been done through housing associations. Municipal housing has been undertaken only for the benefit of large families (those with four or more children), which it is, of course, the policy of the French Government to encourage. The war is likely to result in the French Government undertaking housing and town-planning work on an unprecedented scale.

(2) Italy, 1903, 1907, 1908.

The cities of Bologna and Venice experimented in municipal housing at a very early date (the sixties and eighties), though not with remarkable success. It seems to be the policy of the Italian Government to foster private initiative in every way. The local committees are to encourage existing housing societies or found them if none exist. These societies receive long-time loans (fifty years) from the State Bank of Deposits. The communes are to build only as a last resort. In 1911, 533 associations and 25 municipalities were building *case popolari*. These are almost invariably tenements, and the apartments are very small—two or three rooms. The value of houses and land aggregates about \$28,000,000. Tenants of municipal apartments are limited to those whose annual income does not exceed 1,500 lire.

(3) Austria, 1910, 1911.

The German example has been followed. There is a state housing fund. The funds of the insurance institutes are utilized. It is worthy of note that loans may run as high as 90 per cent of the value of house and land. The state, though late in beginning, has been active in housing its own employees, and there are already 634 public welfare building associations.

(4) Hungary, 1910, 1911.

The most noteworthy activity of Hungary has been along the line of rural housing. Two hundred communes have received aid from the Central Government in building 6,000 cottages for agricultural laborers.

The city of Budapest has been very energetic. The city built tenements for 22,000 people, in 1908, on land which it already owned. In 1913 it provided cottages for 18,000 in the workmen's suburb of Kispest.

Housing associations have never taken root in Hungary. There seems to be a lack of the necessary private initiative.

(5) Spain, 1911.

The Spanish law provides local housing committees under the jurisdiction of the department of labor. It encourages sanitary housing by tax exemption, guarantee of interest, and in some cases free grants of land. It is not discoverable that much has been done.

(6) Holland, 1901.

The Dutch law is a comprehensive one with both restrictive and constructive provisions. It sets up minimum standards of building and maintenance, on the one hand, and permits Government loans for housing purposes, on the other, up to 100 per cent of the value of the house and lot. That less than \$2,000,000 had been loaned under this law, up to April, 1910, is probably due to the comparatively high rate of interest charged.

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(7) *Norway, 1903.*

This law is unusual in that it provides only for individual loans. There is a state loan bank. The commune guarantees the borrower. To 1913 about \$8,500,000 had been loaned to buy 13,140 small farms and build 9,460 houses.

(8) *Sweden, 1904.*

There is a state housing fund which loans to individuals through associations. There is also municipal housing, especially in Stockholm.

(9) *Denmark, 1887.*

This law, which actually antedated that of Belgium, permitted Government loans to societies and communes, but remained a dead letter until it was amended in 1897. Since then a good deal has been done by small, but successful, workingmen's associations.

(10) *Rumania, 1910.*

Large tax exemptions in favor of workingmen's houses are the chief feature of this act.

(11) *Switzerland.*

Switzerland has no national housing law, but several cantons, notably Geneva, have shown some activity under local legislation.

(12) *Luxemburg, 1906.*

The funds of the savings bank are loaned to communes, associations, and employers for housing purposes.

(13) *Chile, 1906.*

The law provides for a system of local housing committees with power to carry out slum-clearance schemes, encourage housing associations, or build themselves. The *Caja de Credito Hipotecario* is authorized to lend up to 75 per cent of the value of land and buildings, and the state guarantees 6 per cent net returns for twenty years. The Santiago committee showed considerable energy, and in 1911 had two workingmen's suburbs under construction. (*Oficina de Trabajo, Habitaciones Obreras en Chile y Estranjero, 1911.*)

(14) *Argentina.*

In 1913 the city of Buenos Ayres contracted for 10,000 workingmen's cottages, to be built at the rate of 2,000 a year. The Government was to exempt the building materials for them from import duties. (*First Annual Report, Massachusetts Homestead Commission, published 1914, p. 310.*)

(15) *Brazil, 1909.*

Companies building houses for workingmen were to enjoy tax exemption for fifteen years, exemption from duty on building materials, and in some cases were to receive reclaimed or other Government land free of charge. They were to be under strict Government supervision. (*First Annual Report, Massachusetts Homestead Commission, p. 311.*)

(16) *Cuba, 1910.*

An appropriation of \$1,300,000 was made, for the purpose of building 2,000 laborers' cottages, to be sold on

small monthly installments. Up to 1914, about 1,000 had been built in Habana, Pinar del Rio, and Santa Clara provinces, and 250 were being built in Santiago province. (U. S. Bureau of Labor Statistics, Bulletin No. 158; this is the source of most of these summaries, except as otherwise stated.)

C. THE SELF-GOVERNING BRITISH COLONIES.

The example of New Zealand, Australia, and Canada has especial value for us, because their conditions, material and moral, present a much closer parallel to our own than do those of any European country. Canada has the additional interest attached to a next-door neighbor.

Like the United States, and even more so, they are new countries, sparsely settled, except in spots. Their cities are new; their houses are new; their slums are new. More than is true of us, unfortunately, their interest in housing is still largely preventive. They are young, optimistic, energetic, and intensely democratic. Australia and New Zealand in many ways represent the most advanced type of social democracy as yet evolved. They are the paradise of union labor. They have—and the fact is not without significance—the lowest death-rate in the world.

Inevitably, their housing legislation has been strongly influenced by that of the mother country, but inevitably, too, they have worked it out in a very different way. In countries where wages and standards of living are high and the working population virile and ambitious, we should expect the third type of constructive housing legislation to be favored—Government aid to the individual workingman. This is precisely and strikingly what has happened in New Zealand and Australia. The development of Canada has been less logical, perhaps, owing to accidents of association.

(1) *New Zealand.*

The typical housing law of New Zealand is the Advances to Workers' Act of 1906 and 1913. The superintendent of the State Advances Office is authorized to lend to anyone employed in manual or clerical work with an income of not more than £200 per annum and not the owner of any other land than what he proposes to build on. The sum advanced is not to exceed £450, or the value of the dwelling to be built. The loan is to be repaid in a period of thirty-six years or less. Application may be made at any post office. The postmaster supplies the blank and gives any desired information as to how to fill it out. He also shows the applicant the plans and estimates of eighteen carefully selected types of house. Note the extreme simplicity of the procedure and elimination of red tape. There is no intermediary. It is as easy as filling out a money-order blank. An agent from the nearest valuation office makes a visit and report, and for this service the applicant pays a fee of 7s. 6d. If his application for a loan is granted, all his payments are made through his post office. Five per cent interest is nominally charged, but it is reduced to 4½ per cent for prompt payment.

The total advances to workers under this act up to March 31, 1915, were £2,856,750—a large sum in proportion to the population of New Zealand.

For the benefit of the man who owns no land, New Zealand has the Workers' Dwellings Act (1905, 1910, 1914).

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A deposit of £10 is all the capital required. The house is built on Government land, and either rented or sold to the tenant. But only 548 houses have been built under this act. The cost limit for the house and five acres of land is £750. The income limit of the beneficiary, under the latest amendment, is £175.

(2) *Australia.*

The five Australian provinces have housing loan laws similar, in a general way, to those of New Zealand, but of later date and developed under five somewhat varying forms. Some of the provinces are very slow in getting out their annual reports. From these circumstances results the impossibility of giving definite, late, general figures. It is probable that the aggregate loans of the five provinces amount by now to a figure about equal to the loans in New Zealand.

(3) *Canada.*

In 1913, Ontario and Quebec passed housing laws permitting the Government to guarantee 85 per cent of the stock of approved non-commercial building associations. Under the Ontario act the Toronto Housing Company was organized and has put up a million dollars' worth of workingmen's cottages and cottage flats.

Meanwhile the Canadian Commission of Conservation decided that the conservation of human life was part of their duties and that the conservation of human life was intimately bound up with housing and town planning. Just before the outbreak of the war, in 1914, they brought over Thomas Adams, town planning expert of the English Local Government Board, to be their adviser in these subjects. The war has necessarily hampered progress, but the Commission is proceeding along broad constructive lines. A town planning act has been drafted and introduced in the various legislatures. A Civic Improvement League for Canada, with local branches, has been started as an educational leaven, to prepare the way, perhaps, for a more formal organization on the lines of the *comités de patronage*. The time is not felt to be ripe for pushing housing legislation, but the preliminary steps are being taken. The situation is not altogether unlike that of Massachusetts with its Homestead Commission and Town Planning Boards.

III. The Applicability of Foreign Experience to the United States*

The following statements are believed to be fully justified by undisputed facts:

- 1 The housing problems of foreign countries and of the United States are similar. Such differences as exist are of degree, not of kind.
- 2 A distinct improvement in the housing of working-people has occurred during the past twenty-five years in England, Belgium, and Germany, and more recently in other countries where constructive housing legislation is in force.
- 3 Much of this improvement could not have been brought about under an exclusive system of restrictive housing legislation and private initiative.

*This article was not written to apply to a war condition, and the arguments set forth are intended to apply in normal times. Much of this material is, however, directly pertinent to the present lamentable situation.—THE EDITOR.

A. OBJECTIONS TO CONSTRUCTIVE HOUSING LEGISLATION FOR THE UNITED STATES.

We have now arrived at the vital question to which our preliminary study has been leading: Shall we have constructive housing legislation in the United States? The conclusions just summarized raise a presumption in its favor, but many serious objections have been made. These fall into five groups—constitutional, economic, social, philosophical, and pessimistic.

(1) The constitutional objection has several aspects:

(a) It is claimed that we cannot have a national housing law like the Belgian law or the British Housing of the Working-Classes Act.

So far as these laws are concerned with restrictive or mandatory features, this is, of course, true. The Federal Government can impose no housing obligations on state or local authorities. There is nothing, however, to prevent a federal housing loan act, even as we already have the Federal Farm Loan Act.

(b) It is claimed that to undertake housing operations for the benefit of workingmen would be class legislation.

It is possible that an act might be so worded as to lay itself open to this objection, in which case the wording should be changed. There is no reason *per se* why providing houses at cost for persons whose income is under \$800 a year should be considered class legislation in an objectionable sense any more than providing schools for children or hospitals for sick people is so considered.

(c) It is claimed that constructive housing activity on the part of the state would be an unwarranted extension of the police power.

That, of course, is a matter for the courts to settle. Constructive housing legislation would be in precisely the same position as minimum wage laws, restrictions of hours of work, prohibition of night-work for women and children, and a long list of modern social legislation. Like the rest, it will be sustained just so long and so far as its advocates can convince the courts of the connection between it and the public health.

(2) The economic objection is based on the alleged burden laid upon the long-suffering taxpayer. This is a misconception, pure and simple. A properly conducted constructive housing scheme is exactly self-supporting. The credit of the community is used to obtain an abundance of capital at a low rate of interest.

The Irish system of subsidy from the rates and from the imperial exchequer is not constructive housing, but outdoor poor relief. It is wholly exceptional. The much-cited slum-clearance schemes are not housing measures at all, but health measures. And such affiliations as they have are much closer to restrictive than to constructive housing measures.

Sound municipal housing enterprises aim to come out exactly even, with neither profit nor loss. The English local authorities come very near to doing this and the German authorities do it. So with loans. Commercial profit in money-lending is eliminated, but every cent of principal and interest is returned.

(3) The social objection, the pauperization of the beneficiary, is the obverse of the economic and, being based on the same misconception, falls to the ground with it. The

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workingman is not getting something for nothing. He is getting it at cost. He is no more pauperized by such a service than are the people of Cleveland when they pay 3 cents instead of 5 on their municipal street-car lines. The writer has paid 47 cents a month water-rates in Washington, D. C., for a publicly owned and maintained service, and \$6 a month in Berkeley, Calif., to a private water company, but is conscious of no corresponding fluctuations in self-respect.

(4) The philosophic objection is based on really fundamental theories. Neither the individualist nor the anarchist can be expected to approve of constructive housing legislation. Both object to any extension of the activities of government. Any such proposed extension is sure to be labeled socialistic or paternalistic. In this respect, constructive housing legislation finds itself in very good company. The whole modern program of social legislation is attacked on the same grounds.

(5) The pessimistic objection is that based on the alleged inefficiency and corruption of American public service. In so far as there is still a solid basis for such a criticism (and we all know that our municipal governments especially have been wonderfully improved in the last fifteen years), it should be a reason for strenuous efforts to improve our public service. It is not a reason for limiting the sphere of governmental activity unless we are prepared to admit the final failure of American democracy.

B. BEST TYPE OF CONSTRUCTIVE HOUSING LEGISLATION.

If we are to have constructive housing legislation, what type shall we choose? The best results seem to have been obtained where all types are in operation. We should certainly encourage the three positive forms of Government aid and probably the negative, but we should keep clear of subsidies. We should proceed eclectically, choosing the best where we find it, with due regard to our local needs, habits of thought, and body of existing law.

C. OUTLINE OF A HOUSING POLICY FOR THE UNITED STATES.

Any plan looking to the solution of the housing problem in the United States must include both restrictive and constructive housing legislation.

The form and standards of restrictive housing legislation have been very carefully worked out by Mr. Veiller in his Model Housing Law, which ought to be adopted by every state in the Union. The state is the proper unit. National restrictive housing is impossible, and local legislation should be resorted to, only pending the passage of a state law, or to impose higher standards.

The state is also the most natural unit for constructive housing legislation. But the nation and the city must by no means be ignored.

(1) The National Government may exercise an extremely important function. It may supply or facilitate loans. And through the power to make conditions for the assignment of these loans, it may exert a strong influence on local standards. These assignments should be in the hands of a national housing and town-planning commission under the Department of Labor.

Funds might be made available in various ways:

(a) A federal housing fund could be created, from which loans would be made.

(b) The federal land banks created by the Federal Farm Loan Act might add housing loans to their activities.

(c) Housing loans, under certain conditions, might be made an authorized form of investment for trust funds and national bank deposits.

(d) The investment of the deposits of the postal savings banks in housing loans might be authorized. The low rate of interest paid on these deposits would permit loans to be made at a low rate, and the obvious appropriateness of letting the people's savings be used for the people's advantage is very appealing.

Clearly these loans would be permissive under the last three plans. Only under the first could the housing commission play anything more than an advisory rôle.

(2) The state should have a system of local housing and town-planning boards under a state board, which should administer both constructive and restrictive housing laws. The state might guarantee the stock of approved housing companies, as Ontario does. It might have a housing fund raised by a bond issue. Where there is a state insurance fund, it should be available for housing loans. The state should loan to municipalities, to associations, and to individual workingmen. In the last case it should approximate as nearly as possible the simplicity of the New Zealand procedure.

The writer does not believe it would be generally advisable for the state to carry on direct housing enterprises of its own, though it might, for educational purposes, make an initial demonstration, as the Massachusetts Homestead Commission is now doing.*

(3) Some cities in the United States probably have enough financial home rule to bond themselves for housing purposes without special legislation. Whether the courts would sustain such action cannot be told till it is tried. A state constructive housing law should contain an enabling clause to cover this, but the approval of the state housing board should be required.

The local housing and town-planning committees should play an important part—investigate local conditions, arouse the interest of the community, aid in the enforcement of the restrictive housing law, encourage the formation of non-commercial building associations, help them get funds and select the best plans, perform a like function for individual workingmen, and when other means fail, stimulate the city fathers to undertake municipal building.

Does all this seem visionary and foreign to American traditions?

Was our homestead policy un-American? Under the homestead act of 1862 more than 85,000,000 acres of farmland have been made over by the United States Government to settlers. It was bigger and more far-reaching than any housing scheme while it lasted. But this source of relief to congestion is now at an end. This open door of opportunity has been closed. Is it not time we looked about us for a substitute and studied what other nations have found practical and helpful?

Perhaps the best contribution the United States has made to contemporary civilization is our public school

*An appropriation of \$50,000 was made for this purpose by the legislature, in 1917; land has been secured in the outskirts of Lowell, and building is in progress.

WHAT IS A HOUSE?

system. It costs something over half a billion dollars a year and is well worth it.

Yet, if we come down to basic realities, if it is a question between the mental, moral, and physical development of the people, which ought to take precedence? Are not

health and morals more fundamental than formal education can ever be? And if a community has not the energy and resourcefulness to do both, should it not make sure that its children are properly housed before it troubles about their book-learning?

Municipal and State Employees' Residences in Budapest

By ROBERT GRIMSHAW

DURING the twenty years or so preceding the war there has been in Budapest—as in many other great European cities—a deplorable lack of houses; and in all cases for the same reason—a greater increase in the number of inhabitants than the birth-rate would account for. Houses and apartments, and especially small ones, had been built to keep step with the increase in population. In this particular the lower and middle grades of employees have suffered the most. Increases of wages and salaries have not helped, for the reason that there were not enough dwellings.

In order to solve the dwelling problem for the workmen and low-salaried employees of the city of Budapest, the Hungarian Government decided in 1908 to erect "colonies" on the edge of the city, at Government expense, so as to afford housing accommodations for 8,000 to 10,000 workmen's families. In Kispest (which being interpreted means "little Pest") about 47,000 klafters (16,920,000 square feet), and in Ohegy about 214,000 (7,704,000 square feet) were bought at a cost of nearly 5,000,000 crowns (say \$2,000,000). The Finance Minister was accorded a credit of 12,000,000 crowns (\$4,800,000), and in 1909 the Kispest group was commenced. Sixty competitive designs were handed in, among them many versatile, artistic, and valuable ideas.

The Colony is crossed by two diagonal streets, each 26 meters (85.28 feet) wide and surrounded by a ring street with an electric railway (see illustration). Streets having a width of 12, 15 or 20 meters (39.36, 48.70, or 65.60 feet) divide the district into blocks, which are broken at intervals by side streets 6 meters (19.68 feet) wide. In the center there was reserved a "square" of about 11,500 klafters (414,000 square feet) for a park, sport-grounds, and workmen's casino. The streets and squares take up about 30 per cent of the total area.

To each dwelling is accorded 70 to 90 klafters (2,520 to 3,240 square feet), of which 20 (720 square feet) are built over.

Of the 4,140 dwellings in the 920 buildings erected, 3,770 have two rooms and 440 three rooms. In all there are 48 different types. As a general principle, the entrances are separated, being on different sides of the building. Each has either an anteroom or an open front room, in the latter case the kitchen giving on an open corridor, in order to protect it against the cold, provided with an outer and an inner door.

All the dwellings have sinks with running water. The floors of the kitchen, bedrooms, and outer closets, as well as of the front rooms, are of portland cement and all floors are insulated by tar paper. The foundations and

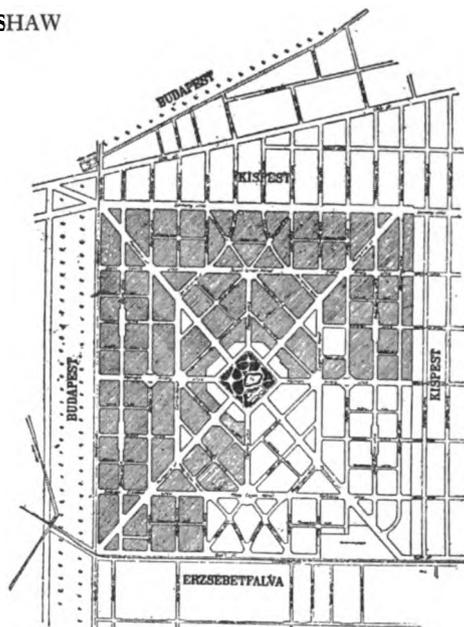
walls are protected against moisture by asphalt sheets. The roofs are partly of overlapping tiles, partly of double tiles. The rooms are whitewashed. The bedroom stoves are of cast iron; the kitchens have "economy" stoves of fire-brick. The Government built its own fire-brick works.

The cost per two-room dwelling (before the war) was about 4,100 crowns (\$1,640); per three-room dwelling, 5,200 crowns (\$2,080). The sewer system, which cost about 680,000 crowns (\$272,000), discharges in to the main municipal collecting reservoir. Temporarily the Colony was provided with a branch track of the Budapest-Szent Loerinez local railway in connection with the municipal electric railway system.

These dwellings were intended primarily for Budapest workmen, next for other employees of the Royal Hungarian Machine Works and the main workshops of the State Railways, as well as for the employees of the post and telegraphic departments.

The annual rent (before the war) was set at 260 crowns (\$104) for two-room, and 330 crowns (\$132) for a three-room flat, this including water-rent.

Fig. 1 shows the ground plan of the Kispest colony; Fig. 2, two dwellings of two rooms each; Figs. 3 and 4, four of two rooms each. Fig. 5 represents six two-room dwellings; Fig. 6, twelve of two rooms each; Fig. 7, the establishment for taking care of small children; Fig. 8, the Zsigmond street; Fig. 9, an end view and ground-plan of the Police building (covering 1,058 square meters—1,265 square yards).



The Need of Town-Planning Legislation and Procedure for Control of Land as a Factor in House-Building Development

By THOMAS ADAMS

Town-Planning Advisor, Commission of Conservation of Canada

THE use of the term "town planning" in connection with legislation dealing with the planning and development of rural and urban land has led to confusion and misunderstanding. What is called "town planning" is intended by statute to mean urban and rural planning and development. The British act, which is the precedent of legislation of this character, is, in some respects, more applicable to rural than to urban areas and, although its general object is to secure amenity, proper sanitary provisions and convenience in connection with the laying out of land for building purposes, its operation is largely restricted to land that has not been built upon. Hence, it chiefly applies to suburban, semi-rural, and rural land "likely to be used for building purposes," and not to the remodeling of portions of towns already built upon.

Planning in Britain

A considerable proportion of town-planning schemes in England are being prepared by rural district councils, and most of the land included in all the schemes being prepared is rural in character.

In the great majority of cases the English schemes are being prepared by municipal surveyors or engineers, and comparatively little expense is being incurred in connection with their preparation. For instance, the Ruislip-Northwood scheme deals with an area of over 5,900 acres, of which only 437 acres were "in course of development" in 1913. The cost of preparing a scheme for development for this area, in anticipation of the growth for the next fifty or one hundred years, was only \$5,000. The ultimate estimated cost of carrying out the scheme, namely \$150,000, will be spread over the period during which the scheme is being carried out and as assessable land value increases. It may reasonably be claimed that the Ruislip-Northwood council has, as a result of the preparation of this scheme, laid the foundation for future development which will insure health, convenience, and amenity for the community, which could not have been obtained by any other method except at prohibitive cost.

The work being done by the Conference on Arterial Roads in Greater London, which has been at work for the past three years, is an indication of the importance attached to the subject of planning and development in England. The conference comprises representatives of 137 local authorities. It has been holding frequent meetings, with a view to determining the best lines of development, particularly in regard to the means of communication by road, for an area of 1,000 square miles within and surrounding the county of London. The greater part of this territory is rural in character. Many separate municipalities are preparing schemes for their area, but they are combining together in conference to secure a general plan for their

arterial system of highways. The fact that they have been able to join together and present united decisions to the president of the Local Government Board of England shows the value of the services of the Local Government Board in securing effective coöperation. If it is possible for so many authorities to combine, surely it should be practicable for the comparatively few who are usually concerned in the control of suburban areas adjacent to large cities in America.

In Britain less confusion is caused by the use of the term town planning, because of the broader meaning given to the word town, and because a greater proportion of the rural territory is urban in character. The need for some change in the British Town Planning Act, in order that it may be made more adaptable to rural areas, is, however, being recognized by the British authorities. Mr. Henry Aldridge, in his book, "The Case for Town Planning," argues that the Act of 1909 should be amended to enable rural councils to prepare a rural planning scheme with the minimum of work and a maximum of practical efficiency. The draft of the Planning and Development Act of the Commission of Conservation of Canada makes provision for the preparation of simple rural planning (development) schemes in a form which could be made adaptable to British conditions.

Planning Not an End in Itself

It has to be recognized that a mere plan will not do anything to conserve life or secure industrial efficiency. The plan is only the basis on which a scheme may be made to control development of land. A plan may be prepared on paper, but no better result secured than if it had been omitted, because the thing that really matters is the development that follows. Planning is not an end, but only a means to an end; it is only part of an instrument to guide development, and is of no value unless it guides it aright.

It is important that the emphasis should be placed on the character of the development to be achieved under a scheme and not on the preparation of a plan, hence the use of the term "planning and development" instead of "town planning." The change in terminology is not, however, solely due to ambiguity of previous terms. It arises solely from the fact that the same principles which are proving successful in regard to the organization of town life must be applied to rural life. In other words, the scope of planning and development cannot in practice be limited to urban development if it is to achieve its general object of securing health, efficiency, convenience, and amenity.

Need of Legislation

Before proper development schemes can be made, it is necessary to have legislation passed; first, for the purpose

THE NEED OF TOWN-PLANNING LEGISLATION

of enabling municipal authorities to prepare schemes for their areas, and, second, for setting up the provincial machinery necessary to control development in unorganized territory. Such an act has to make provision for securing effective coöperation between the state, the municipality, and the owners of land, and for determining the procedure necessary in connection with the preparation and making of schemes.

Among the reasons why new legislation is necessary is the fact that proper development cannot be carried out with some more scientific method in which provision shall be made for the exercise of reasonable discretion. Development schemes in their very nature have to deal with separate, and sometimes opposing, interests, including those of the general public and private owners. It is an essential feature of planning and development legislation that it should provide for effective coöperation between the public authorities and the private owners, and also between adjacent municipal authorities. It is therefore necessary to have a skilled department of the state government to act as a sort of court of appeal in regard to differences which are bound to arise between interested parties and conflicting or coöperating authorities.

Boundaries of Development Schemes

It may not be practicable in some cases to prepare development schemes within the arbitrary boundaries of one municipal area. For topographical and other reasons one local authority may desire to include part of an area of another local authority in its scheme. In England it has been recognized that arbitrary municipal boundaries must not influence the boundaries of town-planning schemes. The city of St. John, New Brunswick, has obtained authority from the Legislature to prepare a scheme for an area of about 20,000 acres, of which about half is outside the city limits. No objection was raised to the inclusion of the outside territory in the area of the scheme by the local authorities concerned, and only one objection was raised by an owner.

The Census Bureau of the United States, in its latest census, has shown that the arbitrary boundaries of cities were little heeded by the growth of population, industry, or development generally. Because of this it is necessary that planning and development schemes should embrace a much larger area than is covered by the administrative unit of the city or town, but, if the rural municipality does its duty and prepares schemes for the urban parts of its area, it would not be necessary for the city or town to encroach on the territory outside its boundaries. The development of the agricultural areas adjacent to the city should be considered in relation to the development in these suburban schemes.

Why Rural and Urban Development Should Be Dealt with in One Measure

Prima facie it would seem as if the proper way to control rural and urban development would be either to have two acts—namely, a rural development act and an urban development act—or to have one act so framed as to enable urban schemes to be prepared for urban areas and rural schemes to be prepared for rural areas. In practice, however, this would not work out satisfactorily, owing to

the absence of any clear division line between urban and rural territory and between urban and rural conditions. Moreover, to suggest a division of this kind would be to emphasize a distinction between the two kinds of areas and their problems which does not exist, although it has erroneously been assumed to exist and has been fostered by many whose one-sided experience has blinded them to the interdependence of urban and rural life. Not only is there no sharp division-line between town and country under modern conditions, and no certainty that what is isolated rural territory today may not become the site of a town tomorrow, but the arbitrary divisions between urban and rural municipal areas are such that the conditions and problems on both sides of a boundary line between such areas may be precisely the same.

The only satisfactory method, even if it be somewhat defective, is to have an act which will regulate all new settlement and development in all kinds of urban and rural areas. This is, of course, a sharp distinction between the problems that have to be dealt with in areas which are fully built up with substantial and more or less permanent improvements, like those in the central parts of large cities, and other problems in suburban areas where the land is either unbuilt upon or is only in process of being developed. Land which is fully built upon and served by improved streets which cannot be altered or replanned, except at great cost for reconstruction, is not suitable for inclusion in the area of a development scheme. Even if the planning of such land has been hopelessly bad and the streets have proved to be too narrow and are intersected by dangerous railway crossings, it is hardly practicable to remodel them by a development scheme dealing with large areas of land. The act and the development schemes prepared under it, intended to deal with both urban and rural conditions, will contain provisions which are applicable to urban and inapplicable to rural territory, and vice versa. But there can be no objection to this, since if any provision is inapplicable, no person or interest can be injured thereby. For instance, if a scheme provided for control of building lines, i. e., the distance of setback from the highway boundary in a district where no buildings were likely to be erected, this would not be a burden on the farmer, since it would not force or accelerate building development but merely provide for its regulation if and when it took place. If no building took place, the provision would remain inoperative. On the other hand, no person or government can foresee where building is going to take place, or where a town-site is going to be laid out. Restrictions which are necessary to regulate development where it is occurring may, without injury to anyone, be made to apply, even where development is unlikely to occur. If such regulations are to be effective, they must deal with the possibility and not with the fact.

The Principal Contents of Development Schemes in Rural Areas

Practically anything connected with the development of land can be included in a development scheme under a planning and development act. Only by this means can development be planned comprehensively and its various parts be considered in relation to each other at the same time. Even those matters which are the subject of general

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statues or by-laws should be permitted to be varied by the provisions of a scheme. This is an additional reason why the final approval of the scheme must rest with the provincial authority. The following outline gives an indication of some of the matters which may be dealt with:

(a) Fixing varied widths of streets and roads; altering or closing existing highways; determining building-lines or setbacks of buildings according to a comprehensive scheme for a large area. The relationship between the street and the character and density of the buildings to be erected upon it should be taken into account.

(b) Reserving land for new main thoroughfares.

(c) Limiting the number of dwelling houses to be erected per acre and prescribing the amount of any lot which may be built upon in order to ensure ample light and air for all buildings and healthy housing conditions.

(d) Prescribing zones in urban parts of rural areas within which to regulate different degrees of density and height of buildings, according to local conditions.

(e) Classifying land for use for residential purposes, factories, agriculture, timber reserves, etc., and adjusting the system of taxation and the system of planning and constructing local improvements to suit the kind of development permitted under the scheme, to encourage the economic use of the land, and to lessen injurious speculation. Under a scheme, land could be permanently dedicated for agricultural purposes and assessed at its value for that purpose to the advantage of the public and owners alike.

Every scheme can be prepared to deal with local conditions on their merits under any skilled advice that may be employed with the advantage of any local experience.

To be successful, planning and development schemes have to be flexible. One of their advantages is that they dispense with the necessity of stereotyped by-laws. Certain general principles, such as the amount of space that must be reserved around buildings of different kinds, or the width of main arterial thoroughfares, have to be definitely settled, but matter of detail affecting individual properties can be made subject to variation.

One of the purposes of such schemes should be to transfer a larger portion of the burden of making local improvements to the owners of real estate who benefit from these improvements. Among other matters which might be dealt with in rural land development schemes are:

Cancellation and replanning of subdivisions.

Provision of private and public open spaces for recreation.

Preservation of objects of historic interest or natural beauty.

Planning of sewerage, drainage, and sewage-disposal, lighting and water-supply systems in advance.

Extension of variation of private rights-of-way and other easements.

Planning of community centers and educational institutes.

Protection of rural districts from noxious industries and ugly hoardings.

It is only when these matters are dealt with in a scheme that effective control of land development can be secured on economical lines. When attempts are made to get improvements carried out in respect of individual properties, such as the simple matters of fixing a building-line or diverting a road, much opposition has to be faced, or compensation paid, because the owner is being asked to give up something to comply with a requirement which affects his property only. He has to get compensation, not necessarily because he is injured, but because he is asked to confer a benefit upon the community which other owners are not asked to confer. In a development scheme the requirements of local authorities are made general throughout its area, and, in practice, what have appeared to be revolutionary proposals have met with little opposition.

In certain schemes owners have granted free large areas of land for recreation purposes and for widening roads, without cost to the community and without loss to the donors. The fact that the latter contribute, under this plan, to a general scheme of development has meant in such cases that the balance of their property was increased in value as a result of contribution to the scheme.

The reader who is not familiar with the working of planning and development legislation will probably find many questions arise in his mind regarding the feasibility and benefit of the proposals referred to in the above outline; but experience in the working of such legislation leads to the conclusion that it is the only sound and effective way to control the development of land.

Technical Men Wanted by the Ordnance Department, U. S. A.

The Journal has been asked by the Engineering Bureau of the Ordnance Department to give publicity to its needs for young men over draft age, or in deferred draft classifications, who are physically sound, whose earning capacity is at least \$1,700 a year, and who have some business experience, university training, and technical skill. Such men are wanted for instruction purposes in teaching the use of grenades, trench mortars, drop bombs and other

trench-warfare material. They will probably have a chance to go to France, and it is pointed out that, while they are expected to be good instructors, it is desirable that they shall conform to the type of active all-round line officers, as differentiated from men engaged in research or purely administrative work. Applications should be addressed to the Chief of Ordnance, U. S. A., 1800 Virginia Avenue, Washington, D. C.



GRETNA.—Cottages



GRETNA.—Cottages



GRETNA.—The Recreation Building



GRETNA.—Cottages used as Hostels



GRETNA.—Cottages



GRETNA.—Cottages



GRETNA.—Cottages used as Hostels for Women



GRETNA.—The Dental Clinic



GRETNA.—Staff Cottages



GRETNA.—Cottages



GRETN A.—The Institute



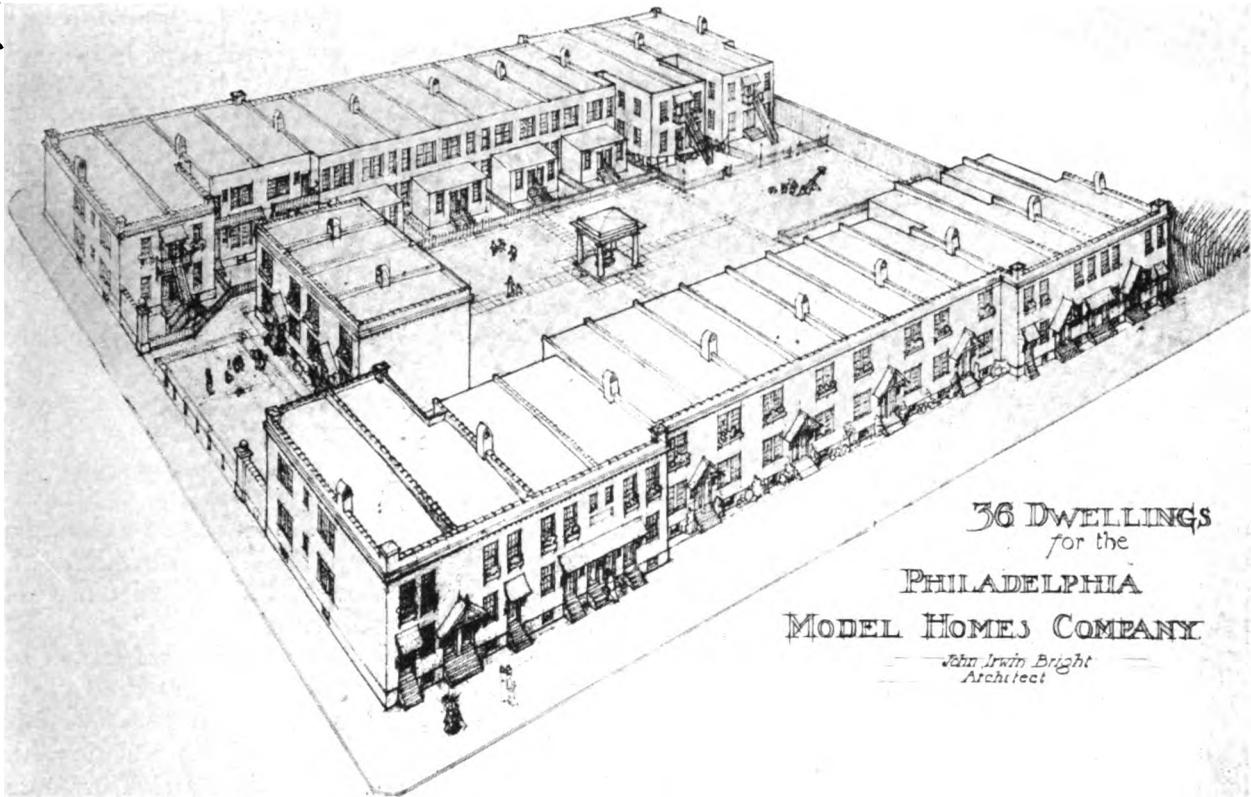
GRETN A.—Cottages



GRENA.—Cottages



GRENA.—The Cinema Theatre



A Noteworthy Housing Development in Philadelphia

THE Octavia Hill Association, since the date of its incorporation in 1896, has been engaged in the work of purchasing and restoring old, rundown, and insanitary dwellings in the poorer sections of Philadelphia. Its experience demonstrated the great difficulty of maintaining this class of properties and of paying a net return of 4 per cent on the investment. The Octavia Hill Association, through its contact with the workman of the lower-paid group, realized the difficulty of the man who could not pay more than \$12 or \$13 per month rental in securing a sanitary house amid respectable surroundings, with the possibility of his own yard and a place for the children to play. The commercial builder, because of the small profit, had ceased to build this type of house, and there remained nothing but the older houses, which were little adapted, either in sanitary or neighborhood conditions, to meet his need. An efficient workman cannot come from

homes of this kind, and these days of great stress and strain demand strong bodies. The Octavia Hill Association undertook to meet the need of this group of people, and decided to erect houses renting from \$8.50 to \$13.50 per month.

At the time these houses were erected, it was also thought that this operation might be a demonstration as to how other cities could house their less skillful workmen in a sanitary way and still pay a fair return on the money invested. When these houses were planned, there was not the widespread interest in workmen's houses which exists today. The manufacturer has only recently begun to realize the connection between an efficient workman and a good home; and a study of this work of the Octavia Hill Association might bring some suggestions to the owners and managers of the large industries who employ many men of the less skilled group.

As a chain is only as strong as its weakest link, so, too, our standards of living are only as

high as those of our less fortunate citizens. We cannot expect to have good citizens where families are surrounded on every hand by evidences of filth and decay, and where immorality and crime run rampant.

After careful search, a piece of land 165 x 212 feet was purchased in a district near many large manufacturing plants. The plans were prepared by John Irwin Bright, an architect of Philadelphia, Pa. The houses consist of three types, and are arranged on three sides of a large open court, which is used as a playground by the children of the families living in the houses. The one-family houses, of which there are sixteen, contain five rooms and bath. The entrance to the house is through a hall, so that the front room is entirely separated and can be used by larger families as a sleeping-room. The kitchen is equipped with a dresser, or dish-closet, a sink and laundry-tub, and a coal-range. The plumbing is arranged with hot- and cold-water service to the kitchen sink and laundry-tub, and to the bathroom. The house is heated by a furnace with connections to each room. As indicated by the plans, all rooms are well lighted, and there is ample ventilation. These houses rent for \$13.50 per month. The two-family houses, of which there are two classes, consist of twelve houses with three rooms and bath per apartment, and four houses of two rooms, bath and kitchenette in each apartment. The first group rent for \$10.50 per apartment, and the second group for \$8.50 per apartment. Each kitchen has a coal-range, dresser, sink, and laundry-tub. The cellars are cemented and are divided so that each tenant has a portion of the cellar separate from the others.

Most of the men of these families are employed in manufacturing concerns in the neighborhood—some are in the textile industries, some are employed on coal-barges which are loaded nearby, one being a trolleyman. In several cases it was necessary for both husband and wife to work; one tenant was a widow with her family, the mother working and the oldest daughter taking care of the home. In every instance, however, is a family enjoying all the benefits of a low rental having the conveniences

of a modern home, and the advantages of well-lighted and ventilated rooms. In addition to the large playground in the center of the group, each house has its individual drying-yard, and these small yards are enclosed with low, open, iron fences.

The tenants have been encouraged to plant flowers and grass, and vie with one another to make their yards the best. Indeed, a tenant who would not have an interest in the small garden-plot would be considered undesirable. These dwellings have always been popular, and, excepting, between time of out-going and incoming tenants, there are never any vacancies. At one end of the property, a driveway has been arranged, so that all goods, coal, etc., can be delivered at the rear of the houses. The ashes and garbage, instead of being collected at the front, as is common in Philadelphia, are collected from the rear of the houses.

The construction was carried on under the direction of the Superintendent of the Octavia Hill Association; part of the work was done by men directly employed by the Association, the other part being sublet as was best. The houses are built of common hard brick, with wide mortar joints. There are cement walks at the front and back. The interior woodwork is stained and varnished, and the walls are painted. The work was done for slightly less than 10 cents per cubic foot. The entire cost of the operation, including the lot at \$10,300, was \$63,350.

To carry out the enterprise, a separate corporation was formed under the name of the Philadelphia Model Homes Company. The stock, amounting to \$20,000, is held by the Octavia Hill Association, and the balance of the amount needed was raised by first-mortgage loans at 4.4 per cent, secured by mortgages on the houses. The first year showed a return on the investment of the Octavia Hill Association of 7 per cent after deducting 2 per cent for depreciation.

While this plan does not offer a solution of all the housing problems of today, it is believed it offers a definite and concrete example of what might be done, with such changes as would best adapt it to the needs of many communities.

FREDERICK C. FELD.

An Indictment Which Must Be Examined!

IN the New York *Evening Mail* of February 19 last, there appears an indictment of a group of financial interests which offers another conspicuous example of the courage with which an increasing number of publications are meeting the challenge to our so-called civilization which has been bluntly thrown at mankind by war. Of the actual facts upon which this challenge is based I have no further knowledge than that which results from my own experience. That there is truth in the *Mail's* arraignment probably cannot be disputed, but to ascertain the degree of that truth is a necessity which transcends the importance of any other question except the prosecution of the war. We are here vividly confronted, not only with the sinister picture of a powerful hand, gripping with relentless power the throat of a world which cries for an amelioration of the intolerable conditions under which so large a portion of it is condemned to live, but we are also made to feel, as architects, the same strangling hand upon the throat of the profession through which we are striving to make our contribution to human betterment and progress. We cannot but see ourselves as the silent partners in this process which throttles life and art at the same moment. We see ourselves stripped of every vestige of power to make our profession of use to the majority of mankind, and consigned, as Mr. Webb pointed out in the last number of the *Journal*, to remain the servants of the rich.

Therefore this indictment must be our own intimate concern. We must open our eyes to the fact that by no matter what circumstances we are reduced to that impotency against which so many architects are now protesting, we cannot throw off those shackles until we, too, are free to offer architecture as a great department of human service. It is in these fields that we must seek the answer to that eternal childishness which prompts us forever to lament what we so glibly term a lack of appreciation by the public. How can the public appreciate architecture when the great mass of it is debarred from any more of the benefits which it has to confer than an occasional contact with some grandiose structure?

It is pathetic and humiliating that the profession should be reduced to such mental poverty and egoism that it now finds itself tempted to resort to "campaigns of education and publicity," the posting of signs on work in process of construction, and other methods which are only symptomatic of an emotional hysteria devoid of any balance of clear thinking and laden down with that egoism from which the profession suffers most of all.

The *Journal*, in its brief career of four short years, has won for the profession a recognition which stands as a tribute to its fearlessness and its unselfishness. It has confined itself to dealing with those fundamentals upon which the fate of architecture forever hangs in the balance. Behind it there stands an increasing number of architects who have come to recognize the fact that it is by their works and not by self-laudation that they shall be known; by men who see clearly that the public does not judge architecture by isolated examples but by the contributions which it does or does not make to a more tolerable existence; by men who see that they must either fight publicly against slums, congestion, insanitation and the general horror of our physical surroundings or else suffer themselves to pass as criminals who knowingly withhold their knowledge and look without seeing upon conditions of life which they know ought not to exist, and which need not exist—and to the correction of which architecture owes its first allegiance.

The article in the *Evening Mail* to which I refer is as follows:

MILTON B. MEDARY, JR.

To the Directors of the Title and Mortgage Companies of New York

To the directors of the title and mortgage companies of the city of New York:

We have printed a series of articles dealing with the practices of the title and mortgage companies of New York.

Less than three centuries ago Peter Minuit bought for \$24 the island of Manhattan.

A century ago all the land in Manhattan could have been purchased for less than \$100,000,000.

Today the land and improvements of the city of New York are assessed in excess of \$8,200,000,000. This is as

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much almost as all the wealth of the kingdom of Spain and the republic of Switzerland combined.

When our public records were deficient your companies inaugurated a private system of real estate recording. Out of that system you have created a monopoly which practically controls the financing and the marketing of real estate in this imperial city and through which much of the building operations must be handled.

You have created a condition whereby capital does not consider its investment secure unless titles are insured by your title corporations, or mortgages safe unless guaranteed by your mortgage companies.

You have employed great legal talent. You have your agent in Albany to look after your interests in the legislature. You have had amazing success.

You have by agreement between the five title companies established what substantially is a monopoly—a monopoly of tremendous power in New York.

The increases in real estate values are, to a degree, under your control. If you decide that a certain section of the city warrants development you can shape matters so there will be development there. You appreciate, of course, that you do not create these values. Each new building enhances adjacent property and land values. The values come from the rent-paying population; from the desire of people to live and do business there. That rent capitalized is land value.

Some officers of your companies are reported to have been dealing in a large way for their private profit in the development of sections that the growth of New York made part of the greater city. The public has an idea that these "dreamland" prospects have taken good care of their personal interests, while the interests of the public have not been conserved so well.

You have great influence in relation to building operations. It is reported that you have your own architects and your own corporations for building important structures; your own contractors and your favorite building supply houses. So far as this is a measure of precaution for good construction and sound values to buttress your mortgages it is a good provision, but when it is merely a means for obtaining another profit then it must commend itself to the merit of superior service.

The public feels that you are wielding tremendous power, too great a power to be used without a sense of responsibility to the public.

It is within your power to outline the future map of New York. The streets you plan are the streets people will have to travel for 100 years to come. The structures you build or accept as the ones upon which you will lend money are the structures in which people now unborn must live and work.

You shape the homes for the present and the future generations of New Yorkers.

And to whom are you responsible, you who have taken to yourselves this right, and a monopoly of this right?

We are living in a wonderful age—an age of steel and concrete. Within one office structure 10,000 persons are housed under conditions of light and air, sanitation and conveniences for wholesomeness never known to people before. These structures are the monuments to the genius

of our Cass Gilberts, our Carreres, our Flaggs and other master architects.

Our skyscrapers are the marvels of the world in building technique. But within a stone's throw of these majestic piles are the hovels of the very poor where people live under conditions that disgrace our civilization and shame our government. No architect is there to plan for light and air and wholesome conveniences for the multitude in the habitations in which the multitude must live. No body of men ever has used power, except in a disjointed way, to correct this terrible wrong.

There has been no real housing plan worked out for the great mass of the toilers of this mighty human hive. No one saw that a Cass Gilbert gave to this pressing subject of their living conditions a spark of the genius of which he has shown so much.

There has been little thought of the value of human life. There has been thought only of profit, profit. There has been no thought of the helpless whose only privilege it has been in this city of nearly 50,000 tenements to live in structures with sunless airshafts, in structures where women work out their whole existence tending children deprived even of the light and the air, God-given heritages without which they must sicken and suffer and wither and many die.

These people are helpless if leadership does not look after them.

They are helpless pawns in the great chess game of which you are the master players.

Why don't you use your power to bring them the benefits of our civilization?

Pedagogic biologists have told us the function of play as a basis of the child's growth, yet in the homes of the poor there is no place for play.

The most important thing in a city is how the multitude lives, yet the talent of our architects is spent on cathedrals and museums, on business palaces and on railroad and factory technique.

You have it in your power by including social policies in your plans to bring to the masses of New York the benefits of the civilization of which they are a part.

You have failed to do this.

So long as you have not done so you have not justified the power of trusteeship you have assumed and you must be looked upon as usurpers.

When the Fifth Avenue movement began some years ago you were appealed to. What was your decision?

It was that it would be a good exercise of your power to protect the beauty of New York's most fashionable thoroughfare.

Several years ago when the subway was opened to the outlying boroughs appeal was made to you by the owners of decayed tenements whose structures were being deserted by people eager to get to sections where they could find better habitations, where they could obtain light and air in plenty and have sight of trees and grass. To protect the mortgages on these tenements you shut down on suburban development. You closed to the tenement dweller the avenue of escape.

The protection of some mortgages had to be weighed against human life.

The city invested a huge sum in the rapid transit sys-

AN INDICTMENT WHICH MUST BE EXAMINED

tem, but the people couldn't take full advantage of it because you willed otherwise; because you wanted to conserve your own particular interests.

Six or seven hundred years ago the basis of feudalism was laid in Europe. The overlord looked after the welfare of his people. They paid tithes to him. He in turn had to care for them for life. Gradually, as time went on, the feudal lords forgot their obligations, but did not forget to levy their charges. Tithes became toll. The French revolution came, and with it anarchy. The inflamed people drove out all leaders, classing good and bad alike. Everything had to go. The whole social system was destroyed because the trustees of the people had been blind, unfaithful to their obligations.

The mutterings of a new discontent are growing. A new spirit of human brotherhood is moving in the world. As in the French revolution, no man who dressed *sans culotte*, as did the old aristocracy, was tolerated, so in Russia today we are told the white collar is taboo and only he can take part in council who wears the costume of the common workman. Such is the disgust that exists in Russia for the old bureaucracy that lived on the people and neglected its duties to them.

What will happen to American leadership unless it lives up to its responsibilities?

The voices of discontent grow louder and louder.

Three hundred thousand children in New York are so seriously undernourished that their health is vitally impaired for life.

And this in the proudest and richest city on earth!

Capital must live up to its obligations.

You might have done much for the good of the masses of New York, but you have not thought of them.

You might have made it possible for home-makers to buy homes and make homes and pay for homes under amortization conditions that would give to you a proper profit and give to the home-maker an opportunity to live and prosper and raise a family in comfort and decency.

You might have centered upon the housing problem the minds of men of genius and planned for better homes, better surroundings, better health and better living for the city's millions.

You might have put upon the mortgages you guaranteed the stamp of the master security it would be if you stood for justice to the people; if your mortgage meant that back of it was property representative of the highest civilization, the best purpose, the highest social justice in the world.

You might have profited more if your aim and your pride had been in how low the interest rate at which money was secured from capitalists for the home-builders instead of how high your interest return.

You might have profited more if you thought less of commissions, charges, bonuses and all sorts of inflections, and more of the rights of the people who came to you because you held the city in your monopolistic grasp.

Your underlings have asked your protesting patrons: "Do you suppose we make our money out of 6 per cent interest?"

Your corporations have been selfish. They have not used their power for the common good.

Americans are not ungenerous to worthy leaders.

No one has anything but praise for Henry Ford, yet he made \$50,000,000 profit in one year. But he was fair, generous. He paid his men well for their labor. He gave to his customers the best car in the world for the price, and he aims and strives to reduce the price to them.

He realizes his responsibility to the people.

Such leadership will endure.

But the leader who shirks responsibility to the public is simply the usurper who levies toll.

Worse than that. He endangers the whole structure of capital and corporate management. Revolutions are born of the resentment engendered when the trustees of leadership default in their duty.

Nation Planning. II

M. VAN DER SWAELMEN'S "PRELIMINAIRES D'ART CIVIQUE"

By NILS HAMMARSTRAND

IN* the preceding article it has been said that Mr. van der Swaelmen's "Preliminaires d'art civique" outline a basis for efficiently dealing with and solving the practical problems which present themselves to the renewers and restorers of devastated Belgium. The author's suggestions regarding the conduct and management of the reconstructive work may be broadly classified as "principles of action" and "schemes of organization." It is a matter of future consideration, how these principles of action are to

*See the Journal for August, 1917.

be applied in the particular practical cases. The task of the immediate interference, as conceived by M. van der Swaelmen, is by no means to furnish any definite projects, but to form, as it were, a secure, general, and practical foundation for the work of reconstruction.

For the attainment of this end, the nearest aim of the immediate intervention is to make such preparatory studies and investigations as the present circumstances will allow and to deduce certain preliminary conclusions regarding the actual conditions and their demands.

In reality, we see the beginning of these preliminaries in the activities of the Belgian Town Planning Committee and of the Comité Neerland-Belge d'art civique, both working outside Belgium, and, foremost, in the work of a special commission, active in the country itself. The members of the last-mentioned committee, which is to be considered as an interimistic one, represent the union of the Belgian cities and communities, the royal commissions for sites and monuments, for sanitation, and for the amelioration and embellishment of rural life. It may be expected that this joint corporation, as soon as the country is liberated, will be enlarged and transformed into an official commission, subdivided according to regions and localities, and serving as an executive organ of the state. At least, the constitution of such a body is suggested by M. van der Swaelmen, who also indicates some of its primary tasks. After the state has established a general plan of the country and the different communities have elaborated allotment plans, this commission would have to approve or criticize, then to sanction, the projects, and finally to grant the necessary subsidies for their execution. Thus, the proposal of M. van der Swaelmen seems to aim at nothing less than the establishment of a "parliament for civic affairs," designed not merely to be entrusted with a consultative function, but to be invested with deliberative and authoritative power.

Such an institution, if established, will, as far as my knowledge goes, be the first one of its kind, constituting a new and interesting attempt at collective activity in the line of civic administration. Meanwhile, till the time of its probable reconstitution, the special commission chiefly devotes itself to the preparatory study of the matters in question, one of its main objects being to effect a civic development survey in all interested cities and communities, and foremost in those which have suffered through the war. To this end, the special commission, according to M. van der Swaelmen, had secured, two years ago, the assistance of more than a hundred consultative local subcommittees.

Another important object of this preliminary work is the study of judicial questions with a view to formulating propositions regarding the future legal regulation of civic development and the legal protection of nature. In performing

this task, which presupposes a comparative study of the foreign legislation, the special commission enjoys the support and aid of international committees, such as the above-mentioned Belgian Town Planning Committee in London and the Comité Neerland-Belge d'art civique, at the Hague and Amsterdam. These international committees are also participating in the preparation of a "Recueil d'instructions générales" (Collection of General Instructions), a corollary of the forthcoming law, but their chief task in the respective countries where they are at work is to gather and prepare the materials for an international "Encyclopédie des villes et de l'art civique" (Encyclopedia of Cities and Civic Art), meant universally to serve constructive civic work. Appearing as an unlimited series of monographs, constantly enlarged through new publications, the "Encyclopédie" will be based on national dossiers of documents, arranged and analyzed according to concordant methods. In order to promote this methodical conformity, the Comité Neerland-Belge d'art civique has elaborated, and M. van der Swaelmen has published an extensive "programme d'études et de travaux" (Program of Studies and Works), giving principles for the classification of the documents and accompanied by a comprehensive "Table des matières" (Table of Materials), divided in one "Table analytique" (Analytical Table), and one "Table synthétique" (Synthetic Table). There we find the numerous "notions" and subjects of civic art in its widest sense grouped and coördinated, and directions given for the analytical penetration and the synthetic utilization of the accumulated documentary material.

Unfortunately, the limited space of these articles does not allow of anything more than this intimation respecting the character of the "Tables" and the many interesting aspects of their richly varied contents. It remains briefly to review the analytical expositions of the author in which he exhibits his esthetic conception of the civic problems. To grasp a most central question of the many that are involved, we turn our attention to the author's exhibitions on the restoration of buildings. To restore and to reconstruct are, broadly viewed, the two great tasks of the replanners of the devastated countries. On their ability to balance and to

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coördinate these two activities the success of their work will largely depend. If it were only a question of rebuilding from the ground, their task would be infinitely simplified and also lose infinitely in interest. However, in this connection problems present themselves, the aspect and solution of which are all but simple. Here an old cathedral, one of the most wonderful creations of art mankind ever produced, has been partly destroyed; there a picturesque village of especially characteristic structure is entirely laid in ruins; here, again, an old city quarter of interesting character, formerly framing the mass of a still intact gothic *dôme*, has been extensively demolished; there only wrecks remain of what was once a prosperous group of manufactories, well laid out and situated in a favorable position. In other words, the tasks of the replanners range from the comparatively simple ones of rebuilding "new" things to the extremely delicate ones of partially restoring old remnants. Between these extremes there are the many cases of intricate combination, offering a variety that may be called infinite. The direction of some well-defined principles, to be applied with undogmatic judiciousness, is a keenly felt necessity. We all know the terrible destruction which the well-intentioned restoration practised during the last century wrought among many venerable monuments, stripping them, in the interest of "style," of about everything that made them living, and thus transforming them to resembling lay-figures dressed up in "correct" costumes of past ages. From them all life has gone; it had been better to pull them down!

It is in order to help prevent the recurrence of such scandalous performances that M. van der Swaelmen mobilizes, on some excellent pages, all the arguments against the "destructive restoration." The validity of these arguments, ultimately based on some of the principles laid down by Ruskin, is nowadays generally acknowledged, but, nevertheless, do we not still hear of ominous desires to "restore" the cathedral of Rheims? If a restoration is undertaken, God forbid that it be one which makes artificial imitation replace the original living stone and substitutes stereotyped puppets for a statuary which incarnated the soul of an apogee in art. Despite all enlightenment on these things in more recent years, M. van der

Swaelmen's warnings and his biting sarcasms on the follies of the puristic restoration are not out of place. Probably, always, attempts of this kind will be made; it is incumbent to reduce their number as much as possible.

The most flagrant instances of such restoration we owe to a period in art which was as perfectly familiar with all forms and formulas of "styles" as the diligent boy is familiar with every letter of his lesson in history, when he goes to school in the morning, and which was about as unfamiliar with their spirit as he generally is with the living spirit of the studied object. Destitute of creative instinct and capacity, this period produced in the same way as it restored, by copying the acquainted forms, without being able, as was once the creative Renaissance, to inspire them with new life. It was natural to such a sterile conception of architectural art to see the characteristics of a style chiefly or exclusively in its ornamental forms, overlooking that it is more fundamentally defined through its constructive peculiarities. The ornament—the "*Diabolus in Architectura*," to use M. van der Swaelmen's terminology—became the chief means of architectural expression. When the reaction against its rule entered, it went, however, to an opposite extreme, excommunicated the ornament and established the "esthetics of the usefulness," *die Zweckmässigkeit-Aesthetik*. The evangel of the "*beauté fonctionnelle*" was sent out into the world, and it has done its good through purifying our esthetic ideas, as regards architecture, and through animating fundamental elements of architectural design, but, nevertheless, it certainly does not fully represent our conception of architecture as an art in the highest sense.

While M. van der Swaelmen is an outspoken adherent to the esthetics of the "*beauté fonctionnelle*," he does not force his views to the superficial absurdities of the most radical extremists, to whom everything seems abominable, the exterior appearance of which does not materially differ from everything else that has been previously created and seen on earth. But, on the other hand, he rejects, in principle, every adaptation of traditional elements as incompatible with the aspiration for living art expressive of the life of our own time. Whether such an attitude toward "tradition," in the interest of promoting "*le style nouveau*," is justified,

may be questioned. In its defence one can point at the mortifying effects of the eclecticism of the nineteenth century. On the other hand, the evolution of architecture proves that an adaptation, which does not remain on the level of an inane imitation of external forms, may develop great art—as in the Renaissance and Barocco—and every style is more or less the product of a process of adaptation in which traditional elements are gradually transformed.

Indeed, what our time needs, to begin with, is not “a new style,” but living art. This presupposes a living artistic spirit which is capable of creating. And, fortunately, we see signs of a revival of the artistic spirit in architecture. To us all, whether we are radical modernists or not, this is, finally, the chief thing, the great concern. Animated by a desire to stimulate and promote this revival, M. van der Swaelmen has written his “Préliminaires d’art civique.” His exposi-

tions of the different aspects of civic art reveal an artist who has the happy faculty of philosophical penetration, indispensable in elucidating the most collective of arts. Whether he deals with the influence of physical and geographical conditions on the constitution of cities, with the city as a historical phenomenon, the creation of open spaces, civic centers, and parks, or with the rural and national problems, we have always a notion of unity of perceptions without being treated with merely metaphysical abstractions. It is tempting, though not feasible within the limits of this article, more closely to review the different analytical chapters of M. van der Swaelmen’s book. We must confine ourselves to the above indications of the author’s standpoint on some important questions of principle, and, finally, only express a hope that his work may exercise an influence proportional to its great merit.

The Forum—Ethics in Advertising

TO THE EDITOR OF THE JOURNAL:

The paradox in the above heading, as applied to this article, lies in the fact that he who pencils the lines is uncertain if there are any ethics in the subject, let alone the methods, of advertising.

In the Journal for October there is printed a summary of the report of the Committee to define the meaning of the word “advertising” in the Institute’s Canon of Ethics. Is it not a sign of the times that this matter of advertising seems to be agitating the minds of the members of the American Institute of Architects, and would it be of any interest for a layman to express his views? Would it be considered an intrusion for him to seek entrance into the pages of a journal that is attracting, increasingly, the studious and admiring attention of the outside world? Is it not, in the end, the layman’s opinion that counts, and is there not a subtle relationship between what the layman thinks and what the architect feels?

“Public Opinion,” with its great composite judgment, dominates our lives, but it shifts with the times, and behold the times are shifting fast at present! It is that fact which calls for a readjustment of our old opinions, if not their extermination; and while Democracy is demonstrating its own definition in political and social life, are the professions seeking to entrench themselves against it? We know that custom prints the most rigid of rules; yet the type may become worn and require recasting—like-wise the rules.

What is advertising? According to the dictionaries it is merely “a public notice.” As every professional man desires the public to take notice of him—in fact, is dependent upon the notice the public does take—it remains only

to approve or condemn the method he uses to attract attention, and therein lies the question of ethics or art. What the man who is established may do is not, in all likelihood, the example for the beginner to follow. A certain method might be sufficient for one and insufficient for the other. One has to hold attention; the other gain it. Each may have the same standards of honor; the same feelings of dignity and delicacy; the same aversion from thrusting himself forward. Both desire publicity, and neither wishes to seem to desire it.

Advertising, as applied to the practice of architecture or to the practice of any other professional calling, is, after all, a question of etiquette, and, without doubt, largely doctrinal. Unquestionably it is a matter of taste; and certainly a profession of gentlemen—such as the profession of architects is supposed to be—does not require the canons of good taste defined.

If an architect desires patronage and feels that he has mental wares the public should purchase, why should he not frankly let it be known? Why hide his light under the proverbial bushel and wait for it to be uncovered, perhaps when the light is nearly burned out?

I have not lost sight of the pitfalls in the profession of advertising—I mean, architecture. Is there any very great difference between sending out engraved cards to a selected list of possible clients, announcing the formation of a partnership, and inserting a card in the advertising columns of a newspaper? Is there any good reason why the former, practised quite generally, should be sanctioned, while the latter, when resorted to by struggling beginners, should be condemned? Or again, is there an appreciable difference between the architect who permits

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his name to be attached to a large, notable building that is pictured in conjunction with an advertisement for some brand of cement or make of terra-cotta or tiling, and the architect who simply or frankly lists his references? If these things are taboo, then the architect is solely dependent for his endorsement and advertisement on Public Opinion, and a chance or casual Public Opinion at that. If straightforward frankness in seeking his business is denied the architect, through the rulings of the Institute on "ethics," then wire-pulling, the most miserable and unworthy of methods, is the only resource left to him to attract public attention: gambling on the credit of friendship; manipulating the power of influence; making any man or woman he can his agent.

Not all young architects are able to enter the offices of established firms and eventually work into partnerships. Many have to start out alone, prevented at the outset from seeking work in a natural way by the desire to keep in repute with the Institute through adhering to its ethical rulings. (If they are ethical, how can they be rulings?) Cherishing these established ideals, they let anxiety weaken their ability and strength, until they resort to the alternative you (I address the Institute) unwittingly prescribe by your rulings.

Gentlemen: I beg you to think of the worthy but unfortunate, and also with some sentiment, as well as reason, of the young men starting out in these days of difficult competition; to remember, some of you, your own struggles, that, except for sheer luck, oftentimes, would have been failures; to consider, as well, some of the methods you have used, and must regret, and are perhaps lamenting that you must still use, to hold your own.

A new future lies before those of us who shall survive this world's great cataclysm, and the leaven of that future is working in the present. Make of the Institute a great, broad-minded, progressive, democratic example. I am not recommending the practice of advertising when I question the Institute's rulings against it. Far from it! I believe simply that freedom of action will create higher standards and that desirable and undesirable advertising will be less often confused. In devising Canons of

Ethics, and in attempting to define the indefinable, are you not lowering to the scale of weights and measures those things that belong to instinct, to conscience, to honor? Give "the image and not the formula." Wipe out your rulings. Countenance straightforward methods of advertising and so rob the impostor, the architectural quack, of his very means of success. Encourage the recognition of honest opportunities and their profitable use; then punish where punishment is due and where the offense is flagrant and unquestionable.

Some architects not affiliated with your organization (and what percentage of the architectural profession does it represent?) have followed certain methods that you condemn. They are not dishonest from any point of view and "unethical" only from your own. These men have been stigmatized as "commercial architects;" "they label and pigeon-hole their wares;" "they have standardized their ideas;" "they have played," it is asserted, "like the patent-medicine maker, on the credulity of the public." *But have they?* Do they claim more than they prove? They have built great buildings that stand the tests, and even academic criticisms, whereas, some of your approved men, who have won competitions over which you presided, have erected structures that challenge apology, and, to say the least, have been so composite in style that they represent, in detail, about every period of architecture.

I have in mind one that has attracted wide attention and won high praise. It is a stupendous pile of masonry, and I feel when I stand under it, regarding it *en masse*, as I do when I am close to El Capitan in the Yosemite Valley. Yet, ah yet, there comes to my mind an amusing incident in reference to this same building. An observant woman said to me the other day, "How is it that architects can put French grilles over the windows of a purely classic building?" And I replied, "My dear, they can do anything, if they know how." I am fully aware that I left her puzzled, though I spoke truthfully; but how could I do otherwise when I am puzzled myself?

Yes, it is indeed courageous of me to question you, but I believe in you, reverence your art, and honor your aims, if not your advertising ethics. PERI SCOPE.

The Annual Exhibition of the Architectural League of New York

THE address of the president of the League, H. Van Buren Magonigle, delivered at the opening of the exhibition on February 1, contains an excellent statement of the spirit with which the League has this year approached its annual undertaking and offers a hope that in the future we are to see a wider appreciation on the part of architects of their collaborators in the field of design and execution. Mr. Magonigle's address was as follows:

In the midst of war's alarms and preoccupations it is a part of our patriotic duty, I conceive, to shelter and tend the flame of art; dedicated though we be first and foremost to the service of our Country, each according to his capacities and opportunities, we are also dedicated to the

service of beauty—and when peace shall come, let us be prepared to offer our Country, "smoothing her gold of war-disheveled hair," richer fruits, ripened and deepened in meaning by the rigors, the sacrifices, and the sufferings of war.

It is my privilege to welcome you to this private view of an exhibition unique in the annals of the League, an exhibition which we hope may mark the beginning of a new epoch, the dawn of a new Renaissance wherein the sister arts and crafts that minister to the art of architecture shall assume again their ancient dignity. Busied as the architects have been during a generation in recovering the technique of their own art, they have had but little time to encourage the craftsman; his work has been on the whole

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sadly neglected in this country. The Architectural League, composed as it is of architects, mural painters, sculptors, landscapists, and designers and workers in glass and mosaic, tile and ceramics, textiles, furniture, is, in our view, the proper body to repair that neglect; as a beginning, therefore, the works of the craftsman are shown here in the galleries hitherto held sacred to the architect, the painter, the sculptor, and in the worthy setting designed by Mr. Howard Greenley. Upon his shoulders has fallen the major responsibility, but it would be unjust not to refer also to the devoted chairmen and members of other League committees who give untold time and effort to our work; and doubly and trebly unjust to fail to pay enthusiastic tribute to the loyalty that counts no hours too long, no effort too great if it be in the League's service, and to the extraordinary ability, of our Assistant Secretary, Miss Alice M. Simpson.

The League has established Medals of Honor in Architecture, in Painting, and in Sculpture. The Medal in Architecture is awarded this year to Mr. Benjamin Wistar Morris.

The Medal in Painting is not awarded this year.

The Medal in Sculpture is awarded this year to Mr. Paul Wayland Bartlett.

The League offers annually prizes for the best solution of a problem in which an architect, a painter, and a sculptor collaborate. The prizes are awarded to Mr.

George Licht, architect, Mr. F. E. Gates, painter, and Mr. Raffaello Menconi, sculptor. It is provided that the Avery Prize in Sculpture be awarded to one of the sculptors in the competing groups. It is particularly gratifying to announce that Mr. Menconi has won this prize also.

To encourage the crafts and trades who have collaborated with the League in the Exhibition, we offer certificates of honorable mention:

The list of awards is a long one, but not too long for justice in view of the large number of collaborators. They are given in two classes—one for the craftsmanship displayed and the other for the skill shown in the presentation of an assembled exhibit.

Craftmanship—

Batterson & Eisele
Bayer-Gardner-Himes Co.
Wm. Bradley & Son
Cheney Brothers
P. E. Guerin, Inc.
The Herter Looms, Inc.
Jacobson & Company
Persian Rug Manufactory
John Polachek & Sons
Sterling Bronze Company
Samuel Yellin

Presentation—

William Baumgarten & Company
Charles of London
Chamberlin Dodds
Marshall Field & Company
P. W. French & Company
John Hutaff
Wm. H. Jackson Co.
Janes & Kirtland
National Terra Cotta Society
W. & J. Sloane

A silver cup was presented to Howard Greenley, Chairman of the Committee on Architecture, who designed the setting and arranged the show, "in appreciation of all his qualities of leadership in the 33d Annual Exhibition."

Demolition in New Orleans

In making its annual report to the Louisiana Chapter, the Committee on Preservation of Historic Monuments records the following:

The one-story structure at the corner of Chartres and Ursuline Streets, the stucco building with Spanish tile roof, full of the color and character of the early city, has been torn down, all but the outer walls. This same building had been preserved through the efforts of the Chapter Committee some four years ago, when ordered demolished by the owners, then the Milne Estate, to avoid the expense of remodeling to meet rat-proofing regulations.

During November, 1917, the Committee heard of the actual work of destruction having commenced, when the tiles had already been removed from the roof, but was not resourceful enough to find a patron or the means of purchasing this little building from the present owner.

Photographs of the construction of the rafters were made and measurements taken as a record. This building, the neighbor of the Archbishopric, is described in some recent historical account as being the temporary headquarters of the Ursulines while their building opposite was being erected (1727-30). This undoubtedly is fanciful, as the tile for roofs was first used in New Orleans by the Spanish, and the building, therefore, would date after 1763, when Louisiana was ceded to Spain. The more likely date would be 1794, when buildings were required to have tile roofs as a result of the disastrous fire in that year, over two hundred buildings being destroyed; this would place the age of the building a year or two earlier than the Cabildo.

Each year's delay will see greater gaps made in the squares of the old Quarter. With much the sound of an obituary, and with as much feeling of personal loss, the Committee has to chronicle the destruction of the old St. Louis Hotel. The Chapter's futile efforts here also were covered in an earlier report.

The unfortunate loss of these buildings should hasten the project which the Committee understands is in formation—a syndicate for the purchase of certain historically worthy buildings where there is danger of their destruction, or where the opportunity as an investment is most apparent.

The Committee, in concluding, recommends a more confidential relation among its members in matters relating to the common work of preservation, where any one of its members is consulted or associated in such work.

Committee: FRANK CHURCHILL, JOS. BERNARD, M. H. GOLDSTEIN, *Chairman*.

The Annual Report of the Louisiana Chapter is one of the most comprehensive presentations of Chapter activity that we have ever seen, and indicates what an influence can be exerted when architects combine their forces for the purpose of rendering that communal service which is the real measure of their usefulness to society. The noteworthy work done by the Louisiana Chapter in preserving the old Jackson Barracks, as well as the influence exerted by one of its members in the retention of the Old French Opera House, have already been told in these columns.

Book Reviews

Housing Conditions in the City of St. Paul.

By CAROL ARONOVICI, Ph.D. Amherst H. Wilder Charity, St. Paul, Minn.

In this report we have a document which may well serve as a model as regards the presentation of the facts of the case. Rarely does one find such a direct and simple statement of the results of the survey. The statistical tables and the graphic diagrams are so arranged and organized as to show the layman at a glance the essential facts concerning a group of actual existing conditions.

In addition to presenting these facts, Dr. Aronovici includes an Analysis of Laws in Cities and States Throughout the Country, which represents an exhaustive study of the subject; a study which should be of the greatest value to those who have to do with the problem of organizing restrictive legislative measures related to the physical town or city.

The report in itself constitutes a review; it must be examined to be appreciated. I would merely call attention to the conclusion wherein is set forth Dr. Aronovici's recommendations of methods for dealing with the problem through departmental municipal reorganization and the enactment of additional legislation.

I have arrived at a position where I am completely unable to appraise the value of restrictive legislation—of legislation based upon the notion that the function of the Government in this phase of its activities should be limited to negative commands; that the Government should limit itself to the act of holding up a warning finger, and in certain cases punishing the obstreperous offender.

I therefore regret that Dr. Aronovici used kid gloves rather than those adopted for the boxing-rings. Indeed, what we need to use are brass knuckles—and then restoratives. There are prejudices and fallacies which must be knocked out completely before we can entertain the hope that any real and lasting benefit will result from our effort.

It is a case where we must right-about-face in our legislative policies; merely negative legislative formulas will not avail. We have back-stepped and marked time long enough. What we need are constructive legislative enactments which will stimulate better building. Such legislation is not paternalism; it is merely the voice of a people expressing, in terms of action, the purpose for which society is organized. What can you expect but fear of government if government expresses itself only in the single monosyllable, Don't! Don't! Don't!—FREDERICK L. ACKERMAN.

English Church Woodwork. By F. E. Howard and F. H. Crossley. London: B. T. Batsford, Ltd. New York: Charles Scribner's Sons. \$4.

It is an unailing source of wonder what a treasure-house of human experience the Bible is. Something apt for almost any situation can be found in it, and the authors, as the text of the admirable and exhaustive treatise on the carved work of England, quote verses six and seven of the seventy-fourth Psalm:

"He that hewed timber afore out of the thick trees was known to bring it to an excellent work,
But now they break down all the carved work thereof with axes and hammers."

The house of Batsford has been the presiding genius of English-speaking architects for more years than one can remember, and the debt owed them is incalculable. One is glad then to find in Mr. Crossley's preface to this work a tribute to the house and a dedication to Herbert Batsford, whose death occurred just before its publication.

It is somewhat amazing to find that there are men who, in the year 1917, can live in England and find, not the time, perhaps, but the courage, to follow the common tasks of peace; and yet one may well believe that because the Englishman does not lose his head, and can keep cool in emergencies, and attend to everyday duties, we have full confidence in his fighting ability. One has heard Mr. Gladstone criticized because, at a time of great national crises, he could withdraw himself and lay aside wholly his responsibilities and anxieties, and even could go to the play when the news of Gordon's death had just shaken England to the core. So here it may well be but an example of England's true strength and force that a work like this should be published in the days of the great war.

It is quite a wonderful book. One has felt that drawings and photographs, modern, cheap methods of reproduction, and a time when every one travels, had exhausted the architectural beauties of England, and that nothing could be published that was not already known. The book is full of illustrations of unfamiliar things, and more than that the text is thoughtful, scholarly, and full of interest.

Others have said before what Mr. Howard says, but he has a way of putting things that makes them seem new. The charm of this English wood-carving is that these craftsmen had an "eye for proportion and a sense of scale," and that their methods were "human" . . . "devoid of effort"; that "minute accuracy and exact symmetry were not esteemed as virtues" and that he "cared little for open joints, twisted timbers, irregular setting out, and rough surface, provided the complete work was strong in construction and beautiful in design." One has heard this before, perhaps, but it is the kind of truth that is worth restating when it is done so well.

The book covers the great wood-working period of the fourteenth, fifteenth, and sixteenth centuries, and it includes critical, historical, technical, and ecclesiastical reviews of the causes that produced the work, influenced its design, controlled its construction, and suggested its ornament. The book covers structural woodwork, all wood fixtures, and the lesser fittings or movable furniture. Under each head there is an excellent descriptive text, beautiful measured drawings, and a wealth of photographs.

The earlier woodwork appears almost as if it might have been executed by skilled masons, so closely did it follow stone precedent, but after 1400 there was a gradual change until the woodworker took the lead in design and influenced the mason. It is significant how steadily beautiful work was done through all those troublous, fighting

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times. Somerset and Devon were perhaps out of the main path of the Wars of the Roses; perhaps, as grazing counties, they furnished supplies to one or both sides, and so grew rich, and could build great towers and carved chancies and screens. At all events, the good work went on.

The gradual change which decreased the influence of cathedrals and monasteries increased the influence of the parish church, and this might easily have been a contributing cause to the localized character of ornament which was apparent in the fifteenth century. The subtlety of modeling of the fourteenth century miserere at Wells as compared with the more naïf character of fifteenth century work may mean merely the difference between the guild craftsman of a great establishment, who would be sent perhaps far afield, and the local carver whose reputation would be confined to a few adjacent parishes. There is some loss and some gain, but Mr. Howard finds the balance in favor of the fifteenth century man.

It is interesting to note that in the latter Gothic woodwork Mr. Howard finds traces of continental influence here and there, a little from Flanders, some from Italy, but in the main it is of the three types of English work—East, West, and the Midlands—and seems to indicate that the designer and carver were working pretty freely and drawing inspiration from all periods of development. They were not adherents of a style, nor were they purists; they were just good workmen who loved their work and had a trained eye for proportion, and sense of scale.

There is an excellent and instructive chapter on roof construction and design, and one on color. One would have to see a beautifully carved fifteenth century screen, with its original gold and color, to be convinced that anything but a very limited use of gold and color will improve a beautifully carved piece of woodwork. Speaking of the screens and wood-lofts, a Somerset bishop (or rather a Colonial bishop or "returned empty" who was a Somerset man) stated that these lofts or galleries were in general use for:

1. The exhibition of imagery which grew both in size and number.
2. Tapers along the cornice casting their light upward on the images.
3. For the ceremonial of the "tenebra" on Good Friday.
4. For bidding the prayers, reading out the "Bederoll" (or Mortlege), i.e. the list of parochial Benefactors commended to the intercessions of the parishioners, who passed in procession below.
5. Perhaps in reading out the Gospel or Saints-day legend, if there was not a pulpit conveniently placed for that purpose.
6. In sacred plays probably the broadened floor was very useful.

It is interesting to read of the various uses of lecterns which most of us associate only with the reading of the lessons, and not as part of the equipment of the choir. Was it written with a twinkle in the eye when the authors note of one form that it was "acutely pitched for singing from"? Many very beautiful customs belonged with these old churches, and one cannot but hope that there will be a renewal of vital spiritual life in England when this atrocious war is over, and a closer communion of all those who have

been separated by trivial differences and are now united in one great cause.—R. CLIPSTON STURGIS.

The Life of Augustin Daly. By JOSEPH FRANCIS DALY. The Macmillan Co., New York. 1917. \$4.

In 1811, in the little Church at Montego Bay, on the island of Jamaica, Lieutenant John Duffey, of His Majesty's forces, discovered Margaret Moriarty, the lost love of his youth. To rest her foot while at worship, she had slipped off her shoe which he, kneeling behind her, had purloined with his cane. Discovering the culprit, with indignation flashing from her eyes, she likewise discovered her lover, the grandfather, on his mother's side, of Augustin Daly. The story is simply told by his brother in the first Chapter of the "Life," and one seems to be at the beginning of a narrative by Captain Marryatt or Michael Scott, so like is the flavor of adventure. It seems small wonder, reading on, that Augustin Daly should have chosen, without the slightest hesitation, a career than which none offers so rich a field for adventure as that to which he gave the labor of his life—as that to which he bequeathed a legacy such as will, in the language of the brief preface, "give heart to every self-reliant, intelligent striver in every business of life."

To one who, like the present reviewer, began his acquaintance with the theatre at the Sans Souci Garden in Providence, about 1879, when Pinafore was in the repertoire of every newsboy in the land, the story of Daly's life is almost like an old diary of a theatre-lover's experiences. How well, for example, do I remember the night in New York—I was barely nineteen—when I rushed from the station to buy myself a seat for "The Foresters!" It was my first visit to Daly's own theatre.

But so it will be, I imagine, with whoever reads this admirable book, which is so full of the history of our American stage, of Daly's trials and struggles and failures and successes. One will live over his own unforgettable nights—see again the faces that are gone—hear again the voices that are stilled. And in all of this, one is quite likely to get a new idea of the man—as well as the manager—Augustin Daly. Surely he never could have won through it all if he had not been sustained by an indomitable faith and been well loved by those whom he drew to him—and the names are legion. Colley Cibber says, in his "apology," that he was obliged to change his opinion of the ability of Nance Oldfield after she had played "Leonora" in "Sir Courtly Nice," a small part for which she had been cast only after a considerable struggle. Mr. Daly seems to have been a manager who had an almost superhuman talent for discovering the modern Oldfields, and there appears to be no record of such a failure as Cibber's to his credit. He never feared to trust his judgment, and perhaps it was that faith of his which helped to inspire those in whom he placed it.

In plays he likewise trusted his faith, but with not so felicitous a result, yet he had the courage and the intelligence to accept defeat quickly and without a murmur, although it often meant sweeping utterly away the labors of months and huge sums expended in preparations. It was just that his successes were so far greater than his failures! And what successes they were! "Leah the Forsaken," "Frou Frou," "The Big Bonanza," "Pique,"

BOOK REVIEWS

"Money," "Divorce," "Man and Wife," "Dollars and Sense," "Seven-Twenty-Eight," "She Would and She Would Not," "Love on Crutches," and then the revivals of Shakespeare and the old comedies.

Mrs. Fiske, to judge from her views as set forth by Alexander Woolcol in the small volume which recently came from the press, would have assigned as a reason for his failures the fact that Daly pursued the repertory idea—an interesting speculation which it is not our province to pursue.

His letters, written on his travels about the United States and in England, are full of interest and have great charm, while his correspondence with the men of letters of the day and with actors and actresses is flavored with the gentleness and culture of the time. It is a fascinating story of a fascinating art, told with affection yet never outstepping the limits of modesty. Americans will read it with a thrill of pride—artists will read it with a thrill of gratitude and of reverence for a man who never lost hold of his ideal.—C. H. W.

Obituary

Frederick W. Stickney

Elected to the Institute in 1900

Died at Lowell, Mass., January 18, 1918

George B. Ferry

Elected to the Institute in 1884; to Fellowship, 1889

Died at Milwaukee, Wis., January 29, 1918

Mr. Ferry was born at Springfield, Mass., on February 7, 1851, and received his architectural education at the Massachusetts Institute of Technology. He was for many years a member of the firm of Ferry & Clas, a connection which he severed some five years ago. He came to Milwaukee in 1881 and was instrumental in the formation of the first architectural organization in Wisconsin. He was the last surviving member of the Joint Committee of the Institute, of which Richard M. Hunt was chairman, and which framed the constitution and by-laws of the Institute. He was for four years chairman of the Milwaukee Building Code Commission, president of the Milwaukee Art Commission, and was a member of the National Academy of Science.

He was the designer of many notable structures, among which are the Milwaukee Public Library and St. John's Cathedral, while the Wisconsin Building at the St. Louis Exposition was awarded a gold medal. Few architects have possessed more brilliant qualifications for the practice

of their profession or have labored more conscientiously and intelligently for the upholding of the traditions of faithful service and devotion to the client and the community.

William Ralph Emerson

Through the death of William Ralph Emerson, the Boston Society of Architects loses one of its earliest and best-loved members. Mr. Emerson was a native product of New England, delighting in ingenious contrivances and original inventions, filled with enthusiasms for whatever was spontaneous and natural, and abhorring conventions of every sort. He was the creator of the shingle country house of the New England coast, and taught his generation how to use local materials without apology, but rather with pride in their rough and homespun character. He was keenly alive to the picturesque in nature and in art, and sketched unceasingly in the most charming way, often with strange tools and methods of his own devising. To his friends and pupils he was a source of inspiration, a unique personality, not shaped in the schools, a lover of artistic freedom. Though of late years Mr. Emerson has seldom been present at meetings of this Society, he has not been absent from the memories of those who knew him in the earlier days of his activity. Only they can justly estimate the great value of his influence in liberating architectural design from artificiality and in making simple and natural means artistically effective.—*Resolution of the Boston Society of Architects.*

Annual Meeting of the Ohio State Association

The annual meeting of the above association was held at Columbus, Ohio, on February 14 and 15, at which there took place a series of discussions of the architect's duties in relation to communal service, of the greatest

interest to those present. Officers for the coming year were elected as follows: President, Harry I. Schenck, Toledo; Vice-President, Charles W. Hopkinson, Cleveland; Secretary and Treasurer, St. John Chubb, Columbus.

Structural Service Department

D. KNICKERBACKER BOYD, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE		CONTRACTS AND SPECIFICATIONS		FIRE-PREVENTION	
WILLIAM B. ITTNER, <i>Chairman</i>	St. Louis	FRANK MILES DAY, <i>Chairman</i>	Philadelphia	ROBERT D. KOHN, <i>Chairman</i>	New York
W. W. TYRRE	Minneapolis	M. B. MEDARY, JR., <i>Vice-Chairman</i> , Philadelphia	Philadelphia	W. L. PLACK	Philadelphia
G. F. A. BRUEGGEMAN	St. Louis	ALLEN B. POND	Chicago	G. C. NIMMONS	Chicago
OWEN BRAINARD	New York	SULLIVAN W. JONES	New York	JOHN R. ROCKART	New York
ROBERT STEAD	Washington	FREDERICK W. PERKINS	Chicago	CHARLES H. BEBB	Seattle
E. D. LITCHFIELD	New York	JOS. EVANS SPERRY	Baltimore	LYMAN A. FORD	New York
MATERIALS AND METHODS		GOLDWIN GOLDSMITH		QUANTITY SYSTEM	
*THOMAS NOLAN, <i>Chairman</i>	Univ. of Pa.	JULIUS FRANKE		SULLIVAN W. JONES, <i>Chairman</i> ,	
		New York		Washington, D. C.	

*(Each Chapter has a corresponding member who is chairman of the Chapter Subcommittee.)

NOTE

In the interest of completeness, and for purpose to record, any new developments, or any newly discovered important references in connection with fields previously treated, will be mentioned at the end of each Serial Number under "Addenda" and will be the Designation of former issues to which they would be applicable. Consequently, for any additions, in this or subsequent issues, to material appearing in earlier numbers, look always at

the end of the department. For reference purposes remember that the main Serial Number corresponds to the number of the month in the year, the next following letter indicates the order of the subject in that issue, and the next number denotes the sequence of the reference under that heading. Unless the year 1917 is stated after any reference given, the reference applies to Serial Numbers in the current year.

CONTENTS

CEMENT AND CONCRETE, LIME AND HYDRATED LIME, SAND AND GRAVEL, BROKEN STONE AND MASONRY

SERIAL NO. 2, FEBRUARY, 1918

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Structural Materials in General, Resources and Utilization. 2A

"The profession of the architect requires special knowledge in so many diverse branches that it is not surprising that heretofore comparatively few have had the time or the inclination to inquire into the source and nature of the raw materials that enter into construction work. That there is an increasing interest in these subjects is, however, evident through the correspondence being received by the federal Geological Survey, especially from teachers of architecture and from architects who are seeking materials suitable for special purposes, for certain localities and climates, or in order to carry out definite color-schemes."

This quotation is from the article, "Contributions of the United States Geological Survey to Architects" written last year for the Journal by Ernest F. Burchard, Geologist in Charge, Section of Non-metallic Resources, who, since then, has been placed in charge of the Section of Iron and Steel Metals, G. F. Laughlin succeeding him.

Until 1910 the work of investigating and reporting upon the Structural materials of the country was in charge of the Structural Materials Laboratories of the U. S. Geological Survey, located in St. Louis and Pittsburgh, reference to which activities was made in the Journal for February, 1917, and appears in the Structural Service Book, Vol. I, under 1E and 1E4. This work was, by Act of Congress, trans-

ferred in 1910, to the then created Bureau of Standards, and other important duties were assigned to the Bureau of Mines, created by the same act. (See the description, in this issue, of the Bureau of Mines.)

Quoting again from Mr. Burchard's article, which practically comprises the description which follows of the U. S. Geological Survey:

"A broad, comprehensive study of the non-metallic structural materials resources of the United States is being made by the U. S. Geological Survey in cooperation with the Bureau of Standards and Bureau of Mines. The Survey studies in the field and office, the occurrence, character, and distribution of the materials, classifies them according to their source, petrographic character, geologic origin and age, commercial uses and suitability for special purposes, and summarizes annually the commercial output and value of all these materials."

The Geological Survey also cooperates with the Bureau of Standards in the petrographic study of test samples with a view of correlating physical and chemical properties of stone with their mineral composition and texture.

"The Bureau of Standards tests in the laboratory the physical properties of the materials and makes comparative studies of their durability through observations of materials in use under various conditions. The

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Bureau of Mines studies in the field the technology of production and preparation for the market of the various materials, paying particular attention to the principles of safety, efficiency, and prevention of waste. Both the Bureau of Mines and the Survey collect materials for test by the Bureau of Standards, taking care not to duplicate work."

For descriptions of the Bureau of Standards, see preceding Serial Number under 1A3_g and 1A5, the work of that Bureau, concerning structural materials investigations, being described in the report of the Director for 1917, just received:

The Treasury, War and Navy Departments, certain Bureaus of the Department of Agriculture, the Reclamation Service of the Department of the Interior, and other branches of the U. S. Government are concerned with the use of materials described in this issue, as under 2B5.

United States Geological Survey, Department of the Interior. 2A1

Created by act of Congress, March 3, 1879; organized July 1, 1879.

Director: George Otis Smith, New York Avenue, 18th to 19th Streets, Washington, D. C.

Publications:

(a) Annual Report of the Director. "Mineral Resources of the U. S." in two parts. (b) Part 1, "Metals." (c) Part 2, "Non-Metals." (d) Chapters of same, as pamphlets for earlier distribution. (e) Monographs. (f) Professional papers. (g) Bulletins. (h) Water-supply papers. (j) Topographic Atlas of the U. S., folios and separate sheets. (k) Geologic Atlas of the U. S., folios. (l) Chapters of certain of classes *f* and *g* separately issued for early distribution.

(m) Those lettered *e*, *j*, and *k*, are sold at cost; the others (unless prices are affixed in the lists given) are distributed free. It is impossible to comply with general demands for the free publications such as to have all of any series sent, but requests for a certain paper are granted whenever practicable. No person can obtain more than one copy of any publication. Many are out of print, but these can usually be obtained by purchasing from the Superintendent of Documents, Government Printing Office, Washington, D. C., or can be consulted at public libraries or elsewhere.

For publications to which prices are affixed, in the lists given under the various industries, prepayment is required, and should be made in cash (exact amount) or by postal or express money order (not postage stamps) payable to the Director, or to the Superintendent of Documents if the Survey's stock is exhausted.

Descriptive circulars and indexes in regard to topographic atlas sheets and monthly notices announcing the issue of new publications will be sent to those who request them.

Complete catalogue of all publications is obtainable without charge upon application to the Director.

Purposes:

(n) To quote further from Mr. Burchard's description before referred to:

"The forerunner of the coöperative work between the Bureau of Mines, the Bureau of Standards, and the Geological Survey was a general field and laboratory investigation carried on by the Survey for several years prior to July, 1910, primarily for the information of the Supervising Architect with regard to structural materials available for the construction of projected federal buildings throughout the United States, but also designed to add to the Survey records data concerning materials of promise in any region under survey. The reports to the Supervising Architect were brief, were sent directly from the field without awaiting publication by the Survey, and were prepared mostly according to the following outline, which indicates the range of non-metallic materials studied by the Survey then, as well as now:"

Structural Materials Investigated for Use in Federal Buildings:

I. Stone: *A.* Dimension stone for exterior: Foundations, Walls, Sills and trim. *B.* Ornamental stone for interior (marble, serpentine, onyx, etc.). *C.* Slate for roofing, sanitary fixtures, etc.

II. Material for concrete: *A.* Sand. *B.* Gravel. *C.* Crushed stone, slag, cinders, shells, etc. *D.* Cement (Portland, natural, hydraulic, etc.).

III. Clay Products: *A.* Brick: Common, Front (pressed, rough, fire-faced, etc.). *B.* Tile: Roofing, Hollow Building-tile or Block, Ornamental.

IV. Materials for mortars and plasters: *A.* Lime: Quick, Hydrated. *B.* Gypsum Wall-plasters. *C.* Sand.

Necessarily the work was done very rapidly, and the reports were written, not for the use of geologists, but rather for that of persons who may not have had training in geology, care being taken that only data of practical character should be given. The points of special interest to the geologist, however, were borne in mind throughout the series of reports.

In these field studies the endeavor was to relieve the laboratory of all the work possible and to give the Supervising Architect a definite opinion as to the value and availability of a material, backed up by a detailed description of it and the results of a simple field-test. In addition, use was made of any authentic test data in possession of the producer or contained in state or federal geological survey reports.

The direct advantages of these reports to the Supervising Architect or to federal construction work in general may be summarized as follows:

1. Attention was called to materials of merit which, owing to their proximity to the building-site, should be obtainable at lower prices than similar materials from long distances.

2. Attention was called to little-developed and hitherto comparatively unknown materials that may possess special merit for certain kinds of work.

3. Warning was issued against the use of materials that are not suitable yet that are commonly used in certain localities.

4. Warning issued against the acceptance of materials from deposits which may be of good quality but of insufficient quantity.

5. Warning was issued against the acceptance of materials from deposits which may afford excellent material in small samples, but whose quality in adequate quantities is irregular and inferior.

6. Data regarding local costs and freight rates were given on small and large lots of all materials shipped into the locality, such as cement, stone, sand, wall-plasters, etc.

7. Some attention was paid to the proposed federal building-sites, with reference to character and condition of the ground on which foundations would rest and with reference to smoke conditions.

In addition to the results of this work as related to the Government, its relation to the country at large may be mentioned. When little-known but meritorious materials were thus brought to the attention of the Supervising Architect, and incidentally to that of the public by use in federal buildings and by published reports, the efficient use of important natural resources was encouraged. In many instances materials that would probably otherwise have been passed unnoticed were brought to the attention of the Supervising Architect. (Some of these may be found mentioned in the Structural Service Book, Vol. I, under 2A1. Present coöperative activities of the Survey in connection particularly with stone investigational work will be referred to in Serial No. 3, when stone is taken up.)

Papers published by the Geological Survey on structural materials available in different parts of the country, on the fire-resistive properties of various building materials, and on the effects of the San Francisco earthquake and fire on structures and structural materials, are examples of the results of the type of studies outlined above (and will be referred to appropriately throughout the Structural Service Department.)

The annual volume entitled "Mineral Resources of the United States" furnishes architects and others with reliable information concerning many of the various materials which enter into construction. Each year statistics are compiled concerning over sixty subjects, giving the production, exports, imports, and value—information of vital interest to all who are dealing with both metallic and non-metallic mineral products. This information for each year is given as soon after the close of the year as possible, but of late years a provisional estimate has been made and published by the first of the year following the year for which the statistics are given and still more lately statistics on many of the important resources have been published semi-annually (as described under Cement and Concrete). To the inquiries which are constantly increasing, the Survey is endeavoring to respond to the best of its ability and to place at the disposal of architects and builders the results of its experience and its knowledge of the structural materials resources of the United States, not only in the non-metallic materials, but in the metals, such as iron and steel, manganese, copper, lead, and zinc. The further use of the resources and services of the Survey is cordially invited and suggestions as to how this service and coöperation may be improved and extended will be welcomed.

State Geologists.

2A2

(a) Bulletins, reports and circulars are issued on behalf of many of the states, forty-seven of which recognize geologic work as a necessary and proper governmental function. These publications are generally furnished upon request to the respective state, the name and address of the official in which may be obtained from the Journal.

(b) The coöperation existing between state and federal geological surveys is both intimate and extensive in the conduct of topographic surveys, stream-gaging, and geologic investigations, as well as in the collection of mineral statistics.

In part the federal survey acts as the disburser of state funds in this technical work, in part the state official acts as the representative of the larger organization in local work, and again the national survey investigates some large interstate problem in behalf of adjoining states. Each of these coöperative methods is effective and prevents duplication of effort, accomplishes standardization of results, and promotes the co-ordination that secures the general results for the national bureau and the more local benefits for the state organization.

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Bureau of Mines, Department of the Interior.

2A3

Created by act of Congress, May 16, 1910; organized July 1, 1910.
Director: Van. H. Manning, New York Avenue, 18th to 19th Streets, Washington, D. C.

Publications:

(a) Annual Report of the Director. (b) Bulletins. (c) Technical papers. (d) Miners' circulars.

A limited number of those current, one only to each person, is free upon application to the Director, from whom also a complete list of publications may be obtained. Upon request names will be placed on the mailing-list to receive notices of new publications, as issued.

Purposes:

The great importance of the mine-safety and fuel investigations undertaken by the Geological Survey, and the widespread demand for a separate bureau to pursue these and other mining inquiries, resulted in Congress passing an act, effective July 1, 1910, which established the Bureau of Mines at the same time that the Structural Materials Laboratories of the Geological Survey, the Engineer in charge of which was Richard L. Humphrey, were transferred to the Bureau of Standards.

While the Bureau's activities are confined to questions of safety and efficiency in the mining and utilization of the great variety of mineral products, there are necessarily places here and there where its work bears more or less directly upon subjects of architectural interest. This is especially so in the case of the publications of the Bureau relating to the economical use of fuels in the heating of houses and larger buildings, and those describing and illustrating houses for employees at mining towns, the water-supply, sanitation, and other features of which will be referred to in connection with the respective topics as treated in this Department during the year. Those described during 1917 may be found through the General Index to the Structural Service Book, Vol. I.

Cement and Concrete, and Treatment of Concrete Surfaces.

2B

Statistical Data.

2B1

(a) The manufacture of American Portland cement first secured recognition at the Centennial Exposition in Philadelphia, in 1876, when David S. Saylor exhibited Portland cement made at Coplay, Pa. The first recorded statistics of this industry were those issued by the U. S. Geological Survey for 1880, during which year the production reached 42,000 barrels. The earliest statistics of the Survey show an importation of 92,000 barrels in 1878, which steadily increased, reaching a maximum of about 3,000,000 barrels in 1895, since which time it has decreased to 1,836 barrels in 1916. This has resulted from the improvement in the process of manufacture in this country, which has decreased the cost and increased the quality until today American Portland cement is unexcelled. There was exported in 1916 over 2,500,000 barrels.

(b) Quoting from "Cement in 1916," U. S. Geological Survey, Jan. 28, 1918:

"The year 1916 proved a busy period for the cement industry in most parts of the United States. Prices of Portland cement, which averaged only 86 cents a barrel for the entire year 1915, began to rise toward the end of that year and continued to do so until well toward the close of 1916, so that the average price per barrel in bulk at the mills for the year was \$1.103, an increase of 24.3 cents, or 28.3 per cent. The increased prices, of course, did not mean an equivalent net increase in returns to the manufacturers, because the cost of fuel, explosives, machinery parts, bags, labor, and, in fact, the cost of all the items that enter into the manufactured product rose considerably during the year. The comparatively high prices did not, however, check the demand for cement.

"The total quantity of Portland, natural, and puzzolan cements marketed or shipped from the mills in the United States in 1916 was 95,394,433 barrels, valued at \$104,689,090."

(c) In its Special Report of January, 1918, the U. S. Geological Survey states:

"The year 1917 holds the record for production of Portland cement, a total of approximately 93,554,000 barrels having been manufactured, an excess over the former high production of 1913 of nearly 1,500,000 barrels, and over the production of 1916 of more than 2,000,000 barrels."

In "Cement in 1916" it is stated:

(d) "The highest per capita consumption in 1916 was that of Iowa (1.77); Michigan (1.58) and California (1.51) followed.

(e) "A barrel of Portland cement is supposed to weigh 376 pounds net, but the barrels of cement of the other two classes are not uniform. It would insure uniformity if all cements could be sold by the hundred-weight."

(f) The Map showing the distribution of cement plants in the United States, which has appeared from time to time in "Mineral Resources of the U. S.," has been revised and is issued again in the present chapter ("Cement in 1916"). A bibliography of federal and state Geological Survey publications on cement and concrete is also given therein.

In addition to the governmental departments described in this and the preceding Serial Number, the following societies and organizations are among those which have, with some of those also mentioned in Serial No. 1, taken important parts in developing specifications and tests for the manufacture and use of cement and concrete, and in bringing about improvement in these products and a better understanding of their varied application:

American Concrete Institute.

2B2

Secretary: Henry B. Alvord, 27 School Street, Boston, Mass.

Publications:

(a) Proceedings of annual conventions, including papers, illustrations, reports of committees, and:
1. Proposed Standard Specifications.
2. Recommended Practice.

3. Standard Specifications Adopted.

(b) Standard Specifications are also issued separately as authorized reprints from the copyrighted *Journal*, but copies are not now available.

(c) Booklet containing list of members, committees, and list of Standards.

Members receive (a) which may be purchased by others, cloth bound, for \$10.50; paper, \$10.

Founded in 1905 and incorporated in 1906 as National Association of Cement Users. Charter amended on July 2, 1913, and name changed to American Concrete Institute.

Purposes and Standards:

To increase and disseminate knowledge in regard to the use of cement, concrete, and allied products; to conduct research into their properties and uses; and to formulate recommended practice and standard specifications. Its object is purely educational.

Any person engaged in the construction or maintenance of work in which cement is used, or qualified by business relations or practical experience to cooperate in the purposes of the Institute, or engaged in the manufacture or sale of machinery or supplies for cement-users, or a man who has attained eminence in the field of engineering, architecture, or applied science, is eligible for membership.

Committees are actively engaged in investigational work and in preparing recommendations embodied in reports. For activities of two of these Committees, see 2B6d and 2B11d.

Proposed Recommended Practice and Specifications are mailed to the members at least thirty days prior to annual convention, and, as there amended and approved, passed to letter ballot within sixty days. Such Recommended Practice and Specifications shall be considered adopted unless at least 10 per cent of the total membership shall vote in the negative.

Portland Cement Association.

2B3

General Manager: H. E. Hilts, 111 W. Washington Street, Chicago.

Publications:

In connection with its work of investigation and promotion to increase the effective uses and output of cement, the Association issues (a) books, (b) bulletins and (c) circulars looking toward standardized processes. These are distributed without charge, unless otherwise noted.

Purposes:

Organized as Association of Portland Cement Manufacturers in 1902. Name changed in 1904 to Association of American Portland Cement Manufacturers, and in 1916, to Portland Cement Association. Headquarters moved from Philadelphia to Chicago in December, 1915.

Membership is voluntary and comprises about 93 per cent of the Portland cement-producing capacity of the United States.

The Association employs a large number of engineers, architects, and other specialists for the purpose of exploiting old and developing new uses for Portland cement. Considerable effort is expended in an endeavor to improve the quality of concrete work, both through advice as to proper specifications and actual supervision of work. In this connection it maintains a Structural Bureau.

Employees of the Association and of member companies actively participate in the work of a large number of committees of engineering and other societies whose work directly or indirectly involves the testing and use of cement and concrete.

The Association, on September 1, 1916, entered into an agreement with Lewis Institute of Chicago for the operation of the Structural Materials Research Laboratory. This is an endowed institution with an attendance of 3,500 students, and the purpose of this Laboratory is twofold: To carry out research work in the properties of concrete and concrete materials for the information of all users; and to give instruction to the students of this institution on the properties and uses of concrete.

STRUCTURAL SERVICE DEPARTMENT

Information Obtainable, Practice Recommended, and General Activities. 2B4

Governmental Departments. 2B5

During the Louisiana Purchase Exposition, at St. Louis, in 1904, an investigation of the constituent materials of Portland cement mortars and concretes was inaugurated. This was continued on a more extensive scale in the Structural Materials Testing Laboratories of the U. S. Geological Survey at St. Louis and Pittsburgh, and the results of 25,000 of these tests were published in Bulletin No. 331 of the Survey (2B544). The Survey extended the work, and, in cooperation with the state geologists and others, continued the investigation, collecting, for test, samples of mine tailings, sands, gravels, crushed slag, and stone to determine their value as aggregate for concrete.

The Bureau of Standards, with the transfer of this work in 1910, joined in this cooperation, and the results of the investigations, some of which are published in state reports, will be published by the Bureau as they accumulate. The completed study of 20,000 tests of Portland cement mortars and concretes from the many investigations made appear in Technologic Paper No. 58 of the Bureau (2B5b10).

The relative value of various aggregates is shown, such as gravels, limestones, granites, trap rocks, cinders, sands, and stone screenings, also the relative value of round- and sharp-grained sands. Proper methods for testing and selecting aggregates are also suggested. (See 2B5b17.)

(a) Of the *United States Geological Survey* publications, the following are selected from about sixty as giving the most comprehensive development of the industry in general, the remainder referring chiefly to special districts. To obtain, see 2A1m.

1. "The Materials and Manufacture of Portland Cement," E. C. Eckel. 1903.
2. "Cement Materials and Cement Industries of the U. S.," E. C. Eckel. 1905. Bulletin No. 243. 395 pp. 65 cents.
3. "The American Cement Industry," E. C. Eckel. 1905. Bulletin No. 260. Ex.
4. "Portland Cement Mortars and Their Constituent Materials; Results of Tests 1905 to 1907," Richard L. Humphrey Bulletin No. 331. 130 pp. 25 cents.
5. Bulletin No. 324, 1907, 50 cents, contains:
 - (a) "The Effects of the San Francisco Earthquake and Fire on Various Structures and Structural Materials," Richard L. Humphrey, pp. 14-61.
 - (b) "The Effect of the San Francisco Earthquake on Buildings, Engineering Structures, and Structural Materials," J. S. Sewell, pp. 62-130.
6. "The Strength of Concrete Beams, Results of Tests Made at the Structural Materials Testing Laboratory," Richard L. Humphrey. 1908. Bulletin No. 344. 59 pp. 10 cents.
7. "Mineral Resources of the United States" (Part 2) for 1909 and for each subsequent year. Chapters on cement. 75 cts. each bound volume.
8. "Portland Cement Materials of the United States," with contributions by E. F. Burchard and others. 1913. Bulletin No. 522. 401 pp.
9. The Survey is issuing a Bulletin entitled "Our Mineral Supplies," which deals mainly with the relation of these supplies to war demands. The Chapter on Portland cement was issued in separate form as Bulletin No. 666-S, in July, 1917.
10. Quoting from "Cement in 1916" it is stated:

"One suggestion with regard to the usefulness of concrete that was not mentioned in Bulletin No. 666-S is that, because under war conditions structural steel is expensive, difficult to obtain, and greatly needed in construction of ships and for many military purposes, every effort should be made to substitute reinforced concrete for structural steel where possible. That this is possible has already been pointed out by prominent architects, and the Portland Cement Association contends that many buildings could as well be erected with far less steel by the use of reinforced concrete. Inasmuch as the supply of raw material for the production of concrete is practically unlimited and is still relatively cheap, it would seem that an increased use of concrete for this purpose would not only release a large quantity of structural steel and in that way prove a war measure, but would also prove economical to the building industry."
- (b) The Bureau of Standards has issued, among others, Technologic Papers (1A5b3) as follows: (For paper No. 3 see 1S3b.)
 1. No. 2: "Strength of Reinforced Concrete Beams—Results of Tests of 333 Beams," Richard L. Humphrey and L. H. Losse. 1911. 200 pp.; illus. 50 cents.
 2. No. 5: "Effect of High-pressure Steam on Crushing Strength of Portland Cement Mortar and Concrete," R. J. Wig. 1911. 25 pp.; illus. 10 cents.
 3. No. 12: "Action of Salts in Alkali Water and Sea Water on Cements," P. H. Bates, A. J. Phillips, and R. J. Wig. 1912. 157 pp.; illus. 25 cents.
 4. No. 18: "Electrolysis in Concrete," E. B. Rosa, Burton McCollum, and O. S. Peters. 1913. 137 pp.; illus. 35 cents.

5. No. 29: "Variations in Results of Sieving with Standard Cement Sieves," R. J. Wig and J. C. Pearson. 1913. 16 pp.; illus. 5 cents.
6. No. 42: "Standardization of No. 200 Cement Sieves," R. J. Wig and J. C. Pearson. 1914. 51 pp.; illus. 10 cents.
7. No. 43: "Hydration of Portland Cement," A. A. Klein and A. J. Phillips. 1914. 71 pp.; illus. 20 cents.
8. No. 47: "Value of High-pressure Steam Test of Portland Cements," R. J. Wig and H. A. Davis. 1915. 34 pp.; illus. 15 cents.
9. No. 48: "Air Analyzer for Determining Fineness of Cement," J. C. Pearson and W. H. Sligh. 1915. 74 pp.; illus. 20 cents.
10. No. 58: "Strength and Other Properties of Concretes as Affected by Materials and Methods of Preparation," R. J. Wig, G. M. Williams, and E. R. Gates. 1916. 172 pp.; illus. 35 cents.
11. No. 95: "Durability of Cement Drain-Tile and Concrete in Alkali Soils." (Supersedes Technologic Paper No. 44.)
12. The Bureau also issues Circular No. 45 "The Testing of Materials" (1A3a).
13. For Circular issued by the Bureau on the U. S. Government Specifications for Cement, see *Standards Adopted*, 2B10c.
14. At the request of the *United States Engineer's Office* at Memphis, Tenn., an investigation was made to develop a method of producing a concrete which would have considerable strength in a comparatively short time. The results of tests indicate that the addition of a small amount of calcium chloride with some cement in 1:2:4 concrete resulted in a strength increase of about 100 per cent in twenty-four and forty-eight hours. The results obtained to date indicate that concrete gaged with a 6 per cent solution of calcium chloride increases in strength from 60 to 110 per cent in two and three days. The results of tests up to six months do not show any detrimental effect from the addition of the calcium chloride.
15. The investigation of the effect of sea water on concrete, mentioned in preceding Serial Number under 1F5, has been continued, and practically all concrete structures on the coasts of North America, Panama, and Cuba have been examined, and reports have been issued to the Navy Department on several of the yards. Data are being collated on the condition of concrete and methods employed in construction of concrete structures in various harbors of the world. These data are being obtained through the various consular agents, and reports have been received on a large number of structures.
16. The investigation of the durability of concrete in alkali waters was started in 1913, and was instituted because of its importance to various branches of the Government using concrete in irrigated districts, where the alkali occasionally becomes concentrated in the soil, and as a result of the many requests received for information on the subject. The investigation is being conducted in cooperation with the *Reclamation Service*, the drainage division of the *Department of Agriculture*, and the *Portland Cement Association*.

The results of the first year's tests were published in Technologic Paper No. 44, and a second progress report, which supersedes it, has been published as Technologic Paper No. 95 (2B5b11).
17. In cooperation with state geologists and others, representative samples of mine tailings, crushed slag, sands, gravels, and stones are being obtained for test by the Bureau to determine their suitability as aggregates for concrete mixtures. A large number of tests have been made on fine and coarse aggregates from various sections of the United States. The results will be published on completion.
 - (c) The *War Department* and the *Treasury Department* (Supervising Architect's Office) issue specifications, portions of which, with respect to cement and concrete and other subjects under consideration in this Serial Number, are not issued separately, as in certain other branches of work, nor are they available for general distribution to others than those interested in aspects of the work for which prepared.

Attention has been directed, however, by Brigadier General W. M. Black, *Chief of Engineers*, War Department, to the specifications prepared in the Engineer's Office for the District of New York, covering the construction of storehouses on Mill Rock, East River, N. Y., which illustrate, it is believed, desirable practice in the construction of reinforced concrete columns.
 - (d) The *Navy Department* issues specifications under various classifications, which cover conclusions drawn from investigations, researches, and practice evolved by all the technical bureaus of the Navy, either individually or in cooperation, as mentioned under 3A1 in the Structural Service Book, Vol. 1.

Those relating to cement and concrete are listed under 2B10g.
 - (e) The *Department of Agriculture* has issued Farmers' Bulletins as follows: (For others see 1E2b, 1S3c.)
 1. No. 461: *The Use of Concrete on the Farm*. 1911.
 2. No. 481: *Concrete Construction on the Live-Stock Farm*. 1912.
 - No. 403: *The Construction of Concrete Fence-Posts*. 1915.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Societies and Organized Bodies.

2B6

- (a) 1. The "Proceedings" of the *American Society of Civil Engineers* (1A2a1) contain numerous papers and discussions, many of which are applicable to the subjects here treated. Each issue of the "Proceedings" also contains a "List of Recent Engineering Articles of Interest," among which occur many pertaining to cement and concrete. See, also, Report of Committee on Reinforced Concrete in December, 1916, issue of "Proceedings."
2. See "Review of Current Technical Literature" and also "Journal" of the *American Society of Mechanical Engineers*; also reports of committees and Standards recommended in reports of committees received by the Council of the A.S.M.E.
- b) See the "Proceedings" of the *American Society for Testing Materials* (1A5c1), Part II, 1917, for the following papers among those of general interest (others with discussions which followed will also be found in this and former issues):
1. Properties of Cement-Lime-Sand Mortars, Warren E. Emley.
 2. Economical Proportions for Portland-Cement Mortars and Concretes, J. A. Kitts.
 3. Effects of Grading of Sands and Consistency of Mix upon the strength of Plain and Reinforced Concrete, L. N. Edwards.
 4. Tests of Concrete Slabs to Determine the Effect of Removing Excess Water Used in Mixing, A. N. Johnson.
 5. Comparison of Heat-Insulating Properties of Materials Used in Fire-resistive Construction, W. A. Hull.
- See "Proceedings" of the *A.S.T.M.*, 1917, Part I (1A5c1) for:
6. Tentative Specifications and Tests for Compressive Strength of Portland-Cement Mortars (Serial Designation C9-16T.).
 7. Tentative Form of Specification for Certain Commercial Grades of Broken Stone (Serial Designation D35-16T.).
 8. Report of Committee C-1 on Cement, with discussion.
 9. Report of Committee C-2 on Reinforced Concrete (including Final Report of the Joint Committee on Concrete and Reinforced Concrete, with discussion, which Report is more fully described under 2B6d).
 10. Report of Committee C-9 on Concrete and Concrete Aggregates, with Appendix.
- (c) The *American Concrete Institute "Proceedings"* (2B2a), Vol. XIII, 1917, contain, among others, the following papers and reports of general interest. (See, also, "Proceedings" published prior to this volume.)
1. Slag as a Concrete Aggregate, Sanford E. Thompson.
 2. Recent Tendencies in Industrial Building Construction, W. P. Anderson.
 3. Unit Construction in Concrete, J. E. Conzelman.
 4. History and Present Status of the Concrete Pile Industry, Chas. R. Gow.
 5. Report of Committee on Fireproofing.
 6. Report of Committee on Concrete Aggregates.
 7. Report of Committee on Reinforced Concrete Chimneys.
 8. Report of Committee on Nomenclature.
 9. Report of Committee on Reinforced Concrete and Building Laws.
 10. "Proposed Standard Building Regulations for the Use of Reinforced Concrete."
- (d) *Joint Committee Report, Concrete and Reinforced Concrete.*
- The work of this Joint Committee, consisting of special committees representing the American Society of Civil Engineers, American Society for Testing Materials, American Railway Engineering Association, Portland Cement Association, and the American Concrete Institute, was briefly described in Serial No. 1, 1917, by Richard L. Humphrey, Secretary of the Joint Committee.
1. The Final Report, as published in the 1917 "Transactions" of the A.S.C.E., the 1917 "Proceedings" of the A.R.E.A., the 1917 "Proceedings" of the A.C.I., the 1917 "Proceedings" of the A.S.T.M., and separately for free distribution by the P.C.A., marks the completion of a highly important step toward standardization of practice in the use of this material of construction.
- The Joint Committee in this report laid down the principles of reinforced concrete design but did not attempt to formulate a specification. Its function was to express the state of the art and to furnish rules which will lead to safe results sufficiently close for ordinary practice, leaving the matter of framing specifications to one of its member committees, namely, the Committee on Reinforced Concrete of the American Society for Testing Materials. This Committee is now considering the matter, and it is expected that it will, at an early date, report specifications for concrete and reinforced concrete for action by the Society.
2. As to Aggregates for use in Concrete, the Report just referred to states: "The Committee does not feel warranted in recommending the use of blast furnace slag as an aggregate, in the absence of adequate data as to its value, especially in reinforced concrete construction. No satisfactory specifications or methods of inspection have been developed that will control its uniformity and insure the durability of concrete in which it is used."
 3. In this Report is also a section on "Waterproofing," the gist of which is "that when mortar or concrete is proportioned to obtain the greatest practicable density and is mixed to the proper consistency, the resulting mortar or concrete is impervious under moderate pressure. Asphaltic or coal-tar preparations applied either as a mastic, or as a coating on felt or cloth fabric, are used for waterproofing, and should be proof against injury by liquids or gases."
 4. Section in this Report on "Destructive Agencies," contains a subdivision called "Sea Water," and a section on "Placing Concrete," which contains a subdivision entitled "Under Water," with notes and recommendations in each case.
 5. Editor's Note.—The inconsistencies in the requirements of varying building codes and ordinances in cities throughout the United States has frequently been pointed out by architects and engineers, and will be referred to later in the hope that the Structural Service Department may be of assistance in effecting, through the cooperation of the municipalities and states, uniform standards of practice in the use of concrete.
- The Structural Bureau of the Portland Cement Association has been devoting a very considerable amount of time to rendering assistance to various building code committees, and through this work has been able to bring about certain standardizations for the use of concrete and reinforced concrete.
- (e) See "Manual" of the *American Railway Engineering Association* (1A2c3); section on "Masonry" contains "Methods of Depositing Concrete Under Water."
- (f) Through the instrumentality of the Master Builders' Association of Boston, a Joint Committee of the Boston Society of Architects, the Boston Society of Civil Engineers, and this Association has been created to take up a modification in the Building Law for the city of Boston, so far as it relates to concrete construction, particularly reinforced concrete work. This Joint Committee has had several meetings, and it is quite likely that the modifications sought will be unanimously agreed upon and the Legislature appealed to, to secure the desired changes.
- (g) For references to the use of Cement, Concrete, and Reinforced Concrete in building construction see, "Index" to publications of the *National Fire Protection Association*, which contains list of papers, addresses, discussions, reports of committees at conventions, and all articles published in *The Quarterly* by the N.F.P.A., particularly:
1. "Specifications for Construction of a Standard Building," and other reports of the Committee on Fire-resistive Construction.
- (h) The *National Board of Fire Underwriters* offers important suggestions in connection with the use of concrete in construction in:
1. "Building Code Recommended by The National Board of Fire Underwriters," 1915, and
 2. "Dwelling Houses—A Code of Suggestions for Construction and Fire-Protection Recommended by the National Board of Fire Underwriters," 1916,
 3. As well as in Suggested Ordinances and other publications which may be found through the General Index to the Structural Service Book, and again in later Serial Numbers.
- (j) See "Journal" of *Society of Constructors of Federal Buildings* (1A2d1) for:
1. "Centering for Reinforced Concrete," Wm. S. Van Loan, September, 1915.
 2. "Rigid Forms for Reinforced Concrete to Obtain Better Results in Plastering," Ernest G. Schurig, November, 1915.
 3. "Keene's Cement," Joseph C. Best, March, 1915.
- (k) The *Portland Cement Association* (2B3) issues publications which are practical recommendations, many of them with diagrams, for the use of cement and concrete. Those available on December 5, 1917, pertaining to "Damp-proofing, Waterproofing, and Under-Water Construction," were listed in Serial No. 1 under 1F3p; others are listed below, and still others will be appropriately listed in later Serial Numbers. These may be had without charge, except where prices are stated.
32. Concrete Houses and Why to Build Them.
 33. Fundamentals of Reinforced Concrete Design.
 38. Recommended Specifications for Reinforced Concrete Design.
 41. Why Build Fireproof.
 45. Protecting Concrete in Warm Weather.
 46. Concrete Grain-Bins and Elevators.
 47. Bulk Cement.
 50. Solving Industrial Housing Problems with concrete.
 105. Factories and Warehouses of Concrete.
 106. The Concrete House and Its Construction (price \$1, postpaid).
 110. Manual Training Course in Concrete (price 25 cents, postpaid).
 115. Concrete in Cold Weather.
 118. Concrete Schoolhouses.
 135. Small Concrete Garages.
 140. Proportioning Concrete Mixtures and Mixing and Placing Concrete.
- (l) The *University of Illinois Engineering Experiment Station* issues, among others, a number of Bulletins relative to tests of concrete aggregates, beams, columns, etc. These may be obtained in the manner described in the Structural Service Book, Vol. 1, 1917, under 3C2a, and later referred to herein.

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- (m) *The University of California* (1A1a5) has issued:
1. "The Compressive Strength of Portland Cement Mortars of Various Proportions," A. C. Alvarez. Vol. I, No. 4, March 4, 1915. 4 pp.
 2. "Some Physical Properties of Magnesian Cement Mortars and Concretes," A. C. Alvarez. Vol. I, No. 3, March 4, 1915. 43 pp.
- (n) *The Engineering Experiment Station, Kansas State Agricultural College*, issues "Tests of Kansas Sands for Use in Mortar and Concrete," R. A. Seaton and I. I. Taylor. Bulletin No. 3.
- (o) *The Highway Department of the State of Ohio* has issued "Load Distribution Tests of Reinforced Concrete Slab Floors under Concentrated Loads." Bulletin No. 28.
- (p) "Modern Methods in Concrete Construction," Bulletin A-5 of the *Hydrated Lime Bureau of the National Lime Manufacturers' Association* (2C3). 1917. 12 pp.; illus.

General Literature, Cement and Concrete. 2B7

- (a) "Notes on the Compressive Resistance of Firestone, Brick Piers, Hydraulic Cements, Mortars, and Concretes," Gen. Q. O. Gilmore.
- (b) For data on all forms of concrete construction, see "Concrete," Trautwine, 1916, separate bound volume reprinted from Trautwine's "Civil Engineer's Pocket-Book."
- (c) "Concrete, Plain and Reinforced," Taylor and Thompson.
- (d) "Popular Handbook for Cement and Concrete Users," Myron H. Lewis and Albert H. Chandler.
- (e) "Principles of Reinforced Concrete Construction," Turneaure and Maurer.
- (f) "Reinforced Concrete Construction," Geo. A. Hool. Two Vols.
- (g) "Engineers' Pocket-Book of Reinforced Concrete," E. Lee Heidenreich.
- (h) "Concrete Construction, Methods, and Costs," H. P. Gillette and Charles S. Hill.
- (j) "Inspection of Concrete Construction," Jerome Cochran.
- (k) "Design of Walls, Bins, and Grain Elevators," M. S. Ketchum.
- (l) "Fireproofing of Steel Buildings," J. K. Freitag. 1909.
- (m) "The Concrete Engineer's Handbook," by International Correspondence Schools.
- (n) The International Library of Technology includes two volumes on "Concrete Engineering."
- (o) See "Concrete Construction for Mill Buildings," illustrated paper read before The National Association of Cotton Manufacturers, April, 1915, by Leonard C. Wason.
- (p) "Derrick Wrecks Concrete Building with Heavy Ball," article in *Engineering News-Record*, Dec. 27, 1917.
- (q) "Economics of Concrete and Timber Factory Buildings," F. E. Davidson, Technical Letter No. 6 of the National Lumber Manufacturers Association, Sept. 2, 1916.
- (r) "Concrete Houses," Harvey Whipple and C. D. Gilbert, article in *Concrete*, January, 1918.
- (s) "The Best Way to Use Cement," Chas. E. White, Jr., *The House Beautiful*, October, 1913. Illus.
- (t) "Paints to Prevent Electrolysis in Concrete Structures," Henry A. Gardner, *Journal*, Franklin Institute, March, 1915. 24 pp.; illus.
- (u) It is impossible to list here the many periodicals and other publications devoted to the use of cement and concrete or the large amount of literature issued by manufacturers of cement and the fabricators of concrete.
- Information will, however, be found in the *Industrial Section*, as follows:

1. Concerning the use of **Cement**: In connection with **workmen's houses and war housing problems**, The Atlas Portland Cement Company, p. xxxviii. The same on **Metal Lath**, The North Western Expanded Metal Co., p. xx, The Associated Metal Lath Manufacturers, p. xxvi.
2. On **Engineering Services** in connection with **Reinforced Concrete** construction, design and practice, Corrugated Bar Company, p. xxv.
3. On the use of crushed **Pink Granite** as an **aggregate** in Stucco, Webb Pink Granite Company, p. v.
4. On the use of **cement** in connection with **colored aggregates** for stucco, with illustrations in colors, The Atlas Portland Cement Company, pp. xiii, xiv.
5. On the use of **Magnesite Stucco**, American Materials Company, Inc., p. xxxii.
6. On the **Crescoted Lath** for stucco, The Bishopric Manufacturing Co., p. iii.

Pocket-Books, Handbooks, and Other Publications. 2B8

In addition to the beforementioned publications devoted more specifically to the subject, many pocket-books, handbooks, and publications covering a wide range of subjects also contain chapters, sections, and informative data on cement and concrete, aggregates, mortars, and other materials and applications. Among these are:

(a) **Architects' and Builders' Pocket-Book**, F. E. Kidder. 1916.

- (b) **Handbook for Architects and Builders**, Illinois Society of Architects. Vol. XX. 1917.
- (c) **The Civil Engineer's Pocket-Book**, J. C. Trautwine. 1913.
- (d) **American Civil Engineers' Pocket-Book**, Mansfield Merriman. 1916.
- (e) **Mechanical Engineers' Pocket-Book**, William Kent. 1916.
- (f) **Mechanical Engineers' Handbook**, Lionel S. Marks. 1916.
- (g) **Crosby-Fiske Handbook of Fire-Protection**, E. U. Crosby and H. A. Fiske. 1914.
- (h) **Fire-Prevention and Fire-Protection**, J. K. Freitag. 1912.
- (j) **Building Construction and Superintendence**, Frank E. Kiddert Part 1, "Masons' Work." 1914.
- (k) **The Building Estimator's Reference Book**, Frank R. Walker. 1917.
- (l) **Handbook of Cost Data for Contractors and Engineers**, H. P. Gillette.
- (m) "The Building Foreman's Pocket-Book and Ready Reference," H. G. Richey. 1118 pp.; illus.
- (n) "A Handbook for Superintendents of Construction, Architects, Builders, and Building Inspectors," H. G. Richey.
- (o) **The Building Trades Handbook**, International Correspondence Schools. 1914.
- (p) **Standard Specifications**, J. C. Ostrup.
- (q) See Index to "Lefax Data Sheets," classifications (1) Civil, (2) Mechanical.
- (r) See **Carnegie Pocket Companion**, 1916, pp. 51-54, 118-129, 327-333, 365-370.
- (s) See **Jones and Laughlin Manual**, 1916, pp. 80, 81, 132, 285, 289, 292.

Other References. 2B9

- (a) The series of **Tests on Columns** being conducted in cooperation between the Bureau of Standards, the Underwriters' Laboratories, and the Associated Factory Mutuals Laboratories include many **concrete columns**, and the progress of these tests, which have already been referred to in Serial No. 1, under 1G7b, will, as there stated, be reported upon in a later serial number by the Institute's Committee relating to the work of the Underwriters' Laboratories.
- (b) See paper entitled: "Tests of Concrete Columns with Cast-Iron Core," L. J. Mensch, published in "Proceedings" of the American Concrete Institute, Vol. XIII, 1917, and referred to in Serial No. 1, under 1G6x.
- (c) See references under: "The Site: Excavation, Piling, Foundational Requirements" (1E).
See, also, "Damp-proofing, Waterproofing, and Under-Water Construction" (1F), particularly bibliography on "Waterproof Concrete" (1F3).
- (d) For the use of **Hydrated Lime with Cement**, see Section 2C, which follows.
- (e) The subject of **concrete and reinforced concrete** in building construction was treated last year in the March, 1917, issue, Serial No. 4, and will be found there and in the Structural Service Book, Vol. I, under "Reports on Buildings under Fire, and Reports on Fire Tests of Materials" (3E1, 3E2). The subject was also covered in the section on "Buildings and Structures in General" in Serial No. 4, and will this year be further discussed in later appropriate serial numbers.
- (f) For other references of interest in connection with **Stuccos** and the use of **cement in plastering**, see November, 1917, issue of the Journal, and "Plastic Materials and Products" in the Structural Service Book, Vol. I, which subjects will again be treated this year under their appropriate serial location.

Standards Adopted, Cement and Concrete. 2B10

Standard Specifications and Tests for Portland Cement, A.S.T.M., Serial Designation C 9-17.

(a) Last year in the January issue of the Structural Service Department, also appearing in the Structural Service Book under 1E7a, the writer gave a brief outline of the history of the development of the Standard Specifications and Tests for Portland Cement up to the final adoption of the present standards, which became effective on January 1, 1917.

It is of further interest to note that at the annual Convention in June, 1917, of the A.S.T.M., the Report of Committee C-1 on Cement stated: "It might have been expected, after the marked activity of all the members during the previous year, that there would be some abatement of the general interest and work during the present year. The reports of the various subcommittees show, however, that the active work in securing and compiling data is continuing very enthusiastically."

A request was made in the report of this same Committee for the continuance of the Tentative Specifications and Tests for Compressive Strength of Portland Cement Mortar (2B6b6) as a revision of the Standard Specifications and Tests for Portland Cement.

At the Convention, also, the Committee on Cement was instructed to actively consider a revision of the Specifications for Natural Cement (2B10c1). It is now engaged in a further consideration of this matter.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

The writer wishes to emphasize again what he recommended in his communication to the Structural Service Department a year ago—that there is now a **single American Specification and Method for Tests of Portland Cement**, with the attending advantages to the cement industry and to architects, engineers, and others. With this Standard now available, architects and all others interested should encourage its use in every possible way and refer to it on all occasions relating to the use of Portland cement.

THOMAS NOLAN
Chairman Institute Committee on Materials and Methods.

(b) These Standards will be found printed and illustrated in Book of A.S.T.M., 1916 (1A5c2) and separately (1A5c3); also in the "Proceedings" of the American Concrete Institute (2B2a), Vol. XIII, 1917, which Institute at its annual convention, February, 1917, formally adopted these Specifications and Tests of the A.S.T.M. as a Standard of the A.C.I.

(c) These Standards have been printed as *U. S. Government Specification for Portland Cement* by the Bureau of Standards in Circular 33, third edition issued Jan. 18, 1917, in which is given the former version compared with the new and an explanation of the changes and the reasons therefor. A collation is also being made by the Bureau of Standards of all foreign specifications for Portland cement. This information is being obtained through the assistance of the various consular agents. A large number of specifications have been received from different countries, and they will be translated and combined in a paper in the near future.

(d) **Paragraph of Application.**—Without opportunity for action by Institute Committees cooperating with this Department, but after conference with interested members, the Editor offers the following for possible incorporation in specifications to secure the result desired:

All Cement shall be Portland Cement, and shall comply with the Standard Specifications and Tests for Portland Cement of the American Society for Testing Materials, Serial Designation C9-17, together with all subsequent official revisions thereof. The Cement shall be inspected by Inspecting Engineers of the Architect's selection, the bill for whose services shall, upon approval by the Architect, be paid by the Contractor. The Contractor in his estimate shall allow for and include the sum of . . . per barrel to cover the cost of Cement inspection. While the Architect may, at his option, elect to permit Cement to be used on the basis of tests up to and including seven days, the right is specifically reserved to order Cement, about the quality of which any doubt is felt, to be held until the twenty-eight-day tests before use.

(e) In addition to the Standard above mentioned, the following have also been adopted by the A.S.T.M. (others pertaining to fire-proof floor and partition construction, drain-tile, etc., will be mentioned under appropriate later serial numbers):

1. **Standard Specifications for Natural Cement** (Serial Designation C 10-09)
2. **Standard Specifications for Billet-Steel Concrete Reinforcement Bars** (Serial Designation A 15-14)
3. **Standard Specifications for Rail-Steel Concrete Reinforcement Bars** (Serial Designation A 16-14).

(f) The following is offered as a **Paragraph of Application** to secure the use of Steel for Concrete Reinforcement, in accordance with the **Billet-Steel Standard** above referred to, which is the one recommended by the Joint Committee in its report:

All Steel Reinforcement shall comply with the Standard Specifications for Billet-Steel Concrete Reinforcement Bars of the American Society for Testing Materials, Serial Designation A 15-14, together with all subsequent official revisions thereof. (The grade of Steel Reinforcement to be specified by the Architect.) All Reinforcement must be clean and free from excessive rust or any coating detrimental to adhesion. All Steel Reinforcement shall be inspected by Inspecting Engineers of the Architect's selection, the bill for whose services shall, upon approval by the Architect, be paid by the Contractor. The Contractor in his estimate shall allow for and include the sum of . . . per ton to cover cost of mill and field inspection of Steel Reinforcement.

(g) The U. S. Navy Department has issued:

1. Specification 59C2c "Concrete and Mortar, and Materials for," Feb. 1, 1916.
2. Specification 59C1a "Cement, Portland," Jan. 1, 1917.

(h) See the "Manual" of the American Railway Engineering Association (1A2c3), 1915, section on "Masonry," for the following:

1. **Specifications for Natural and Portland Cement.**
2. **Specifications for Plain and Reinforced Concrete and Steel Reinforcement.**
3. **Designs of Reinforced Concrete Structures.**
4. **Monolithic Construction.**

(j) The American Concrete Institute has adopted the following standards (other standards of the A.C.I. will be listed under appropriate serial numbers later):

1. **Standard Building Regulations for the Use of Reinforced Concrete**, proposed revision 1917.
2. **Standard Recommended Practice for the Use of Reinforced Concrete**, adopted 1909.
3. **Standard Specifications for Reinforced Concrete Floors**, adopted 1913, proposed revisions 1915 and 1917.
4. **Standard Methods for the Measurement of Concrete Work**, adopted 1913.

(k) The National Association of Mixer Manufacturers has standardized the **rating of mixers**, and the **sizes of mixers** which each manufacturer is to build and sell.

Treatment of Concrete Surfaces (exclusive of floors). 2B11

This section refers to the Finish of Concrete Surfaces, exclusive of those in connection with Flooring and Paving. The subject of "Concrete Fills and Various Top Coats," as well as "Treatments for Concrete Floors and Surfaces" was taken up in Serial Nos. 1 and 11, 1917, in the *Structural Service Book*, Vol. I, and will be treated later this year under "Flooring and Paving" in the issue on Plastic Products.

It will be interesting to note in passing, however, that the Portland Cement Association, in cooperation with the Structural Materials Research Laboratory of the Lewis Institute, is preparing to conduct experiments on the resistance of concrete floors to wear and tear, similar to those conducted in regard to concrete pavements. The results of this investigation will probably be available some time during 1918.

(a) In the *Final Report of the Joint Committee* (2B6d) is a section on "Surface Finish" in which it is stated that "Concrete is a material of an individual type and should be used without effort at imitation of other building materials." After giving various suggestions as to treatment of surfaces it also states that "The plastering of surfaces should be avoided, for even if carefully done, it is liable to peel off under the action of frost or temperature changes."

(b) See "Manual" of the American Railway Engineering Association (1A2c3), 1915. Contains data on "Method of Repairing Defective or Worn Surfaces of Concrete."

(c) The American Concrete Institute in 1911 adopted "Standard Specifications for Scrubbed Concrete Surfaces."

(d) *Committee on Treatment of Concrete Surfaces, American Concrete Institute.* (Communication from the Chairman to the Journal.)

The work of this Committee covers two closely related yet distinct fields, namely, **stucco and concrete surface treatments**. Formerly stucco was designated as a type of coating for concrete and was therefore one form of concrete surface treatment. Eventually general specifications for stucco grew out of its rather narrow application to concrete, and its field is now a relatively large and important one.

The art of casting and finishing concrete in such manner as to meet various architectural requirements in form, color, and texture is still in its infancy, yet there are in existence many examples of more or less successful attempts to meet such requirements and particularly to develop surface treatments that give character and attractiveness to the finished structure. Whatever has been accomplished in this direction, however, seems to have been largely the result of individual effort, and aside from specifications for particular pieces of work, and a few general directions that have been published, there is practically no information available on the technique of concrete surface treatment.

The Committee has therefore felt that an important service could be rendered by an **investigation of existing structures** in which the information obtained is eventually to be summarized and presented as a review of present conditions. The value of such a review will depend largely upon the cooperation obtained from all possible sources, and it is through the courtesy of the editors of the Structural Service Department that the Committee is enabled to bring this matter to the **attention of the members of the Institute** and to solicit their **individual co-operation**.

The plans outlined for this investigation involve the use of simple forms for the collection of data regarding both stucco and ornamental concrete structures which are here reproduced. (NOTE.—The blank form for data on Stucco, similar in purpose to the following, will be referred to in the issue devoted to plastic products.)

FIELD INSPECTION OF CONCRETE SURFACE TREATMENTS

(Record of Structures.)

1. Type of structure:
 2. Owner:
 3. Location:
 4. Architect:
 5. Builder:
 6. Estimate or approximate cost:
 7. Date of erection:
 8. Surface treatment:
- (Give brief description of color, texture, mechanical or other treatment, mixture, type, and proportions of aggregates, etc.)
9. Descriptive articles:
 10. Photographs:
 11. Remarks:

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(Describe briefly present condition, prominent defects, if any, etc.)

Submitted by Date
Address

As these records are being collected the Committee will endeavor to make supplemental reports on the structures which they have opportunity to inspect, with the particular purpose in view of obtaining reliable information regarding many structures in different parts of the country

The Committee will be very glad to correspond with architects who are willing to furnish data as indicated above, and forms will be furnished for this purpose to any who will apply to

J. C. PEARSON, Chairman
Bureau of Standards, Washington, D. C.

- (e) In connection with the use of colored aggregates and concerning tone and texture in concrete surfaces and stucco, see the announcements and illustrations in the Industrial Section, referred to under 2B7M3, 4.

Cast Stone or "Concrete Stone" and "Blocks." 2B12

1. This is another material which comes within the purview of the Committee of the A.C.I., referred to in previous section, and architects and others interested will do well to correspond with the chairman of that committee with a view to promulgating practice to be followed in its use.
2. In addition to its inclusion within some of the publications referred to elsewhere, and in cement and concrete periodicals, this subject will be found treated in the literature of the manufacturers.
3. See "Concrete Stone Manufacture," Harvey Whipple. 1915. 77 pp.; illus.
4. See, among others, the Report of Committee on Building Blocks and Cement Products, "Proceedings" of the A.C.I., Vol. XIII, 1917.
5. See, also, "Standard Specifications and Building Regulations for the Manufacturing and Use of Concrete Architectural Stone, Building Blocks, and Brick," adopted 1917 by the American Concrete Institute.
6. As of further interest, see "Improved Cement Blocks," Bulletin of Hydrated Lime Bureau (2C544).

Lime and Hydrated Lime. 2C

These materials will be treated here chiefly with respect to their uses in masonry, heavy construction, and in mortars generally. Their use in "plastering" will be taken up this year, as last, in connection with plastic products. For the section on Plastic Products in 1917, see November issue, or the Structural Service Book, Vol. I, under Serial No. 11.

Statistical Data. 2C1

The estimated production of lime made and sold in 1917 in the United States, including Porto Rico and Hawaii, was 3,663,818 short tons, a decrease of 10 per cent compared with the revised total for the record year, 1916. It surpassed, however, all records previous to 1916. This estimate is based on returns made by the principal producers to G. F. Loughlin, Geologist in Charge of the Section on Non-metallic Resources of the U. S. Geological Survey.

According to the same authority, the building-lime trade declined in all parts of the country. The unprecedented demand for building-lime in 1916 continued until February, 1917, when, after a fair demand through the spring, a general decline in building set in. This decline was due to the uncertainties of war, to increased shortage of labor, fuel, and cars, and to the fact that, lime being perishable, the trade would not order large carlots as demanded by the railroads.

The estimated sales of hydrated lime in 1917 amounted to 719,757 short tons, a slight gain (2,375 tons, or 0.3 per cent) over the sales shown by the revised figures for 1916. The fact that hydrated lime held its own, however, during a year in which the decrease in the production of lime was so general, indicates a relative increase in its use. Two new hydrating plants reported production, one in Arkansas and one in Idaho. The largest percentages of decrease in the production of hydrated lime were made in states whose product is used largely for building.

Dominant in this field of the building industry exists:

National Lime Manufacturers' Association. 2C2

President: Wm. E. Carson, Riverton, Va.

Issues no publications, except Bulletins of interest to manufacturing members. Meetings are held annually, and in the minutes appear papers read and discussions which take place of interest in the advancement of this industry. It maintains two Bureaus: one called the Agricultural Bureau, concerned with uses of lime in connection with the soil; the other called the Hydrated Lime Bureau.

Hydrated Lime Bureau of the National Lime Manufacturers' Association. 2C3

Manager: Norman S. Hough, Arrott Building, Pittsburgh, Pa.

Publishes books, bulletins, and pamphlets, many of which are referred to herein as applicable to this Serial Number.

The object of the Bureau is to furnish a central office from which architects, engineers, and contractors may receive reliable information relative to the use of hydrated lime for building purposes.

Information Obtainable and General Activities. 2C4

- (a) The U. S. Geological Survey, the general publications and activities of which are described under 2A1 has issued:

1. A large number of bulletins and separate chapters dealing with lime and other structural materials to be found in various parts of the country. Specific information will be furnished through the Journal, or the publications may be had upon application to the Director as noted under 2A1M.
2. In "Mineral Resources of the U. S.," Part II, 1913, "The Source, Manufacture, and Use of Lime," E. F. Burchard and W. E. Emley. Also chapter on "Lime" in this and later issues of same.
3. In "Lime for 1915" it is stated:

"Recent developments in the building-lime trade, by which old objections to lime as a building material are being overcome, are reasons for encouragement. The principal development is the increased use of hydrated lime in preference to lump lime, and the greater care and accuracy required in the process of manufacture of hydrated lime. The danger of pitting or "popping" of wall-plaster, due to incomplete hydration of lime, is eliminated by the use of thoroughly prepared hydrated lime. The superiority of hydrated lime over lump lime for building is receiving broader recognition, due in part to the activities of the Hydrated Lime Bureau."

- (b) The Bureau of Standards, the general publications and activities of which were described under 1A5 has issued:

1. Technologic Paper No. 16: "Manufacture of Lime," W. E. Emley. February, 1913. 130 pp.; illus. 25 cents.
2. Circular No. 30: "Lime: Its Properties and Uses." April 15, 1911. 22 pp. 5 cents.
3. Circular No. 45: "The Testing of Materials." November, 1913. 86 pp. (1A3a.)

4. In Report of the Director, 1917, it is stated that an investigation of large brick piers has been completed by the Bureau and is being prepared for publication. The features of these tests relating to the bricks will be mentioned in the next serial number, but the following extracts concerning the mortars are of interest:

A study was made of various types of bonding and of different grades of mortar. Numerous auxiliary tests were made on the materials used. The following conclusions are drawn from the results obtained:

The strength of brick piers depends primarily on the quality of brick and kind of mortar used. Of the mortars used, the cement mortar develops about twice the strength of the lime mortars, or 2,700 and 1,400 pounds per square inch, respectively, for the highest grade of brick. The cement mortar is harder to work, however, and a combination lime and cement mortar which does not appreciably effect the strength of the piers is cheaper and has much better working qualities. The combination used in the present investigation was one part of cement and lime (by volume 65 per cent and 35 per cent, respectively), to three parts sand. The strength of piers laid in the combination cement and lime mortar are practically the same as those laid in a 1 : 3 cement mortar, giving twice the strength of those laid in 1 : 6 lime mortar and about four times the strength of those laid in 1 : 3 lime mortar.

5. Hydrated lime in small amounts is being added to a great deal of the concrete now being used for various reasons. It is desirable to know the effect of such an addition upon the properties of the concrete, and, with this in view, an extended series of tests was inaugurated covering the compressive strength, absorption, adhesion to reinforcing, coefficient of expansion, etc., of concrete. . . . The effect of lime hydrate upon the expansion of concrete is being determined, using bars 4 inches by 4 inches by 4 feet. It is proposed to continue the investigation, determining the effect of lime upon segregation of aggregate and resistance to abrasion.—(From Report, Bureau of Standards, 1917.)

6. It was found that very few hydrated limes passed the standard specifications adopted in 1915 by the American Society for Testing Materials. Consequently thirty-four samples of hydrate were collected from various sections of the country and thoroughly tested according to the existing and to certain proposed specifications. The latter were adopted as tentative specifications for masons' hydrate by the American Society for Testing Materials in June, 1917. In order to aid in drawing up final standard specifications, the examination of lime hydrates is being continued. In conducting cooperative investigations of this kind, the Bureau is able, not only to make reliable suggestions, but also to obtain a very desirable knowledge of the material under consideration as it appears on the market.—(From Report, Bureau of Standards, 1917.)

- (c) See, also, "pocket-books, handbooks and other publications" listed under 2B8, and certain references applicable under "The Site: Excavation, Piling, Foundational Requirements" (1E).

- (d) See "Treatise on Limes, Hydraulic Cements, and Mortars," Gen. Q. O. Gilmore, and some of the other references listed under *General Literature, Cement and Concrete* (2B7), which treat also of Lime and Hydrated Lime.
- (e) In "Lime Production and Quarry Waste," an article in *Stone*, January, 1918, it is stated:
 "In the effort to decrease waste and utilize by-products, a number of quarries have taken to the manufacture into lime of such portions of their stone as cannot be sold for dimension stock. One of the great marble companies has built, and is now operating at a substantial profit, an elaborate lime-burning and hydrating plant. In the limestone belt of Indiana the waste banks are being overhauled for fluxing-stone and lime-making. The problem of waste increases in complexity with the development of any quarrying enterprise. If it is possible to turn waste rock into a marketable commodity, the elimination of one of the main factors of expense is as important as the bringing in of a new source of revenue."
- (f) **Alca Lime:** A recent development in the lime industry is a patented article offered for sale by many licensees in the United States under the Spachman patents. See description in "Architects' and Builders' Pocket-Book," F. E. Kidder, 1916, p. 1467.
- (g) **Wet Mortar Plants:** An interesting development in the lime industry is described under this caption by William C. Hay in "How Lime Can Be Reestablished in the Plaster Field," Bulletin No. 7, *National Lime Manufacturers' Association* (advance of minutes, April, 1916, and reprinted in the *Structural Service Book*, Vol. 1, under 2B10b).
- (h) For "Properties of Cement-Lime-Sand Mortars" see 1917 *Proceedings of the American Society for Testing Materials*. For other papers and for reports of the A.S.T.M. Committee on Lime, see former issues.
- (j) See, also, "Proceedings" of the *American Society of Civil Engineers*, containing "monthly list of Recent Engineering Articles of Interest."
- (k) "Results of Some Preliminary Tests on the Effect of Hydrated Lime on Mortars and Concrete," H. H. Scofield and M. J. Stinchfield. See this paper in "Proceedings" of the *American Concrete Institute*, Vol. XIII, 1917, and others in previous issues.
- (l) "Hydrated Lime," E. W. Lazell, 95 pp. Published by Jackson-Remlinger Printing Co., Pittsburgh, Pa., 1915; distributed by the Hydrated Lime Bureau, Pittsburgh, Pa. (A general elementary text on the history, chemistry, manufacture, properties, and uses of hydrated lime.)
- (m) "Hydrated Lime," W. B. Joseph, *Cement and Engineering News*, February, 1915, pp. 45-46. (A brief account of the processes of manufacture and properties of hydrated lime.)
- (n) "Effect of Adding Hydrated Lime" (to Portland cement), *Cement and Engineering News*, March, 1915, p. 76. (Cites experiments by Henry S. Spackman.)
- (o) Papers read at the thirteenth annual meeting of the *National Lime Manufacturers' Association*, February, 1915: "Hydrated Lime Plastering—the Fourth Year's Development," Lawrence Hitchcock; "The Possibilities of Hydrated Lime Products for Plastering Purposes," H. S. Spackman; "Hydrated Lime in Oregon State Roads," R. S. Edwards; "Hydrate as an Addition to Concrete," E. M. Soper; "A Modern Hydrating Plant," R. K. Meade.
- (p) "Advantages in Use of Commercially Hydrated Lime over Ordinary Slaked Lime," E. W. Lazell, *Cement and Engineering News*, June, 1915, pp. 125, 126.
- (q) Papers read at the fourteenth annual meeting of the *National Lime Manufacturers' Association*, Cleveland, Ohio, Feb., 1916: "Use of Lime in Stuccos and Rich Mortars," A. H. White; "Chemically Correct Hydrate of Lime on a Commercial Basis," W. Crow.
- (r) See *Journal of Society of Constructors of Federal Buildings* (1A2d), March, 1916, for Hydrated Lime in connection with Cement Mortars and the Improvement Thereof, by N. L. Whitcraft.

Practice Recommended and Standards Adopted. 2C5

- (a) By Hydrated Lime Bureau, which issues, among others, the following publications and recommendations:
1. "Tests and Uses of Hydrated Lime," A. C. Hoff. A reprint from the *Cement Era*, of February, 1915.
 2. "Dependable Concrete—Hydrated Lime and its Effect on," Bulletin A.2.
 3. "In the Concrete Chute," Bulletin A.3.
 4. "Improved Cement Blocks," Bulletin M.
 5. "Concrete Gas Tank Waterproofed with Hydrated Lime," Pamphlet D.
 6. "Waterproofing Concrete with Hydrated Lime."
 7. "The Ideal Mortar for Brick Masonry—Mortar No. 5," Bulletin J, June 1, 1916. (Contains results of investigation conducted by Prof. J. S. Macgregor, of Columbia University, New York City.)
- (b) By *American Society for Testing Materials*:
1. Committee C7 on Lime in 1916 submitted no report to the A.S.T.M. convention. In 1917 the Committee recommended:

"That the proposed Tentative Specifications for Masons' Hydrated Lime, which are appended to this report, be printed by the Society as tentative, with a view of superseding the present Standard Specifications for Hydrated Lime (Serial Designation: C6-15). The Committee deems this change desirable because of the existence of certain objectionable features in the present specifications for hydrated lime. The proposed tentative specifications referred to in this report were accepted for publication among the Tentative Standards of the Society."

- The following are printed in the Book of Standards, 1916:
2. "Standard Specifications for Quicklime," Serial Designation C5-15.
 3. "Standard Specifications for Hydrated Lime," Serial Designation C6-15.

(c) By *Navy Department, U. S. A.*

1. Specifications for "Concrete and Mortar, and Materials for (cement not included)," Serial Designation 59C2c, adopted Feb. 1, 1916, copies of which can be obtained upon application to the Bureau of Supplies and Accounts, Navy Department, Washington, provide for lime, lime-paste, lime-cement-mortar.

(d) By *Department of Commerce, Bureau of Lighthouses*:

1. Whitewash Formulas. A document with this title is issued which describes what is generally known as "Government Formula" for whitewash of which a verbatim transcript is—

WHITEWASH

The following formula for whitewashing has been found by experience to answer on wood, brick, and stone, nearly as well as oil paint, and is much cheaper:

Slake half a bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice put in boiling water and boiled to a thin paste; half a pound of powdered Spanish whiting, and a pound of clear glue dissolved in warm water; mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and when used put it on as hot as possible, with painters' or whitewash brushes.

A SIMPLER WHITEWASH

The following formula for mixing whitewash, when properly made and put on, gives a white that does not easily wash or rub off, viz:

To ten parts of best freshly slaked lime add one part of best hydraulic cement; mix well with salt water and apply quite thin.

(e) By *United States Congress*:

1. **Standard Sizes of Barrels.**

The Congress passed a bill (H. R. 4899) which became effective July 1, 1916, making the standard size of barrels for all dry measures as follows:

"Length of staves, 28 3/4 inches; diameter of heads, 17 3/8 inches; distance between heads, 26 inches; circumference at bilge, 64 inches, outside measurement; thickness of staves not greater than 1 1/8 inch. It is further provided that any barrel of different form, having a capacity of 7.056 cubic inches, shall be a standard barrel."

Opposition to this bill among lime-producers caused the introduction of another bill in the 64th Congress, entitled "An act to Standardize Lime Barrels," which was approved August 23, 1916, all provisions of the act to become effective January 1, 1917, by which there was established a large and a small barrel of lime, the large barrel to consist of 280 pounds and the small barrel to consist of 180 pounds, net weight. (The provisions of these two bills are set forth in "Lime in 1914" and "Lime in 1915" (2A1d) and "A General Statement in Regard to the Standard Lime Barrel Law" has been issued by the Bureau of Standards.)

Stone Masonry, Broken Stone, Sand, and Gravel. D

Rough Stone, as a localized product, will be referred to only in connection with its general use in masonry. **Broken or crushed stone** will be treated principally for its use in concrete. The use of these materials for roadwork and other similar forms of construction is treated in many of the publications referred to here and elsewhere.

The *U. S. Geological Survey* reports that in 1916 the production of sand and gravel was unprecedentedly large. All kinds of sands increased in total value, and most of them increased in quantity, in spite of the fact that car- and labor-shortage limited the output of many sand- and gravel-pits.

The following are among the organizations interested in the products covered by this section, independent of their use in plastering later to be referred to. These are exclusive of organizations affiliated with the Building Trades Department of the American Federation of Labor, which were referred to in the December, 1917, issue under 12L, and in January, 1918, under 1A2f, and listed in the *Structural Service Book*, Vol. I. They will be mentioned collectively in a later Serial Number, and the activities of each as they come to our attention will be described under the appropriate industry.

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Other associations exist which are interested in the production and use of rough and broken stone, sand, gravel and other "builders' supplies." The activities of these will be referred to as their work toward standardization of materials or practice comes to our notice.

National Crushed Stone Association. 2D1

Secretary: F. W. Connell, Indianapolis, Ind.
Representatives from ten states of the Central West are stated to have participated in its organization.

National Slag Association. 2D2

Secretary: H. J. Love, Youngstown, Ohio.
Announcement has just been made of the organizing of this Association at Columbus, Ohio.

Inter-State Stone Manufacturers' Association. 2D3

Incorporated 1913 under the laws of the state of Ohio, not for profit.
Acting Secretary: Claude Clark, Columbus, Ohio.
Formed to promote and increase the use of stone.
Standards: Has formulated standards for numbers and sizes of broken stone, aggregates, which, it is stated, will appear in new specifications of the State Highway Department of Ohio.

National Association of Sand and Gravel Producers. 2D4

Secretary: E. Guy Sutton, Williamsport, Ind.
Convention in Chicago, February 8 and 9, 1917.

Information Obtainable and General Activities. 2D5

- (a) *The U. S. Geological Survey*, in connection with its activities described under 2A1, has issued many bulletins and other publications dealing with rubble and range rock, broken stone, sand, gravel, and other structural materials to be found in various parts of the country. Specific information will be furnished by the Journal, or the publications may be had upon application to the Director, as mentioned under 2A1*m*.
 1. See, also, chapters on "Stone" and chapters on "Sand and Gravel," in "*Mineral Resources of the U. S.*" for each year.
 2. "Production of Glass Sand, Other Sand, and Gravel in 1909," E. F. Burchard, in "*Mineral Resources of the U. S.*," 1911, Part II. (Includes numerous analyses.)
- (b) During the last year a total of 355 miscellaneous samples, consisting of sands, screenings, gravels, stones, asbestos roofing boards, concrete, etc., were received for test by the *U. S. Bureau of Standards*. For the "Testing of Materials" see Circular No. 45, described under 1A3*a*.
- (c) "Tests of Kansas Sands for Use in Mortar and Concrete," R. A. Seaton and I. I. Taylor, Bulletin No. 3, Engineering Experiment Station, *Kansas State Agricultural College*.
- (d) Other data on structural materials in various localities are issued by *educational institutions and state geologists* in the respective territories. See 1A3 and 2A2.
- (e) For "Properties of Cement-Lime-Sand Mortar," and "Effects of Grading of Sands and Consistency of Mix upon the strength of Plain and Reinforced Concrete," see 1917 "*Proceedings of the A.S.T.M.*" Other papers of interest in previous issues.
- (f) As containing matter of interest, see many of the proceedings and other publications listed under Lime and Hydrated Lime (2C).
- (g) Information pertaining to various phases of the materials covered in this section will be found in many of the pocket-books, handbooks, and textbooks listed under 2B8. In the *Illinois Society of Architects' Handbook* will be found also illustrations showing and naming different kinds of facework for stone exterior walls.
- (h) "A Practical Treatise on Foundations," W. M. Patton.
- (i) "Strength of Materials," Edward R. Maurer.
- (k) "Rock Excavating and Blasting," J. J. Cosgrove.
- (l) See, also, "The Site: Excavation, Piling, Foundational Requirements" (1E), and "Damp-proofing, Waterproofing and Under-Water Construction" (1-F).
- (m) "Flooring and Paving" (other than wood) was described in the November, 1917, issue of the Journal and will be found in the Structural Service Book, Vol. I, under Serial No. 11. The subject will be taken up in a later Serial Number, when roads and road materials will also be treated. The Journal will furnish specific information upon these subjects to any inquirer.
- (n) For data on Stone in General, see February Journal, 1917, or Structural Service Book, Vol. I, under Serial No. 2. This material, with others, will be fully taken up in the next issue.
- (o) For announcement concerning the use of Pink Granite as an aggregate to secure color, tone, and texture in stucco, see Industrial Section, p. v.

Practice Recommended and Standards Adopted. 2D6

- (a) *By U. S. Bureau of Standards:*
For the relative value of various aggregates, including round- and sharp-grained sands, gravels and other materials, and proper methods for testing aggregates, see: Technologic Paper No. 58 of the Bureau of Standards: "*Strength and other properties of concretes as affected by materials and methods of preparation.*" (2B5*b*10.)
- (b) *By Navy Department, U. S. A.:*
Specifications for "Concrete and Mortar and Materials for (cement not included)," Serial Designation 59C2*c*, adopted February 1, 1916, copies of which can be obtained upon application to the Bureau of Supplies and Accounts, Navy Department, Washington, provide for Sand for Concrete, Sand for Mortar, Broken Stone, Gravel, Lime-cement-mortar.
- (c) *By Joint Committee, Cement and Concrete:*
For notes, suggestions and recommendations concerning broken stone, gravel, and sand as aggregates, see Final Report of this Joint Committee, referred to under 2B6*d*.
- (d) *By American Society for Testing Materials:*
 1. "Tentative Standard Method for Form of Specifications for Certain Commercial Grades of Broken Stone," Serial Designation D35-16.
 2. The A.S.T.M. has issued a considerable number of standard tests and methods in connection with macadam rock, broken stone, bituminous and other materials used in roadwork, under the Serial Designation D.
- (e) *By American Railway Engineering Association:*
Manual 1A2*c*3 contains section on masonry which includes: Classification of Masonry, Definitions, Cement, Specifications for Stone Masonry, General Requirements, Bridge and Retaining-Wall Masonry, Ashlar Stone, Rubble Stone, Arch Masonry Dry Masonry.
- (f) *By National Board of Fire Underwriters:*
 1. "Building Code Recommended," 1915: Part VI "Walls," pp. 34-50, 86; Part XXVI, "Chimneys, Flues and Heating Apparatus," pp. 173-184.
 2. "Dwelling Houses, A Code of Suggestions for Construction and Fire Protection," 1916: Part III, "Walls," pp. 21-31; Part VI, "Chimneys, Flues, Smoke-Pipes and Fire-places," pp. 50-64.
- (g) *By National Fire Protection Association:*
"Specifications for Construction of a Standard Building," in which is stated "The Construction of buried footings is not considered a part of these specifications; retaining walls, if built of stone, must be plastered on the exposed side with 3/4 inch of cement mortar," and "If cap-stones are used, they shall be protected against fire by 4 inches of fireproofing," no other reference to the use of stone in a "Standard Building" being made.
- (h) *By Inter-State Stone Manufacturers' Association:*
Numbers and sizes for aggregates of broken stone (2D3).
- (j) For reference to lack of Standards with respect to the "perch" and other forms of measurement, see February issue, 1917, and Structural Service Book, Vol. I, under 2J8.

Addenda, to Serial No. 1, January, 1918. 2E

References in this issue, mentioned below, are also applicable to the Sections whose numbers precede them.

1E The Site: Excavation, Piling, Foundational Requirements: add

- (24) History and Present Status of the Concrete Pile Industry. (2B6*c*4.)
- (25) Rock Excavating and Blasting, J. J. Cosgrove. (2D5*k*.)
- (26) A Practical Treatise on Foundations, W. M. Patton. (2D5*h*.)
- (27) Strength of Materials, Edward R. Maurer. (2D5*j*.)

1F3 Damp-proofing, Waterproofing and Under-Water Construction, to Waterproof Concrete: add

- (r) Placing Concrete Under Water (2B6*d*4).
- (s) Methods of Depositing Concrete under Water (2B6*e*).
- (t) Durability of Concrete in Alkali Waters (2B5*b*16).
- (u) Effect of Sea Water on Concrete (2B5*b*15).
- (v) Final Report of Joint Committee, section on Waterproofing (2B6*d*3).

1F5 Concrete in Sea Water: add

- (c) Sea Water as a Destructive Agency (2B6*d*4).

“Signs of Change”

A DEPARTMENT DEVOTED TO THE ECONOMIC ASPECTS OF THE BUILDING INDUSTRY

SULLIVAN W. JONES, *Associate Editor*

KNOWING the strategic advantage of the workman's position today throughout the world, can any thinking man read the British Labor Party's tentative programme for reconstruction after the war and escape the conviction that there are going to be fundamental wide-flung changes in every field of industrial effort?

How interesting this programme appears when read in connection with Mr. Sidney Webb's address to the Royal Institute of British Architects, published in the last number of the Journal. In both there are indicated the forces which will hasten the application of democratic principles to the discharge of the architect's function, and will help to liberalize the architect's conception of his professional services. The building industry will not be immune to the influences that will work these changes. The broader understanding of the true relation of things will lead the architect and the contractor to consider what are their proper functions and what should be their relationship to each other and to the building owner, in order that buildings may be well and economically built.

It is becoming increasingly evident that one change, at least, will be in the function and status of the contractor, and consequently in the terms of the contract. This is not altogether a matter of future development. For some years contracts have occasionally been based upon the cost of the work plus a percentage. The number of such contracts has increased as the advantages to the owner, to the contractor, and to the architect have been more and more thoroughly understood. Nearly all of the Government's emergency construction work has been done under the "cost plus" form of contract; and on every hand contractors are now questioning the wisdom of accepting contracts on any other basis.

It is claimed that the Government could not, in the circumstances, have obtained contractor's services on any other terms. That is probably largely true, and constitutes one argument for the "cost plus" contract. Contractors would have been unwilling to "sell short" in such quantities of labor and materials on a rising market. The fact that there has been justifiable criticism of the appalling cost of the Government's work under "cost plus" contract should not close our minds to the real advantages secured in time and in good will. Whatever the immediate results may be of the Government's contract policy, the ultimate results will undoubtedly be a vast increase in the number of building operations conducted on the "cost plus" basis. The differences between conditions surround-

ing work during wartime and in times of peace are differences only in the degree of the future's uncertainties. These uncertainties in regard to the costs of materials and labor are always present and involve the contractor, who signs a fixed sum contract, in speculations and in the consequent assumption of risk, against which he will always try to protect himself. The contract of the future will undoubtedly be based upon cost—not estimated cost, but actual cost.

Contractors are going to emerge from the economic revolution through which we are passing, with a fixed idea that their time has a specific market value; that they are entitled to render services profitably, not over a period of a year or two years or more, but on each undertaking. They are going to ask themselves and their building owners, why one job should be made to absorb the losses on another; or why an owner should be deprived of his right to a full return of value in quality of work and quality of services for his investment, in order that the contractor may make a profit, although the cost of the work is more than he reckoned and had consequently consumed his anticipated service fee. The owner has better grounds than the contractor for discarding the lump sum contract, and one of the things which the architect ought to do is to convince him of this fact.

The contractor's function is certain to become more purely professional. It should always have been professional. He should be given, if he does not demand it, the opportunity to make his services highly valuable through being employed as an expert. In no other way can unity of interest in an operation be secured, and in no other way can building enterprise be made a coöperative undertaking for the mutual benefit of all those taking part in it.

We venture to assert that the time is not very far distant when the architect's services will be rendered for cost plus a predetermined lump sum or per diem fee; and the contractor's services will be secured on the same or similar terms. Under such conditions of employment, the contractor will be relieved of the necessity of grinding down his costs to save his profit irrespective of his employer's interests. He may devote more of his skill and energy to securing and delivering better work; to making his services more valuable to his employer, who becomes his client. His whole attitude of mind will undergo a change, and he will understand that his larger success depends on a satisfactory service record. His reputation will be worth what it costs in effort and enterprise, and the "shoe-string" contractor will disappear from the field.

EDITOR'S NOTE.—Due to delays and losses in the mails we are unable to publish in this issue the full report of the last Board meeting; we hope to do so in next month's issue.

General Index to Structural Service Department

Serial numbers will be published as subjects are covered. For complete classified index, see Structural Service Book, Vol. I

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†Secretaries.



A PICTURESQUE BYWAY IN WASHINGTON

Ben J. Lubschez

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Shadows and Straws

SOME PROGRESS IS BEING MADE in the housing of workmen engaged in the building of our merchant marine. The projects at Hog Island, Sparrow's Point, Newport News, and Camden are being got under way as fast as possible, while the unfinished work at Bristol is being taken over by the Shipping Board and will be completed under its direction. The appropriation for the Department of Labor still languishes in the hands of the Committee on Public Buildings and Grounds, but the work of organizing the new bureau in the Department of Labor is proceeding. Members of the Institute and the friends of the profession generally will welcome the appointment by Mr. Eidlitz, the Director of Housing, of Burt L. Fenner, Secretary of the Institute for two years, and a member of the firm of McKim, Mead & White, as director of the architectural division of the housing bureau.

The architects already selected for the housing work above mentioned are Owen Brainard (Hog Island), Electus D. Litchfield (Camden), Francis Y. Joannes (Newport News), E. L. Palmer, Jr., (Sparrow's Point), while the work at Bristol is in the hands of Messrs. Mann & MacNeille. It seems quite safe to say that no more important architectural commissions have ever been given out in this country, if one considers both the nature of the result that is demanded by the war emergency and the immeasurable effect which the work of these men, and those whose guidance and advice form no less a part of the contribution, will have upon the future of the country.

THE GRAVITY OF THIS QUESTION has been too little appreciated. The mild and negative

efforts of the past toward correcting housing evils have not been sufficient either to produce any result or to arouse more than a passing and generally charitable interest. Now the question comes to the front with all the alarming symptoms of a dangerous peril. And if the conference on housing at Philadelphia late in February had anything of value to offer, it was the testimony of those manufacturers who had struggled with the problem for months and who urged that all considerations of expediency and cost give way to their demonstrated necessity for permanent houses. It was an appeal to which Congress and the Administration ought to have listened. It was an appeal which others made in vain all through months of discouragement. Fortunately, a start has been made. It is woefully late, but that must be forgotten in trying to make up for some of the lost time.

EDUCATION IS A WORD which has come to mean so much and so little that one almost hesitates to use it, yet we have no other to take its place. The article by Mr. Tudor, in this issue, is the first of a series which will attempt to get at the bottom of what we call the education of the architect. It is not an easy problem to face, and the process he tries to analyze has its beginnings long before the student enters the architectural school. But this is quite as true of any other kind of professional education. All that Mr. Tudor says in relating the work of the architect to the large physical problem of our communities might be said with equal emphasis of any other profession, for each has its relation to this larger whole. He is not decrying one profession as more lacking than

another, nor would he, we believe, be unable to apply his logic to any other interest in life, whether commercial, industrial, or scientific.

THE PROBLEM IS FIRST to find out what we are trying to do when we give our children and youth over to the educational systems of our country. What is the plan under which we are working? What is the relation of that plan to the working out of democracy? The answer is that nobody knows—that we have no plan—that there is no relation between education and that larger whole, but that the emphasis all goes into the relationship of the individual to his individual work. Oh, there are exceptions, but they are either those who manage to escape all the sterilizing influences of the educational system and to find their own relation to the whole in spite of the system, or those who have the good fortune to come under the influence of personalities which eclipse and obscure the system in which they refuse to become enmeshed. That such teachers will always be the hope of any system cannot be denied, but they are far too few, because they are not the product of any plan which seeks to increase their number. Now is the moment to look into this subject of education with a powerful lens. There probably has never been a time when it was more agitated or when there was more dissatisfaction with the result. The last few years have witnessed an almost continuous discussion along many lines, and the value of everything in the school has been questioned. But the discussion becomes futile and unilluminating until we can decide just what it is that we wish to accomplish by education. Given a goal, the means of reaching it may at least be studied intelligently. Without a goal, why waste our time in discussing the means of attaining it?

Mr. Tudor recognizes that the goal toward the attainment of which he believes the education of the architect should be directed is not a static thing, but that it is a constantly changing and sometimes almost elusive state of progress. Yet there is a fundamental basis upon which this progress should and does rest, and the task before educators as well as governments is to translate that powerful impulse which prompts men in war to sacrifice their lives for the principle of democracy into an impulse that will lead men to live their lives, in peace, in order that the principle of democracy

may become a vital force. In the stage of development to which it had attained in July, 1914, it was unable to arrest the otherwise inevitable cataclysm. The problem of making democracy the universal instrument dedicated to the wise and constantly progressive service of mankind is a problem of education—a problem of pointing out the goal—a problem of freeing the minds of children instead of binding them hopelessly by the restrictive and repressive measures which have now been fastened, like leeches, upon our educational systems.

In the task of changing these things, the architect cannot stand aloof without risking a complete relegation to oblivion. It is in the field of education that he must seek the answer to his queries as to why the world seems unduly to pass him by.

THE CREATION OF A CONSTRUCTION DIVISION in the War Department, as already announced by Acting Secretary Crowell, indicates that the great building projects, amounting to over a billion dollars and destined to accelerate the prosecution of the war, are finally to be coördinated. The new division will replace the cantonment organization and will deal comprehensively with the whole War Department building program. At the head of it has been placed Professor A. N. Talbot, of the University of Illinois, president of the American Society of Civil Engineers, and the board includes John Lawrence Mauran, of St. Louis, president of the American Institute of Architects; Charles T. Main, of Boston, president of the American Society of Mechanical Engineers; John R. Alpine, representing the American Federation of Labor; R. Goodwyn Rhett, of Charleston, S. C., president of the Chamber of Commerce of the United States; E. W. Rice, of Schenectady, N. Y., president of the American Institute of Electrical Engineers; Frederick L. Cranford, of Brooklyn, president of the General Contractors' Association of New York, and Oscar A. Reum, of Chicago, representing the Building Construction Employers' Association.

There are already under way in the United States eight-five big jobs, aggregating \$205,000,000. There are in prospect now 120 more, representing \$278,000,000. In addition, there are forty jobs for housing troops, representing

SHADOWS AND STRAWS

\$390,000,000, while hospital construction alone represents \$10,000,000.

It is reported that all work will be done henceforth under the "cost plus sliding scale of fixed fee," in which fixed fees to contractors range from 7 per cent on contracts on \$100,000 or less down to as low as $1\frac{3}{4}$ per cent on the very

largest amounts. The fee, according to this form, is fixed when the contract is let, and if the cost exceeds the estimate because of higher labor and material prices, the contractor receives no additional compensation whatever. Labor and material prices always will be subject to approval by the Government.

The Double Staircase

SOME years ago—I might have said many, since the last three have pushed all the preceding ones so far back into the past—we sat at dinner in the Café des Venitiens at Liège, my friend Jean Venelle and I. It was a gala night in the old Walloon city that then lay smiling beside the Meuse on an evening in early spring. Smiling—indeed I always think of Liège as smiling, until that fateful day in August, when the invading hosts fell on it with their engines of destruction and Belgium entered the valley of the shadow of death. Poor smiling Liège! Sad flowing Meuse! And who is sitting at dinner in the Venitiens on these nights of this new spring? What shadows fill the little square before the Theatre?

On that night, the square was brightly lighted. Jean had promised me a treat, and although I had seen Coquelin at Paris, and was now to see him for the first time in "Cyrano," I knew that the nature of the treat was something more than either Coquelin or Rostand.

"It will be quite different from anything you have ever seen," said Jean, with an inscrutable twinkle in his eyes, and so it was. But I was content to wait. I did not even suspect his meaning when we entered the theatre, although the bare walls seemed almost brutally plain and joyless. It was even so cool that we sat without taking off our overcoats and watched the last-comers pick their way to their places. Then there came the three loud taps and the curtain rose on the barest stage I had ever seen.

Today, I remember but one detail. All recollection of the other crude and meagre bits of property has completely vanished. Literally, there was no scenery, but never shall I forget Roxane, standing on a box some two feet high, listening to Cyrano as he told her that eloquent tale. No balcony clinging to an ivied wall was ever so

beautiful as this. Wall there was none, and yet I saw it rising in the moonlight, tenderly gray in texture, exquisitely graceful in its pointing. Jasmine there was none, and yet I saw it creeping upward toward the balcony and felt the breath of its perfume floating on the still air of night. All the beauty of all the arts was there—brought into being by the music which fell from the voice of a man—and the soft answers of a woman.

As we walked home on the boulevard that night, I suddenly remembered the prophecy of Jean, and I was grateful for the kindly wisdom which had left me the chance of making my own discovery. A few words would have spoiled it all, but Jean was always wise in those things. Glad am I that death took him before Liège was plunged in tears.

Since that night I have seen many plays and many stage settings, but it was not until I saw the "Yellow Jacket," and fell a victim to the spell of the love-boat—which M. Roché described so vividly in these pages last year—that I had such an experience as on that night in Liège, and up to the time when I paid my first visit to the Theatre du Vieux Colombier, in New York, the skill and craft of the stage manager had not been able to efface those two images from my mind. Imagery in stage setting was clearly triumphant over realism. But the double staircase in "Les Frères Karamazov" will remain as the most haunting of all my memories of the theatre. From the great room in the now immortal house, it ascends to the right, and from the railed landing which marks the *deuxième étage*, it mounts to the left. The balustrade is simple in the extreme, and even seems too light and frail to serve its purpose. During the play only three men are seen on those stairs, and no woman's

foot even so much as ventures toward them. Perhaps that helps to define and sharpen the gloomy prescience that hangs over it. The drunken father mounts it tottering, descends to sup, remounts it for a change of garment, and descends it for the last time. Smerdiakov climbs it to do his valet's service, descends to serve his master with the evening meal, mounts it again, noisily, until chided by the now besotten *amoureux*, to bring down the three thousand roubles that are to be hidden for Grouchenka, behind the icon. Dmitri and Aliocha never set foot upon it.

Ivan climbs it elegantly, with the conscious air of his superior ways; climbs it angrily, climbs it murderously with Smerdiakov huddled on the lower treads, and descends it to leave for Moscow. But, until the last act, he goes no further than the first landing, to the right of which we are left to imagine a chamber in keeping with the proud, unhappy occupant.

Then, in the final act, Smerdiakov mounts it slowly and wearily, never to descend again, for Ivan, seeking him in the last fleeting moment of his fast vanishing sanity, returns with a look of horror and the fatal word on his ashen lips.

As a piece of domestic architecture, that staircase might invite criticism. Who cares? It stands like some simple but moveless symbol—a

clepsydra or an hour-glass—marking the inflexible passage of time. It offers the haunting suggestion that "Three Men and a Staircase" might almost be the title of the play, for that is the memory which crystallizes and detaches itself after the curtain has fallen and you have escaped to the quiet of your room. The going and coming of those men upon that stair seems symbolic of the doom which each weaves for himself and for the other. It is a tale of primitive passions, of great exaltations and dark depressions, of childish questionings and cunning baseness. Through it all there flows the torrential out-pouring of Dostoievsky; it is brimming over with the soul of that nation which we are so pathetically far from understanding in its present hour of agony. That double staircase with its slender balustrade, seems the mystic vehicle by which men ride and fall, as time, now plodding slowly, now swooping like a flash from the sky, finally lays a hand upon their shoulder.

Verily, the double staircase in the "Frères Karamazov" is an achievement in stage setting of which M. Copeau may well be proud. As for the consummate skill with which the work of Dostoievsky was dramatized while still preserving all the quality of one of the greatest of books by one of the greatest of writers, no praise could be too high.—C. H. W.

French Architectural Students in the War

EVERY American who has ever been at the Ecole will remember the prevailing good humor of his French comrades—even under the most trying circumstances. In the midst of a "charrette," even when a bottle of ink was spilled over a finished drawing, there were only battles of words, of highly colored profanity, but never a resort to blows. So during the last three trying years it would seem as if the Frenchman's sense of humor has been a wonderful asset under the soul-wearying grind of war.

Nothing exemplifies this better than a reading of the "Gazettes" published at the Ecole des Beaux Arts. Early in the fall of 1914 a committee of American architectural students, to their everlasting credit be it said, undertook the

task of making itself the medium of an interchange of news and correspondence between their French comrades at various points on the front or in other parts of the military service. Through an admirable scheme they have also helped to support the families of architects who have been mobilized—a scheme which deserves to be described in a separate article. The correspondence exchange soon developed into a series of mimeographed "Gazettes," one published for each atelier, the "Gazette Laloux," "LePascal," etc. These are typewritten (mimeographed) pamphlets of twenty or thirty pages, which are sent out by mail to the students and former students wherever they may happen to be. Enclosed with the "Gazette" is an addressed sheet of letter-paper in the form of a reply postal

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on which the men in the trenches may scribble their news items for publication the following month. The enormous task of reproduction and editorial work on the "Gazette" has been in a great measure managed by the American students, and the cost of publication, as well as the funds for the relief work, have been provided by the monthly subscriptions of former students of the Ecole in America.

The arrangement of these "Gazettes" is fairly uniform; an illustrated title-page (see Fig. 1 as an example); a page containing some message of encouragement from the professor of that particular atelier; an inside title-page with the emblem of the "Gazette" and some announcement like that of the "Redon," that it is "L'organe le plus formidablement poilu

GAZETTE LALOUX

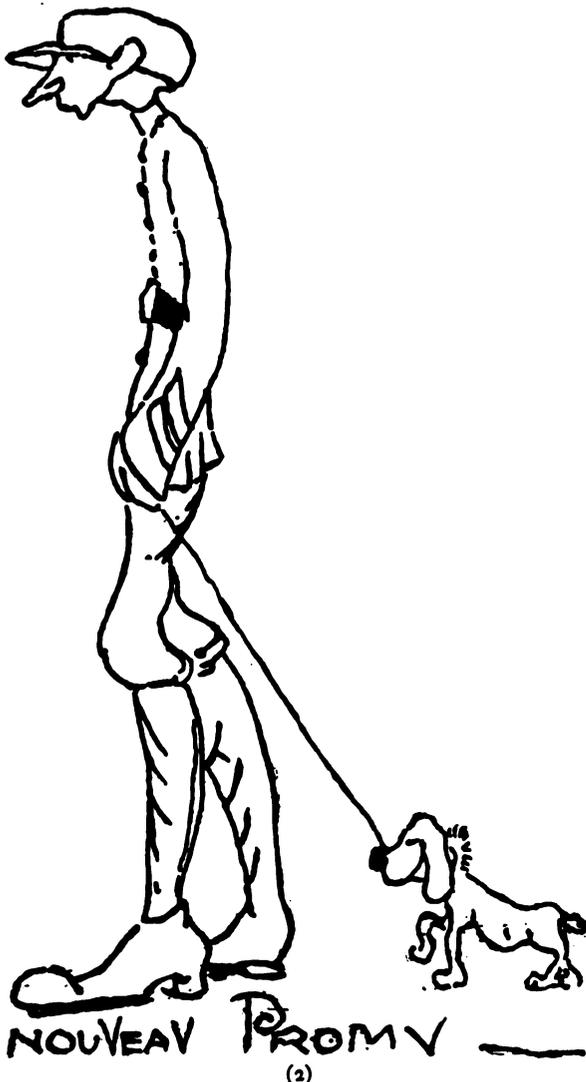


MON VIEUX SAMMY, PLUS QU'UN CALQUE A METTRE!!
JE VENAI LE METTRE!!!

(1)

de tous les organes les plus poilu," a page in a decorated border with the fatal list of names inscribed, "Mort au Champ d'Honneur," then a list of those who have "disappeared," those who are prisoners of war, and a list of honors, military medals, "citations," etc. Then follows news from comrades, young and old, alphabetically arranged and interspersed with roughly drawn (mimeographed) illustrations, caricatures, etc.; the grave and gay inextricably mixed up.

The correspondence generally gives all sorts of details of life at the front, in France, in Saloniki, in Mesopotamia; naturally nothing is included that could give military information of importance. One man talks about what he does in his spare time to get rid of his "cafard" (grouch); another tells of a chance encounter with a former comrade; yet another speaks of the long-awaited leave of absence; all of them send messages of good cheer, speak of the happy days that are gone, and long for the peaceful days to come. Not one ever suggests quitting



(2)

until the fight is well won. Not that they like what they are doing—they detest it. They grit their teeth and mean to see it through, despite mud and cold, wounds or death.

What saves all this exchange of experience from the grimmest kind of drama is the ever-present sense of humor. Here is a man who sketches a newly promoted officer (2); another who recites a pleasant incident of camp-life in which the chef finds fault with the man using a cooking utensil for bathing purposes (3); a third who suggests a brilliant scheme for a "cantiniere" for a regiment of aviators (4). Perhaps the best in recent numbers is the illustrated reply of a man who had heard that the Ministry of Fine Arts proposed to hold an architectural competition in design for students in the service so that even those in the trenches might not get out of practice in drawing (5). Elsewhere, a man who describes his seemingly endless life in the mud of the trenches as being a sequence of mud and then more mud and rain and then just plain mud, says "la seule chose



*Tu es un salaud pour te laver les pieds dans le plat. !!!.....
Mon vieux tu y as bien foutu
des pieds de cochon, hier soir.....*

(3)



*Projet de Cantiniere
pour
Compagnie d'Aerostiers.*

(4)

que je crains, c'est que la fin de la guerre je n'aimerai plus la boue." How can a nation be doomed that can find a source of humor in its worst agonies?

Recently, the "Gazettes" are full of comments on the American soldiers, their frankness, their naive manners, their constant gum-chewing, and their sense of certainty that if only once they can "get at" the Kaiser it will be all up with him. In July they were all for celebrating the Fourth of July. Here one Frenchman writes "let us all sing together now as we did in the old school-days a 'John Brown's Body'!" Another remembering from the Ecole some ex-Yale man's "Brek-kek-kek-kex koax koax" of the frog chorus, hopes that every Frenchman will now join in the great American cheer "haricot-verts-co-vert-co-vert" or the American national anthem starting "rosbif aux pommes, good-bye!"

The papers are full of messages to American comrades in all parts of the world. Recently in the "Redon" an architect in Toulon who said his son was in the army at Saloniki sent messages in the same note to former comrades, one now in Algeria, one with the Servian army, one on the Northern front, one lying wounded in a hospital,

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(5)

and the writer in New York. A study of twenty or thirty of these "Gazettes" shows never a word of bitterness. Everlasting courage and steadfastness are characteristics of every page of these remarkable publications. At most there is an occasional expression of wonder as to whether or not, at the close of the war, they who still live will be able to resume their professional

gazette laloux



-UNE SEULE BLESSURE? C'EST DOMMAGE.
AVEC TROIS JAMBES EN MOINS, VOUS SERIEZ
DIPLOMÉ DE DROIT

(6)

practice, or if it will all be gone or taken away from them. This particularly interests them as to the possible reconstruction work of the invaded regions and destroyed monuments (lest we forget, and try to get professional jobs at their expense!)

We architects of America can indeed be proud of the spirit of our French confrères as exemplified in these highly interesting atelier "Gazettes."

ROBERT D. KOHN.

The Circean Shadow!

By RICHARD WALLACE TUDOR

*"I have a little shadow that goes in and out with me,
And what can be the use of him is more than I can see."*

—ROBERT LOUIS STEVENSON.

WHAT is the matter with the architectural profession?

The spasmodic questioning of the last few years has been revived under the stress of war, with a newer and more insistent emphasis, expressive of a healthy discontent. With that effort which has been made to stimulate and capitalize this discontent, I am not concerned. It is to the questionings of the thoughtful element in the profession to which one may well address one's attention, for, although even these do appear, now and then, to suffer a little from hasty conclusions and generalizations, they reveal evidence of a sincere desire to be more than plaintive or destructive.

A common source of this unrest is found in the oft-repeated assertion that the architectural profession has not been fully—or adequately—utilized by the Government in the nation's hour of need. The facts of the case should be carefully examined, for there seems reason to believe that such a failure was, at least, no greater in degree than the Government's failures in many directions—since a war-machine cannot be organized over night—and certainly no greater in this particular respect than was the case in either France or England, where the architectural profession enjoyed the advantage of a generally wider recognition. It may well prove, as all the facts come to be known, that the Government of the United States was quicker in its recognition of the value of the architect than was the case in either of the other countries.

But, in sum and substance, all of these questions generally bring forth the complaint that the architect is not appreciated or understood. As a remedy for this condition, there is frequently proposed some form of advertising or propaganda which shall set forth the virtues of the architect and his profession. Why is it assumed that the public can be made to understand and appreciate the architect by such a method?

The issue has been raised. Let us discuss it.

It is clearly evident from these voluminous outpourings that the writers assume that the architect is not understood, that he is not appreciated. But this is an assumption. The question at bottom is this: Is the architect misunderstood? Here, surely, we have a question which must be answered before we may proceed. Shall we demand a categorical answer from a score of architects, a score of business men, and scores from other groups, so that we may tabulate the result and find the answer? Shall we obtain opinions from various people in other callings and check them to our own? Or, shall we ourselves endeavor seriously to discover what is our real composite character—the character of the entire profession, not a limited group—in order then to determine whether or not the public judges us correctly?

For we must reckon with the possibility (perish the thought!) that the public's appraisal of our qualities is a fair appraisal, and that what we characterize as a lack of appreciation is nothing more or less than an almost uncanny ability to value us properly.

But how can we get at the truth? It is of tremendous importance to get this matter straight. We may point to our individual efforts and say of this building or that: "Isn't that beautiful, or fine, or monumental, or adequately expressive of the actuating forces?" And the public may agree. So we win our case. But, on the other hand, the public, in a moment of sanity and rational purpose, may point to our ugly, ungainly, uneconomical, hodge-podge cities (in which a goodly number of its structures have been designed by members of the profession) and then what have we to say? What *do* we say? "*They* did it." In other words, we take unto ourselves the responsibility for the nice little things we do, and we "pass the buck" of responsibility to the public ("they") for the things we fail to do. And the public becomes confused and all mixed up about architecture

THE CIRCEAN SHADOW!

and art, and we become greatly confused as well, and write letters to the architectural press and act a little peevish.

But we are not getting at the answer. How do we come by this attitude? What are the influences which ultimately form our judgments and direct our activities? Let us take a little excursion into that smug, pre-planned region of our life which we call "the formal education of the architect."

The Significance of the First Step

The agencies professing to teach architecture and allied subjects turn out an ever-increasing number of young persons presumably ready to take their place in the ranks of the vocationally qualified. Are these young persons ready? Are they equipped? This is a vitally important question, for the use, and the good, and the purpose of architecture are tested by our entire physical environment. We may test it by our own professional standards, but the public only laughs at us, applies its own test, and keeps on looking for real leadership.

But before we answer the question as to the quality of equipment furnished to students by our architectural schools, there is a still more important matter first to be determined. What is our standard of appraisal? For what should they be ready? For what equipped? Have we considered this phase of the problem seriously? Have we thought of it in terms of social values, of democratic institutions, of democracy?

What are we driving at? What is our purpose? What is our plan?

Have we a plan?

Apparently we have; for have we not schools and ateliers, examinations, degrees, prizes, scholarships, and trips abroad? Do these not reflect purpose, and direction, and suggest that there surely is a plan? Seemingly they do.

But let us examine this conscious effort in the light of Mr. Webb's illuminating address on "The Functions of an Architectural Society."*

Purpose! Wherein do we find in our formal educational effort an expression of purpose which accords with his conception?

Direction! Is our effort directed toward developing in the students those qualities which, as he points out, should be the possession of the architectural profession? Does our method of

teaching, the scope and the content of the curriculum reveal an organized program looking toward the development of a vivid concept of what should be the architect's function in a democratic society?

In relation to Mr. Webb's thesis one finds in that curriculum no like purpose expressed, no definite social or democratic goal of endeavor, and nothing in the way of a well-organized plan conceived with such an end in view. We are groping about in a forest filled with an undergrowth of obsolete æsthetic values, economic fallacies, and social prejudices so dense as utterly to confuse us; we have lost all sense of direction.

When a student enters a school of architecture he arrives with his bag packed to the brim with a mass of unrelated facts and fallacies gathered during the greater part of his life in the undemocratic, the unsocial, the unreal atmosphere of what we term formal education. He has been guided by the older generation; he wears blinders; he emerges into the more liberal(?) atmosphere of "higher education," having been told what to do, what to say, and what to think, his powers of judgment and decision rendered sterile by the process.

And then what happens? He is told to face squarely around and gaze steadily back into the past—to Greece and Rome—for there he will find inspiration. Again he begins his march; on and on he goes, never for a moment realizing that his effort takes him farther from his goal. This he does not discover until four years later when he emerges into a confused place of strange forms, a jostling crowd, and new forces—the world of reality.

And again what happens? All that is real—the jostling crowd, the strange forms—to him is barbarian. As his confrères also emerge, they gather together and organize for combat; under the banners of "educational propaganda" and "æsthetic values," armed with "codes of ethics" and "schedules of charges," they march forward to conquer. But the barbarians go on about their business, developing new forces, paying slight heed to the little army marching to the archaic music from the pipes of Pan.

Let us consider this seriously. Let us for the time being drop the subject of the public's appreciation of æsthetic values. As to what we must do to make the public appreciate our

*See the Journal for January, 1918.

effort, let us drop that also. Instead, let us get down to realities and examine the philosophy of education as applied to the education of the architect. Has such a philosophy been formulated? Where is the evidence? Let us check our activities against Dr. Dewey's philosophy, for example.

We discuss without end the cultural value of our teachings. Do we express in terms of action the idea that "any subject is cultural in the degree in which it is apprehended in its widest possible range of meanings"? Do we teach the architecture of humanism in the sense that "humanism means at bottom being imbued with an intelligent sense of human interests"? Do the activities upon which the student is engaged "react to enlarge the imaginative vision of life"? Are we not merely accumulating a miser's store, thinking of our possessions rather than the meaning of the affairs of life? "Any study so pursued that it increases concern for the values of life, any study producing greater sensitiveness to social well-being and greater ability to promote that well-being is humane study."

Architecture should be a humane study. Do we so understand it? Do we so act? Let us see. What is our first step? We turn the eyes of the student back to Greece, thinking that out of the Hellenic circle he will absorb only the beauty of line and proportion. This, perhaps, he does, but he absorbs more, for with that goes the narrow humanistic spirit of the Greeks where the "higher culture was based upon a sub-stratum of slavery and economic serfdom." So on through the "periods" of the past. Consciously and laboriously he accumulates forms and motives. Unconsciously he accumulates sympathy for the cultural forces which produced them. And precisely as the "older humanism omitted economic and industrial conditions from its purview," so does the school of architecture omit those things both as regards the present and the past. The student studies the architecture of the Greeks, let us say. In reality he studies the cultural expression of the class which was in social control. Being told to appreciate a form, his reaction, if it be positive, generates a sympathy for the social order which produced it.

Starting, as we do, with the physical and social standards of the past, accepting merely the aristocratic standards by which effort is appraised, condemning in advance any suggestion that industry may contribute to the cultural advancement of mankind, is it any wonder that the world of reality seems remote and strange?

When we introduce the student to his vocation through the "elements of architecture"—the orders, through the use of forms we instantly narrow his concept of his vocation. From that time on the architecture of humanism becomes secondary to the architecture of form and proportion. Architecture becomes merely the arrangement of things and materials, rather than the resultant of human needs and desires.

And when in our choice of forms we select for models merely the cultural expression of past aristocratic societies, we again and further limit his concept of his professional function to the service of that element in society, the needs and desires of which are associated with the forms with which he has become familiar.

It is not a question of whether or not the classic orders are appropriate structural or decorative elements to use in the twentieth century; *it is rather that their use as an introduction to the study of architecture*, the architecture of humanism, brings immediately into the field of the student's interest a group of associated ideas so diametrically opposed to the democratic tendencies and ideals of the present as to antagonize him to the world in which he lives!

It is the exaggerated emphasis upon the value of these aristocratic cultural expressions in form at the very outset of the student's career which creates the narrow, aristocratic, class-conscious attitude of the school of architecture and hence the anti-social attitude of the majority of the profession.

Our architectural institutions of learning are off in the wrong direction; they are developing an anti-democratic, anti-social profession. It's "right about face," and a fresh start. A tinkering with courses and methods is not sufficient; nothing less than a complete reorganization of effort will suffice. It may be gradual, but it must be complete, for the new world after the war will be a more democratic world.

(To be continued)

Letters* from an American Architectural Student in France

July 30, 1917.

We are beginning to have lots of work, and it is steadily increasing—most alarming. Of course it is good for us in the ambulance, but that is a horrible way to look at it, for our work means some man's misfortune. One can hardly conceive the agony of it all. It really is hard to see at a distance—a very short distance at that. And I believe that these wretched newspaper correspondents and war writers are in large measure responsible for a deal of this shortsightedness. They treat something which is almost sacred as if it were a movie or a ball game. Although I confess there was a time when, to use slang, "I fell for it."

I suppose that it was entirely different at the beginning and during the first year of war, which I was not fortunate enough to have seen, when nobody knew at all what was going to happen, and there were the elements of adventure and romance and old-fashioned soldier spirit connected with it—a great deal of the latter, I presume. Before this, wars meant individual suffering, heroism, dashing bravery, overwhelming joy in case of victory, and the fortunes of war to be accepted in defeat.

But this is so immense and so vastly far above our poor human heads that one is indeed fortunate who has the privilege of being able to imbibe a small bit of it. It is an entire nation menaced by the gravest calamity—that of being reduced from one of the first countries to an ignominious position of dependency. And the whole nation has been fighting, not as a conquering army filled with the glory of victory, but rather a nation fighting a victorious fight and filled with the glory of an ideal. But it is hardly fair to call it a victorious fight, for it has cost them dear, very dear. And often the end seems so far off, and occasionally becomes obscure, and the black cloud of "Kultur" looms ominously.

However, it seems to me inevitable that the end will be in our favor. If people would only realize what France has done and how very much the world owes her. Really, we have not the slightest right to hold up our hands until we have paid them back several times over.

The "Red Badge of Courage" is not such a glorious sight as many imagine. Wounds are painful and not over-pretty; guns make a noise that splits one's eardrums—not a noise that gives one that curious elation prevalent at "Star-Spangled Banner" meetings; refuse smells and vermin bites; the rain is wet and cold and mud is depressing and food is food and needed, and it is not very exciting to starve in the cold and wet, nor is it very "picturesque" either, but rather disagreeable and disheartening. Yet these people fight on with the best of them under the earth. Germany can pay back much, but can she ever restore to France that youth and blood of which she so arrogantly deprived her?

One has but to see soldiers going up to the trenches to have the whole past three years brought to light in a nut-

*The letters of Edmund Randolph Purves began in the issue of November, 1917.

shell. It is indescribable. They do not go up with the spirit of conquest nor, on the other hand, like scared children, but they are men who know what is ahead of them, and there is no novelty in it for them. One can read on their faces (for Frenchmen of all classes have expressive faces) a determination, not necessarily grim, better call it earnest—"grim" is too hackneyed and has lost its force.

But the coming back is in a way the worst part—many stay out, turning into part of that drab landscape of "No Man's Land" and becoming offensive to their fellowmen and own immediate comrades. "Heaps of dead" are not thrilling objects, except in story-books. And the men who come back in whole skins are pretty well played out, but of course the relief acts as a good tonic. However, they soon realize that relief is only temporary, and the whole business will have to be gone through with again.

Then there are those who return from the trenches wounded. Some are lucky and get off with light wounds which are comparatively of little physical importance and afford the owner an extended "permission." Others are grateful when their wounds are of such a gravity as to prohibit them from further military duty, without their being too painful. Those are the wounded most heard about—the ones that give the romantic dashing element to warfare.

But then, if the people at home could only once see a real "grave blessé!" There are no lovely ladies to hold a heroic hand whose owner's head is bound up with the proverbial red-stained rag. Usually there is a rather choleric doctor, fed up with three years of it, who pours burning iodine on the living flesh, inflicts another wound with his anti-tetanus needle, and pins on the little "fiche," thoroughly cataloguing the man in a most prosaic and businesslike fashion. How hard-hearted one becomes working with the wounded—there are so many of them!

When the work is light it is different, and one can give individual attention to them—talk to them, try to cheer them up a bit. But when the work is heavy, and they come pouring in, it is a different matter; each one is just like the other. And along toward morning, when it is cold and wet, and you have been hauling them all night, their groans and cries of "oh la" and "à boire" begin to get on your nerves. But, after all, you are only an "ambulancier," while they have been soldiers of France and have a right to yell in their agony.

Many people still seem to think that working among the wounded means holding a glass of water to some parched lips with one hand and stroking a handsome brow with the other, with the shells bursting around, none of which, of course, touch you at all. I am not cruel by nature, and to see wounded does not inspire me with anything but pity and admiration, but you must realize that they have no time here at all for cheap sentiment and a "blessé" probably prefers to be comfortably fixed in a safe hospital rather than to be pitied and made a fool of—and the quicker he is gotten there the better.

The work in this section seems to me to be somewhat

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different than that in the other place. It is more dull and yet, in a way, more exciting—harder and yet easier, and, for some reason, more gruesome. The country has been so intensely fought over that it is more or less like a strange land into which we make regular trips and never fail to come back with our load of human freight. Although we cannot see the lines on account of the hills, yet we have a feeling that we are very close to them out at the posts, and I have no doubt but that we will soon have a very clear view of them—perhaps too clear for comfort.

There had been a great deal of shelling the other day, and when I was up at the poste I asked the doctor if there had been any result from it. He simply nodded, led me to a shed, and pulled aside the blanket that served as a door. There, lying on the earthen floor, were five bodies, all shot to pieces—the men who carried the food up to the trenches. It is of great advantage to prevent the enemy from getting his food, for a hungry soldier is a poor fighter. There seem to be a great many more dead in this section—at least they are more in evidence—and it is not seldom that dead men are taken out of the ambulances that come in from the front-line postes and hurried across to the morgue, always with a blanket over their faces. The dead are never put into the ambulances, but quite often men are so badly wounded that they die en route.

So far I have seen no men wounded by rifle bullets, except those bit by machine guns, which inflict about the same sort of wound, only there are apt to be more of them.

They brought in a "gassed" man a few days ago—the first one I have seen. He appeared to be all right, except that he coughed incessantly. He was conscious, however. He had a very light case and only got, perhaps, a few whiffs. They say that it takes about three to five breaths of this new gas to suffocate, and that it is odorless and invisible. That, probably, is somewhat of an exaggeration. At all events, I am not very keen about running into any of it, and hope that I will never actually need a gas-mask. I have only worn one once, and then it turned out to be more or less of a false alarm. I have seen gas-shells come in, but, luckily, I happened to be to the windward of them and was perfectly safe.

Last week the German aviators came over and dropped notices saying that they were going to bombard two of the towns nearby. They did, too. They never fail to carry out their word in cases like this. Back in the other section they used to give notice about a week ahead of time whenever they were going to bombard a certain large railroad base. They were rather punctual, too, and generally got away with it.

One of the most amusing sights I have yet seen here at the front I saw the other day. We were returning to camp, when, coming around a corner, we saw ahead of us a gendarme on a bicycle and beside him trotted a German prisoner, a rather nice-looking chap who was continually smiling to everyone he passed. None of them seem to object to being prisoners, as far as I can make out. It really was funny to see this Boche hurrying along and evidently enjoying it.

August 7.

We leave camp about 11 o'clock in the morning, after a hurried meal in which we eat just as much as we possibly can, for it is a long wait until supper. Food is almost the

most powerful projectile there is! We then drive some four miles to a little house at the brink of a canal and wait there until it becomes dusk, the wounded being brought down to us by boat in the daytime. As soon as the twilight shows signs of giving out, we go on up to the "poste" itself. It is a distance of about three kilometers of the meanest driving possible. Imagine the worst traffic you have ever been in, a dark, cloudy night, and no lights anywhere, except star shells—unfriendly ones usually—and you have an idea of what that road is like. To make it more interesting, there is one of these little narrow-gauge trench railways running along either side of the road. A trench train is a formidable thing to meet in the dark. The other morning I was running behind a convoy, in a heavy cloud of dust, and, when it settled down, I found that I had been going with one wheel between the rails. It is wonderful how few accidents there are on the road—not as many as one would find in ordinary city traffic.

The "poste" is in the middle of what once was quite a little village. There is no village any more—one house alone stands, and that one in a poor state of repair and not now worthy of the name of house. On the other side of the village is a low hill, and on the other side of that are the Boches—so near and yet so far. Owing to the contour of the country, we are never in view of the lines in this place, but we are quite near and are in plain sight of their observation balloons.

The night I am speaking of, the Boche had spotted a hand-grenade depôt and had put a well-aimed shell in there which took its toll of human lives. As we entered the town in the growing darkness, we passed "brancardiers" pushing the little two-wheeled stretcher-cots as fast as they dared over the rough roads. That shell certainly created enough havoc. Many died on the way to the "poste," and few got off with light wounds. Some of the "brancardiers" seemed to hold only a bundle of bloody rags; on some, the white faces stared up at the faint stars with mouths shut tight in silent agony. It was an uncanny sight, these little "rickshaw" arrangements creaking through that blasted village, each with its single load of maimed, blood-soaked humanity, while over the hills the star shells rose and burst "sans cesse" and the guns growled and the caissons went rumbling on and the foot-soldiers stolidly plodded past, pipe in mouth, gun slung over shoulder, stabbing the mud with their sticks and heaping vile epithets on the luckless driver who forced them into a ditch—a typical evening scene back of the lines.

Upon reaching the "poste," which consisted of a well-made "abri" of corrugated iron semi-cylinders covered with masonry, I went in to find out how many wounded there were to carry, which is rather a matter of form. No doctor appeared on the scene, and, upon entering, I saw the room literally crowded with wounded—bad stretcher cases mostly. It was a pitiful picture—the whitewashed interior of this corrugated iron tunnel, throughout the length of which men lying, head to feet, stretcher after stretcher. Innumerable they seemed, though there could not have been more than fifteen. A lonely flare placed at the near end lit up the place and flickered dimly in the fetid draught which slipped through. About half of the men on the stretchers had already "gone West," their

LETTERS FROM AN AMERICAN ARCHITECTURAL STUDENT

glassy eyes staring toward the lines, and here and there among the stretchers one could faintly hear the "oh la la!" which means that a Frenchman is really suffering.

It was not long before I had a load, carrying three stretcher cases in back (two officers and one private) and a sitting case on the front seat. One poor fellow had his foot (among other things) blown clean off and bled profusely, and I did not have time to clean the car afterward, so that it smelled fearfully. Blood does really smell—a pungent, nauseating odor. I had doubted it in books, but I know now. The fellow on the front seat had been almost buried alive for three hours and had lost a deal of skin from his chest, but was quite cheery and very talkative.

The work continued right along, and, in the morning, after it was over, and we had come back to the canal bank, I tried to snatch a little sleep by lying across the driving-seat of the car. I had tried putting a stretcher on the ground to sleep on, but the rats thought it was for their benefit, so I gave up that idea. A "brancardier," seeing me draped on the seat in a most uncomfortable position, insisted upon my having a decent bed. I could not refuse (it is almost impossible to refuse anything in this country); he would not think of it. Murmuring something about the outrageous way they treat the hard-working drivers, he took me into his shack, which was scrupulously clean and white-washed, and showed me into his bunk, a most splendid contrivance with a straw mattress and springs and warm blankets. There was a time—and not so long ago—when I might have hesitated to share the bed of a peasant from fear of the lurking evil within the folds. But this time I was really sorry for his sake, for I was terribly muddy and somewhat "cooty" (buggy). When I mentioned the fact to him, he said, "but you are tired," so I lay down, and he tucked me in (he was a fatherly old soul), and soon I was sound asleep, dreaming of Chestnut Hill, and when I woke up I congratulated myself on being where I was and doing what I was doing.

Speaking of the good old-fashioned flea—more than one have been with me for the past three weeks. They are really not a bit bad when one gets used to them, and I am sure that if he or she leaves me I shall be desolate. They get to be part of one, you know.

That clipping apropos of ——'s speeches was very interesting and true in a good many respects, but showed that even those in authority do not always know what they are taking about these days. I contend that an Ambulancier *does not* need to be as strong a man physically as a soldier. The only strain is a nervous strain; the physical hardship business is a joke. One gets rather tired, but it cannot in any way, shape, or fashion, compare with the fatigue of a soldier. Moreover, his statement about the mortality in the aeroplane and field artillery services being so great shows his ignorance about actual conditions. On the western front the infantry suffer the most, far more in proportion than any other branch of the service; the brancardiers and trench-diggers and supply men probably the next, but far less than the infantry. Flying is as safe a job, pretty nearly, as driving an ambulance, and the artillery, especially the "heavies," is about as entertaining a job as working a steam riveter in a boiler factory, and much safer. Most of the casualties in the flying corps

come from mismanagement of machines and poor flying. One naturally thinks the aeroplane service so dangerous because they always print the numbers of machines wrecked in the "communiqué." If you could see the casualty list in the English papers you would see how things stand. . . . The Germans do not shoot at ambulances; they cannot afford to waste a shell on them, but quite often ambulances have to pass through places and along roads that are being shelled.

I suppose that you have heard by this time about Jack Newlin. It was a great shock to all that knew him. About ten days ago he came over and had dinner with me, being with a brand-new section that had just come out to this sector. He had had one trip on their beat, was very enthusiastic over it, and quite keen about the work. Several days later he went out again and was blown to eternity by a shell which landed under or near his car. (I do not know the details of it all.) I believe that it was what is called a "stray shot," and happened some way back, although I may be entirely mistaken about this. It is the first time anybody that I have known has been killed in this war.

August 11.

The other day I had two rather interesting passengers. The first was a slip of a freckled-faced boy, younger than myself, whom I had carried once before, back in the other sector, now evacuated. He recognized me and I recognized him, so I put him on the front seat, and he told me all his troubles. He came from somewhere on the coast and had been turned down at first on account of his weak physique but was finally taken. But his soldiering did not last long; he was soon sent to the rear with intestinal trouble, and now again, after two or three weeks at the front, he was sent back for the same reason. He was rather relieved to be out of it, but hated really to have to go, as he was full of spirit, and said wistfully that he guessed that he was not cut out for a soldier. I do not think he was either, as far as the physical part of it goes, but there was nothing "yellow" about him. He presented me with his bayonet as a souvenir.

My other was a little colored fellow who looked very comical with all his equipment as he moved along. His little round black face (about the blackest I have ever seen), half hidden by an enormous tin hat, looked like a large polished black button, and part of his equipment as the whole mass—overcoat, haversack, bayonet, rifle, and canteen—came clattering along. He sat on the front seat with me, and, thinking that he was an African, I timidly asked him in French what Division he belonged to. His answer was in English—good English, not Uncle Remus dialect, but a clear curious kind with a strong foreign accent. He informed me with pride that he was from the West Indies—from Guadeloupe—and not a Senegalese. He was very proud of his French education and could speak three languages, French, English, and Spanish. He said that he had learned English at school but had perfected it at Panama, where he had worked *with* Colonel Goethals on the Panama Canal, driving a steam drill. Colonel Goethals was his ideal man, in fact, in his estimation, the Americans were great fellows, but he said that they should have been in it long ago. They all say that

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over here, even the Indo-Chinese coolies. That is a fact. This poor man had not had a leave since he had come over, and wanted to go back and see his family once again in far-off Colon. These colonial troops must actually suffer from homesickness. I shook hands with him and wished him good luck, which seemed to please him, as I do not believe these fellows are much fêted, and their billet is no bed of roses. They do a large part of the fighting and come in on very little of the glory, and one can imagine how the Boche must treat them if they catch them—but they seldom do. These fellows die fighting.

There are a great many foreign soldiers about here, mostly from Africa and Senegal. The Africans are coal-black men with rings in their ears and with names that

recall the queer, mysterious African lakes and rivers. They are rather big and brawny junker-jawed, with great lips and scar-patterns on their faces, and are not very intelligent looking. Beside their regular equipment they carry great flat knives (machètes) with which they do most of their fighting. The Senegalese are about the same, but have narrow, slanting eyes, sharpened teeth, and most inhuman faces. Little wonder that the Germans run at the sight of them. The Moroccans are yellowish men and make wonderful fighters for hot action, but they go to pieces when forced to sit tight.

It was the stolid British ability to sit tight and their bulldog tenacity which kept the nation on its feet during that first frightful year.

News Notes

The Italian Military Medal for Valor conferred on Mr. Guy Lowell. According to press dispatches, the Italian Military Medal for valor has been conferred upon Mr. Guy Lowell, now serving with the Red Cross on the Italian front.

A New Book on Housing to be Published by the Journal

"The Housing Problem in War and in Peace" is the title of a new volume to be issued by the Journal and now on the press. It will consist of the articles which have appeared in the Journal under the title "What is a House?" and will be illustrated by photographs and plans of the various types of small houses built in England during the war, and with plans of the villages of Eastriggs, Well Hall, Queensferry, Coventry, and Glengarnock. There will also be included plans and elevations of other buildings, and the

material on the work of the Massachusetts Homestead Commission and the small-house reconstruction work in France, both of which appear in this number of the Journal. The price of this book will be \$2, and it is already evident that the first edition will be exhausted in a very short time. A special notice concerning this has already been mailed to members of the Institute.

Two Volumes of Proceedings Desired by the Institute

For the purpose of completing a special file of the Proceedings of the Institute, the Secretary of the Institute would be grateful for the donation of either one or both of the volumes for the years 1876 and 1886. Members in possession of either or both of those volumes and willing to make them available for the Institute's files are requested to correspond with the Secretary.

Small-House Reconstruction in France*

IF THE attention of those interested in housing in the United States has been almost entirely concentrated on the housing undertakings of the British Government, it must not be thought that France and Belgium are not deeply concerned with their own problems. In the former, nothing but plans are now possible, but these are being studied in the broadest way, and there need be no fears but that the reconstruction of Belgium will proceed along lines informed with the lessons of the past. It is perhaps worthy of chronicling the fact that extensive studies for the rehabilitation of Belgium have already been made by the German authorities, and the preliminary proposals, at least in part, have been issued in printed form.

*From the French of Henri Lavedan in "L'Illustration."

But the world will still have something to say about this!

In France, the loss of the iron and coal areas resulted in a temporary industrial depression, with a consequent expansion in England, where the burden of war production fell with compelling force. Thus the French were not faced with any such housing problems as arose in England. The restoration and expansion of the war-making industries in France was a gradual process permitting readjustments which were not possible in England, nor, as experience has so painfully demonstrated, in this country.

Much temporary reconstruction work has been done in France where there developed the imperative necessity of rehabilitating the reconquered areas which had been devastated by the

SMALL-HOUSE RECONSTRUCTION IN FRANCE

enemy. But the future will require an immense amount of study and a vast expenditure. To the excited few in the United States who have so mistakingly assumed that the problem of reconstructing France was one that should be left to its lovers in this country, there may eventually come a perception of the fact that France, architecturally, is able to care for her own interests. The illustrations which accompany this article are in themselves the best of evidence as to whether the authorities and the architects of France are capable of approaching their problem in the proper spirit, and if further testimony were needed, perhaps it may be found in the appreciation by M. Henri Lavedan, a translation of which should be given the widest circulation possible. In it there dwells a perception of the housing problem which is so illuminating and so revealing—so profoundly touching in its humanity, so inspiring in its delicate message to those who face this question in other lands—that it might almost be said to constitute the basis of the human and the esthetic approach to the home. Other factors enter in, as we know, but it is only through an intelligent blending of all the various phases that there will be laid the foundations of a stable national life—if we admit that this must, in all cases, be founded and maintained upon the home. There need be no fear but that we may look hopefully to France for a contribution worthy of her great sacrifices, her noble intelligence, and her will to live. The article by M. Lavedan, to which we refer, is as follows:

Since the commencement of this year 1918, when there was affirmed with so much energy the confidence, the hope, and the faith of French hearts, there has been accomplished, quite apropos, a vivid demonstration of our will to live and to prepare without delay for the immediate future.

As is well known, a competition* was held "for the reconstruction of the rural habitations in the liberated regions," and the Museum of Decorative Arts exhibited in its rooms, until the first day of February, the drawings, chosen from very many, that were deemed worthy of special mention and of possible adoption as the types of architecture appropriate to the regions, to the circumstances, and to the necessities of the future.

The exposition is both the proof and the fruit of a unanimous motive, of a touching and scholarly effort. We do not doubt, however, that the public went there, influenced not only by a sympathetic curiosity but by that active desire and by that generous impulse which impels us,

*In the preliminary competition there were 1,498 entrants; in the final, there were 340, of whom 270 were soldiers.

each in our sphere and according to our abilities, to compete in the great work of general reestablishment, of universal reconstruction. It can be well said that, without active participation, we shall contribute nevertheless to the success of the common enterprise by the cordial interest which we shall have shown. We shall contribute our foundational stones, invisible and real. In these questions, the warmth of public opinion is precious and of a communicative strength that nothing equals. It alone can create the torrent of zeal that goes straight to the goal and carries away all the obstacles.

The first impression of this exhibition, which is not once changed during the length of the visit, is instantly complete. The eyes and the spirit find in it their charm and their profit. I well know that the majority of those who passed through to look at these drawings preoccupied themselves less perhaps with their practical value and the conveniences that they offer than with their picturesque exterior and the bewitching aspect that they present. No matter. It is not necessary to possess technique in order to understand the very special conditions that the program demands, and the way, so often fortunate, in which, in different degrees it has been studied, grasped, and visualized by all the competitors.

It was not a question, indeed, of considering the rebuilding of amusement resorts or the country villas of the middle class. These, without doubt, have known as much as the others the destructive rage of the invader, and the moment will also come to determine to rebuild them in the same spirit of local and reasoned adaptation, the source of inspiration of all the good workers of the rebuilding renaissance. But the first to be considered was the most urgent—the primary and indispensable requirements of existence. The necessities of nourishment, of cultivation, of manual labor, the discipline and conditions of life itself clearly indicated and limited the immense work.

Bread made necessary the oven, and flour, the mill. The fields, no sooner cleansed and put back to a normal state, would demand the farm buildings; and everything depending on the sun and the earth, both beasts and people, would desire the roof and its shelter. The first scheme was thus naturally indicated. The inn, the bakery, the café, the smith's forge, and, above everything, the houses of the peasant, of the farmer, of the rural worker; such were the humble and sovereign edifices to be first erected, the pillar and support that should be determined and placed, the nucleus around which would group themselves afterward, little by little, in the near and far-distant future, the different and successive elements of the resurrected village. What task more important than the careful and studied reformation of all these cells, broken and obliterated! What noble attraction, what magnificent stimulus did the difficulties themselves present! No! That was not an ordinary competition, one of those cold and common tests that concern but the hand and the intellect and leave the heart a stranger. It has been absolutely necessary in this case, that, in order to succeed, the heart should aid the mind and direct the hand.

All of these drawings, the best as well as those that do not attain perfection, nevertheless permit to appear clearly the tender thoughts of their authors. In addition to their remarkable merit, they are the stirring acts of

patriotic piety. One may perceive the leaven of the most exquisite solicitude at the same time that one is surprised at a kind of divination with which a number have understood and penetrated the character and spirit of the district to be restored. Neither mistake in taste nor mistake in tact. Nowhere does one find any sentimental heresy.

I admired at every instant this comprehension, so unerring and so correct. "Why," said I to myself, "it seems that these young architects never lived anywhere but in the country and in that part of the country which is the object of their study!" And it is also an object for inquiry, when one sees the precision, the confidence with which some have placed and distributed the farm buildings, whether formerly they have not been innkeepers and agriculturists.

No, that was not necessary. It was sufficient for them, knowing their trade, to be soldiers, to have seen and experienced the ravages of war. The sight of the ruins was in itself capable of suggesting to their intelligence, moved to pity, the most suitable way to reconstruct. They have learned "on the job" that the new habitation can not be well erected except by considering, respectfully, the ruins. A great number of these young men are in the army. Their ideas were conceived in the trenches, under canvas, within sound of the cannonade. In order to germinate, their ideas, like seeds, had to be put first in the earth, in the bottom of the hole dug for them. Being in the foundation ditches, they placed the piers. The air, earth, and climate of the regions where, in a close intimacy, they were forced to prolong their sojourn, informed and impregnated them until they were native to the locality. In working at the resurrection of the particular corner of France, destroyed beneath their gaze, they obeyed with fervor a sentiment of individual and filial gratitude. This is the reason why the plans were conceived and executed in a will so expressive of duty and love.

It is impossible to mention all the names of those who have devoted themselves to the work of salvation, but permit me, however, to draw special attention to M. Pierre Sardou, government architect, who no longer can count his successes. In the army since the beginning of the war, he obtained first prize for his "House of a Rural Property Owner." How charming and practical it is, this modest and solid home, all on one floor, with its wall in natural stone color and its brown roofs. Tied to the past by certain motifs, sober in line, of a good, frank rusticity, hospitable and well protected, it constitutes on the side of the road of life the ideal shelter of peace, of labor, of repose, as well made for living therein a long time as for there dying in the calm and the satisfaction of a beautiful evening.

Mr. Bonnier, an aviator, also winner of one of the first prizes, has found time between flights to realize the captivating idea of Flemish farm buildings, of which the very finished model gives us a delicious impression. With its roofs loaded with snow and its little windows lighted in the night, it looks like the setting of a Christmas tale. And, really, in the most profound meaning of the word, does it not concern the human and national nativity? And the habitation of the blacksmith, as the likeness is engraved by M. Pierre Patout, treated in old timber work, is of the most

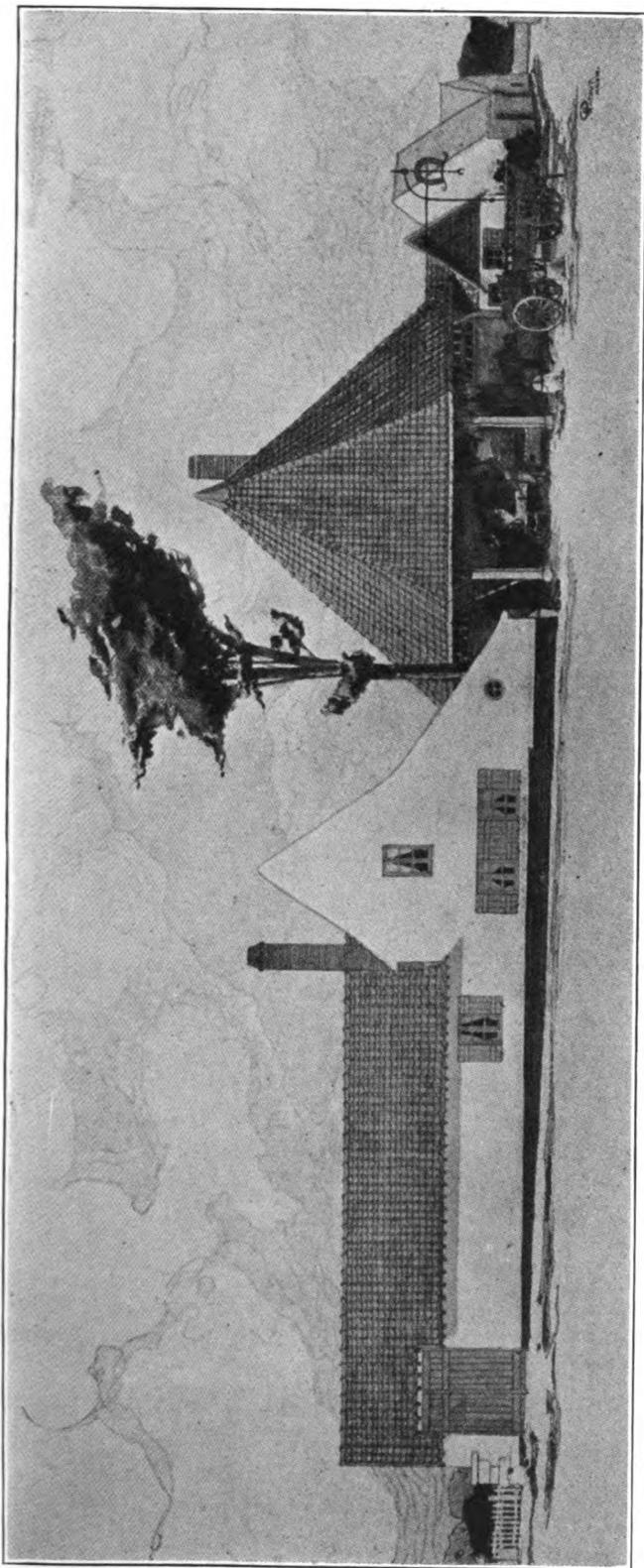
cordial and ample attraction. What a magnificent framing of this robust shed in the style of an ancient market-house! At the very sight of it one hears the song of the hammer, and the perfume of the scorched hoof rises in the air. Many others, who will excuse me, should be noticed. All, in designing houses, created poems, ballads of the new era, in which occur reminiscences of the past. Yet adapted, with a light touch, to modern formulas, they have gathered and continued the traditions of the old provincial architecture, and this religious anxiety that guided them lends to the ensemble of their researches a ravishing harmony, a family resemblance.

And it is also a song of action and grace, which under a serene sky, among reborn orchards, over the breathing village, declaims the cheerful and youthful house with roofs mounting to happiness. Oh, the touching promise of the Alsatian chimneys, columns having for bushy capitals the nest of storks! Thus the ruin, alas, when forgotten, seems already to belong to ancient history. The stones of mutilated France have changed their voices. Yesterday they were weeping, today they sing.

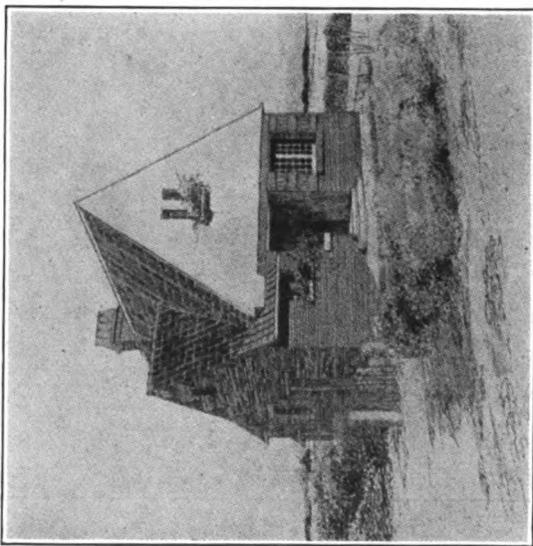
But on the day, when to the repatriated will finally be given over the pleasant and fair dwellings newly adorned, how necessary it will be that those who there take up their abode shall endeavor to feel their charm and their moral value, all that they hold of devotion, of sacrifice, of right, all the loving attention and anxious maintenance which they demand. These are sanctified houses, uncommon, beautiful, and it will be an impiety to allow them to decay and deteriorate. It is therefore necessary to care for them, in order that all the good artists, who conceived them and offered them to their native land in so fine a spirit, may not in the future have heavy hearts, finding them vilified, misunderstood, and soiled. A great and useful education to undertake, and one which will forge to the front as one of the pressing needs of tomorrow.

This vast and compelling question of the reestablishment of our devastated provinces is an inexhaustible thing. The depth of its perspectives extends in every direction. I have only been able, to my great regret, to put down in passing some reflections on morality, and, forced to terminate, I perceive that I have said almost nothing. Fortunately, others better prepared and instructed, of a more scholarly technique, and prepared by conscientious study, have set forth and treated in all its aspects the problem that in this article overwhelms me. I can do nothing better in concluding than to recommend to those of my readers desirous to inform themselves more fully the excellent work that, under the significant title, "The Homes of France," has just been published by M. Léandre Vaillat, apostle of this fundamental thought—each locality its characteristic house. He was one of the first and devoted organizers of the great movement of which we can appreciate today the precious results. Composed of serious studies so favorably mentioned in "Le Temps," the book, written by a learned and refined artist and a charming writer, is the most agreeable and scholarly labor consecrated to this great work.

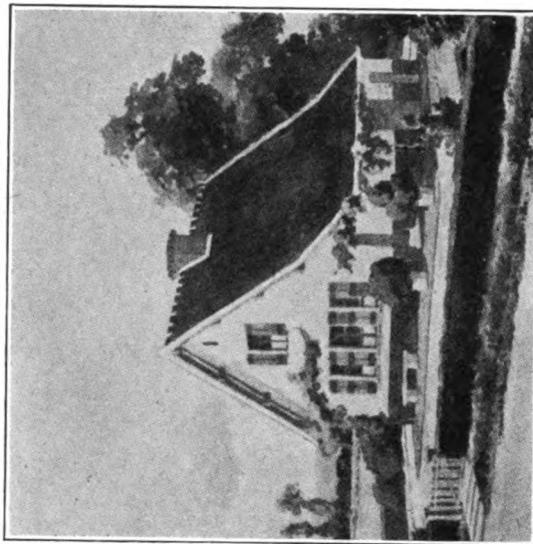
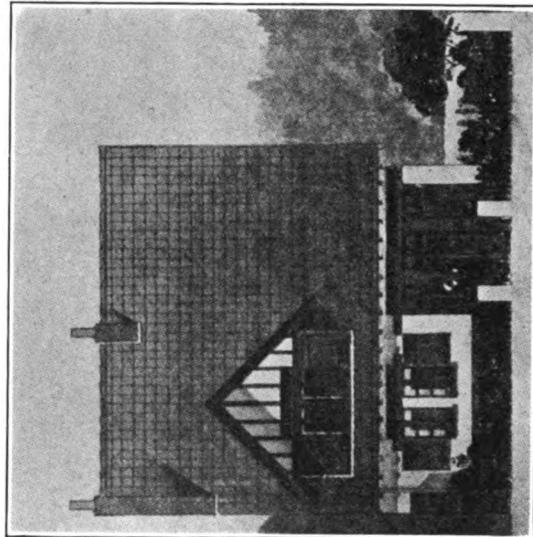
*The text and illustrations of this work were published in the Journal of August, 1917.

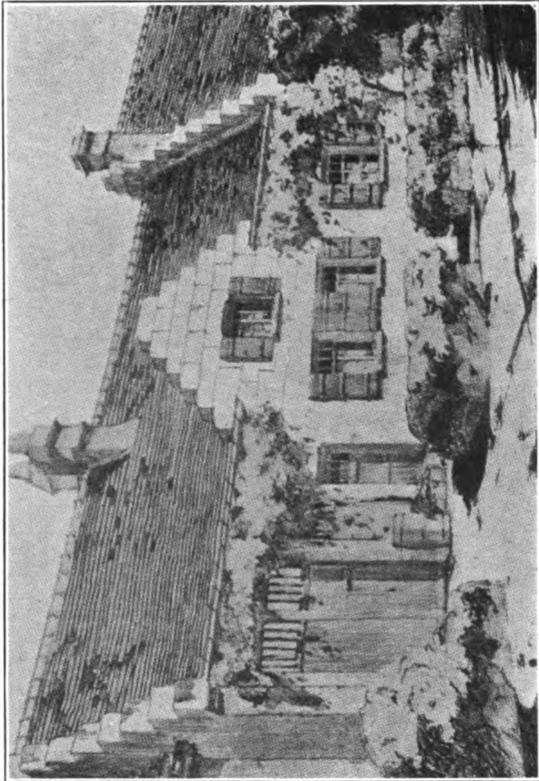


BLACKSMITH'S HOUSE IN THE NORTH (M. Pierre Patout)

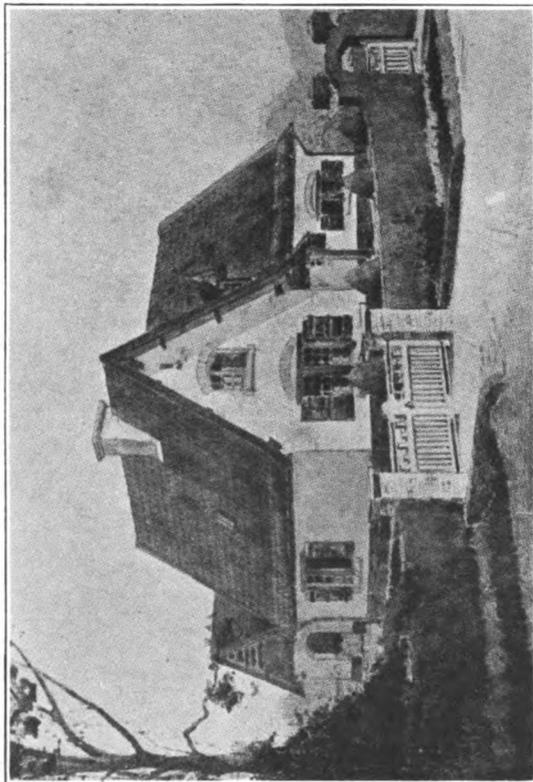


THREE HOUSES FOR FACTORY WORKERS (M. Goupil, MM. Coutan and Robida and M. Maxime Adam)

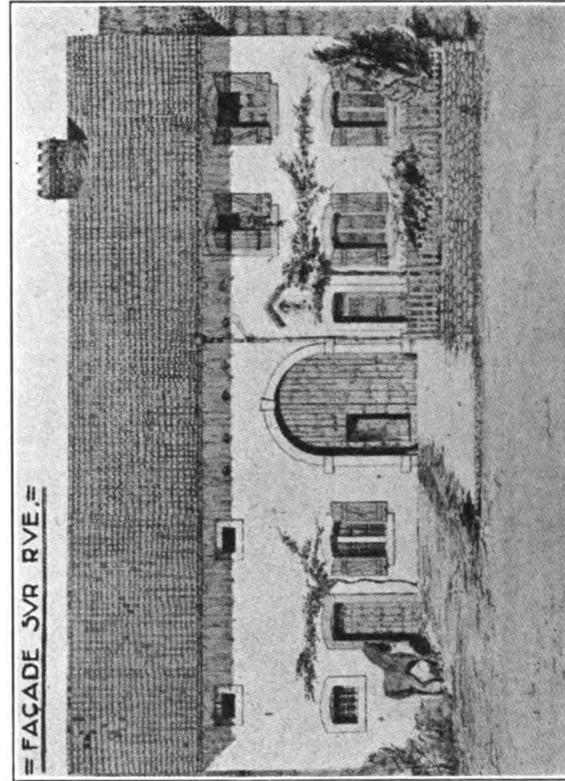




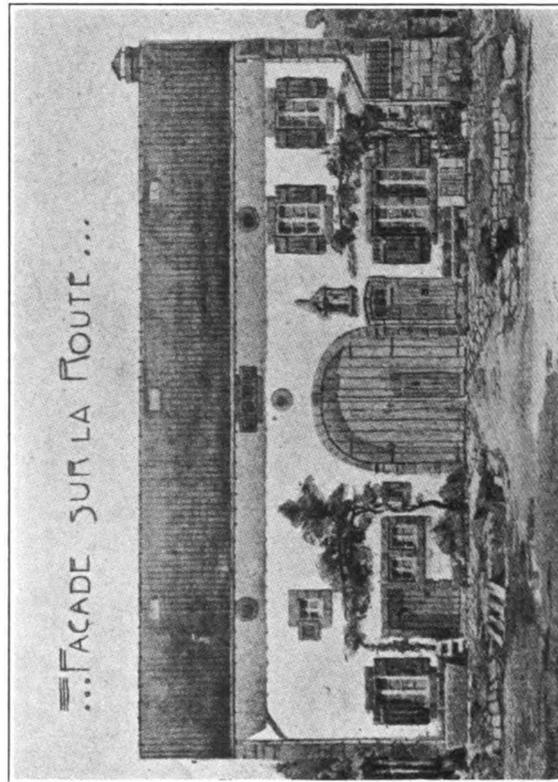
HOUSE OF A RURAL PROPERTY OWNER IN AISNE (M. Pierre Sardou)



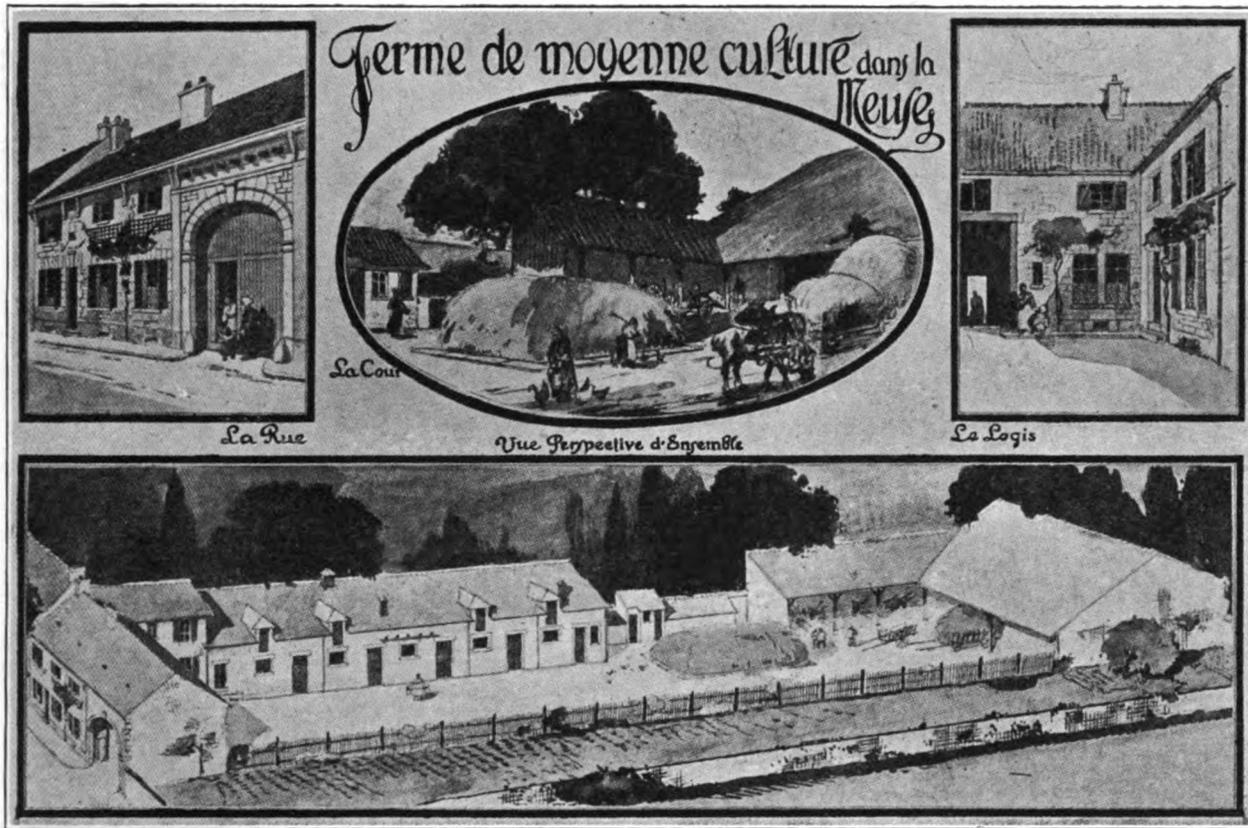
HOUSE OF A RURAL PROPERTY OWNER IN ARTOIS (M. Roger Poyé)



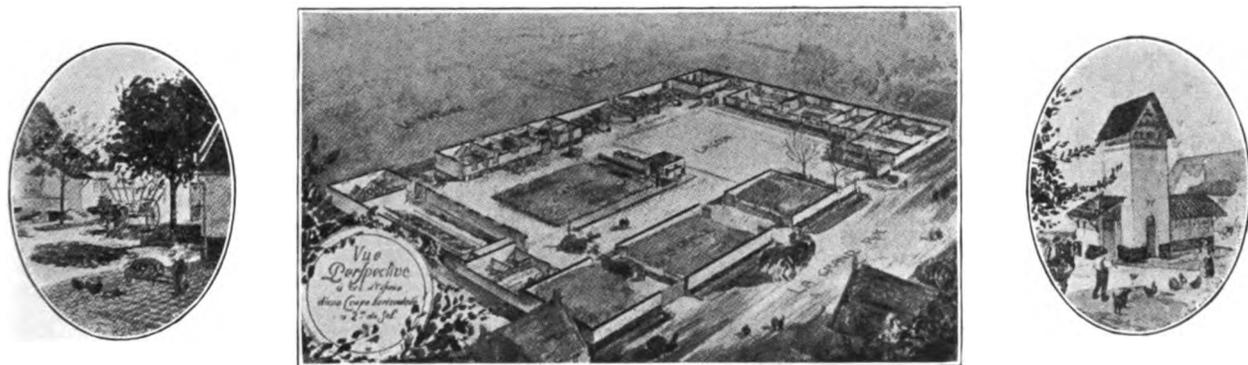
A SMALL PEASANT HOUSE IN MEURTHE-ET-MOSELLE (M. Maurice Stein)



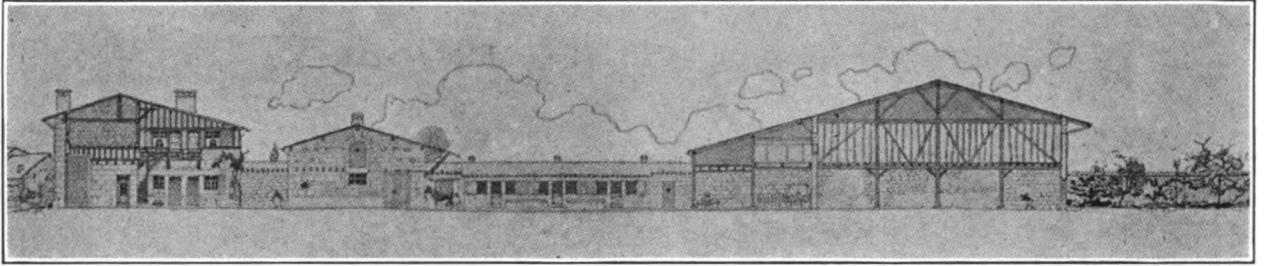
A SMALL PEASANT HOUSE IN VOSGES (M. Jankowski)



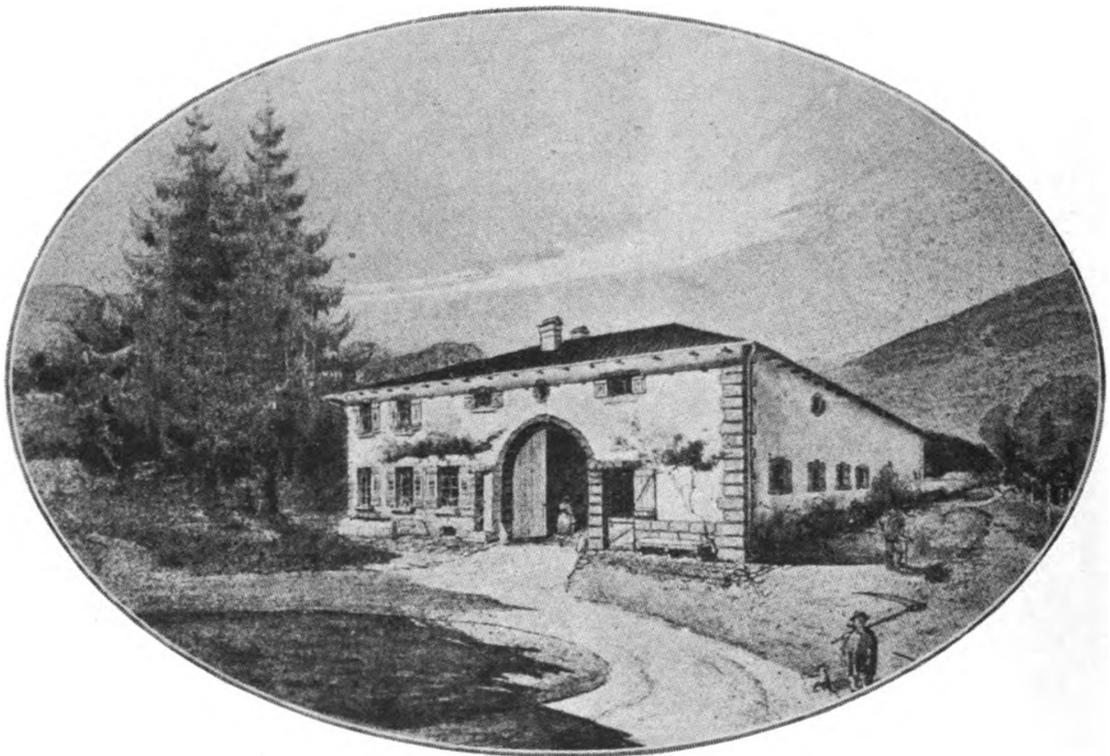
BUILDINGS OF A MEDIUM-SIZED FARM IN MEUSE: DETAILS AND PERSPECTIVE OF THE GROUP (M. Paul Tissier)



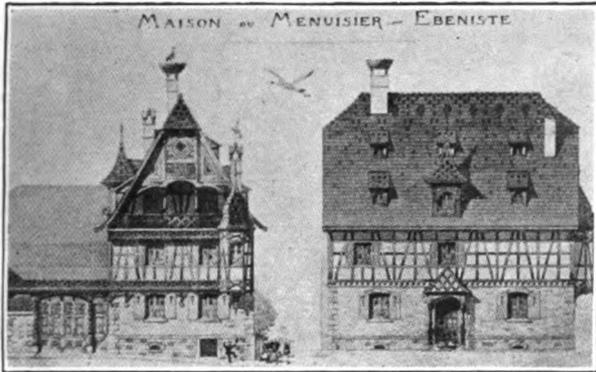
FARM OF TWENTY-FIVE HECTARES IN PAS-DE-CALAIS (M. Sirvin)



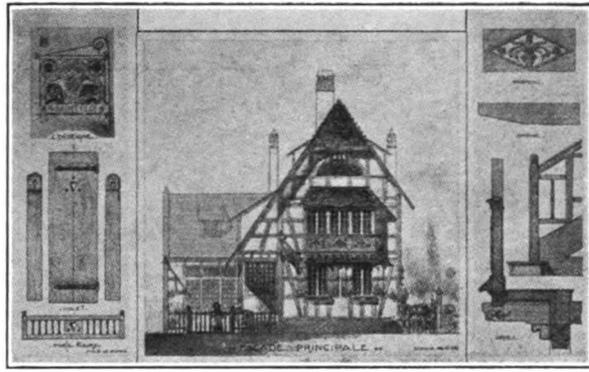
FARM BUILDINGS IN MEUSE: LONGITUDINAL SECTION OF THE BUILDINGS ARRANGED IN THE DEPTH OF THE LOT (M. Leprince-Ringuet)



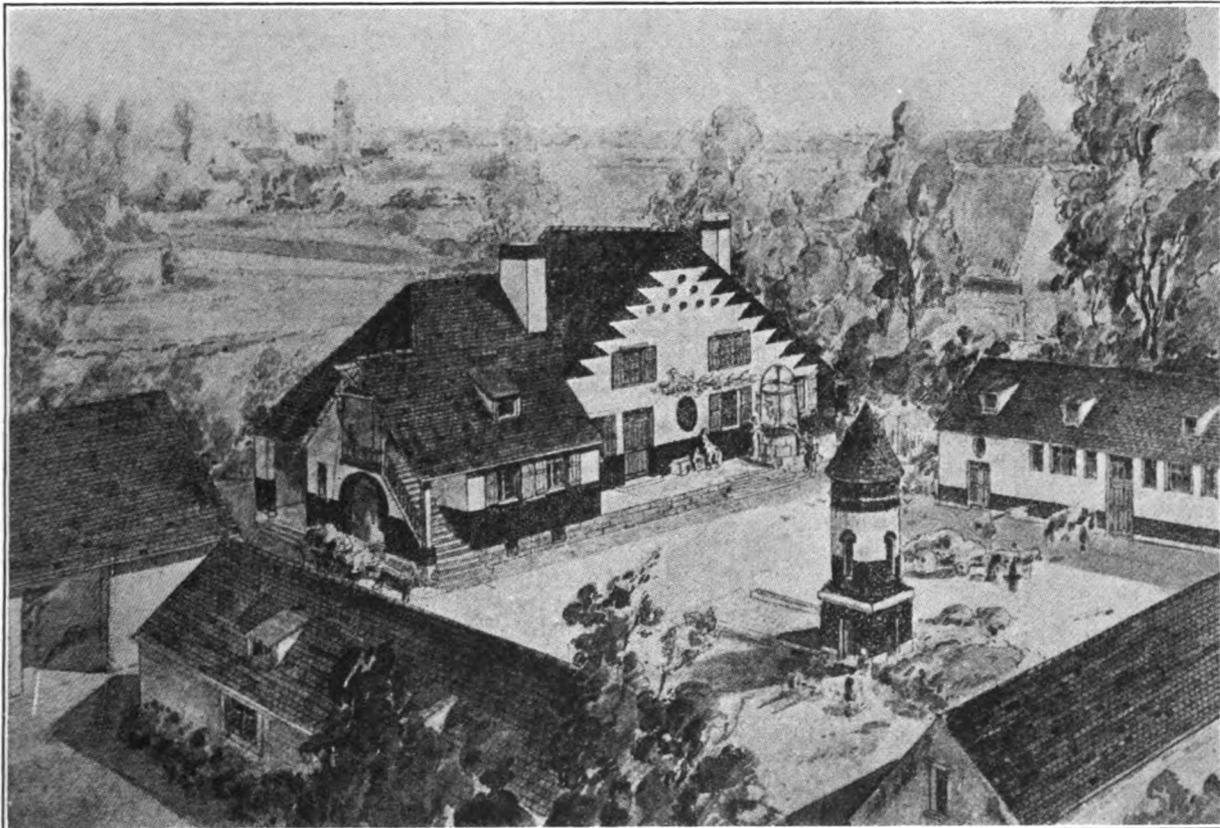
SMALL FARM BUILDING IN THE VOSGES (M. Vidal)



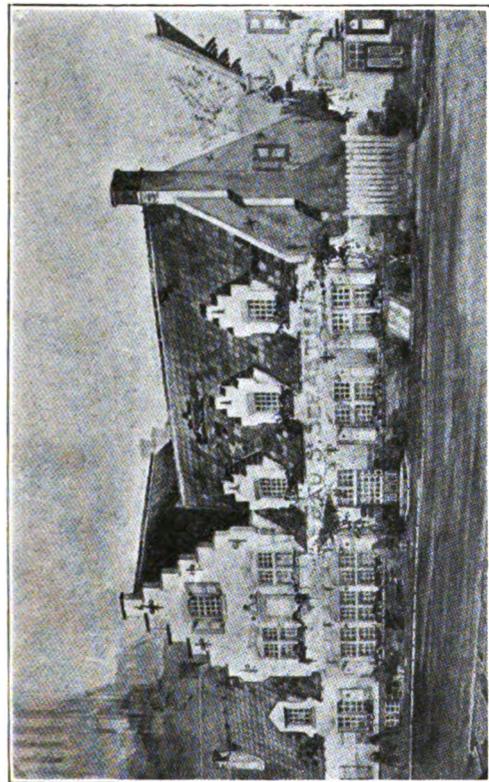
HOUSE OF A CABINET WORKER IN ALSACE (M. Eschbacher)



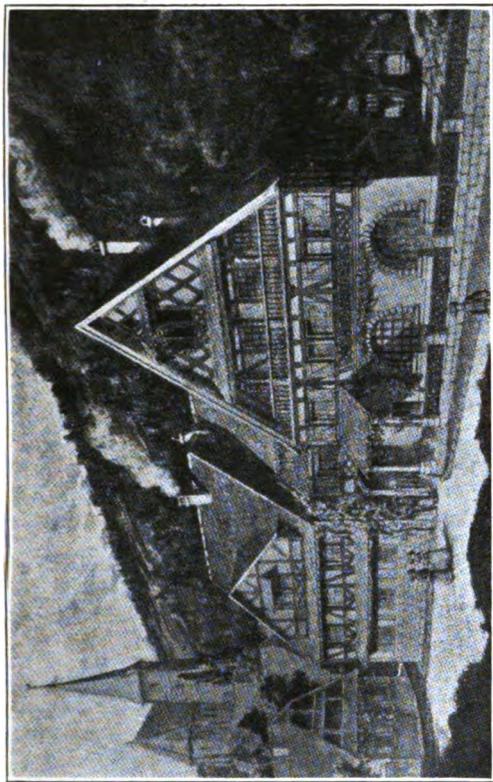
HOUSE OF A LOCKSMITH IN ALSACE (M. Dory)



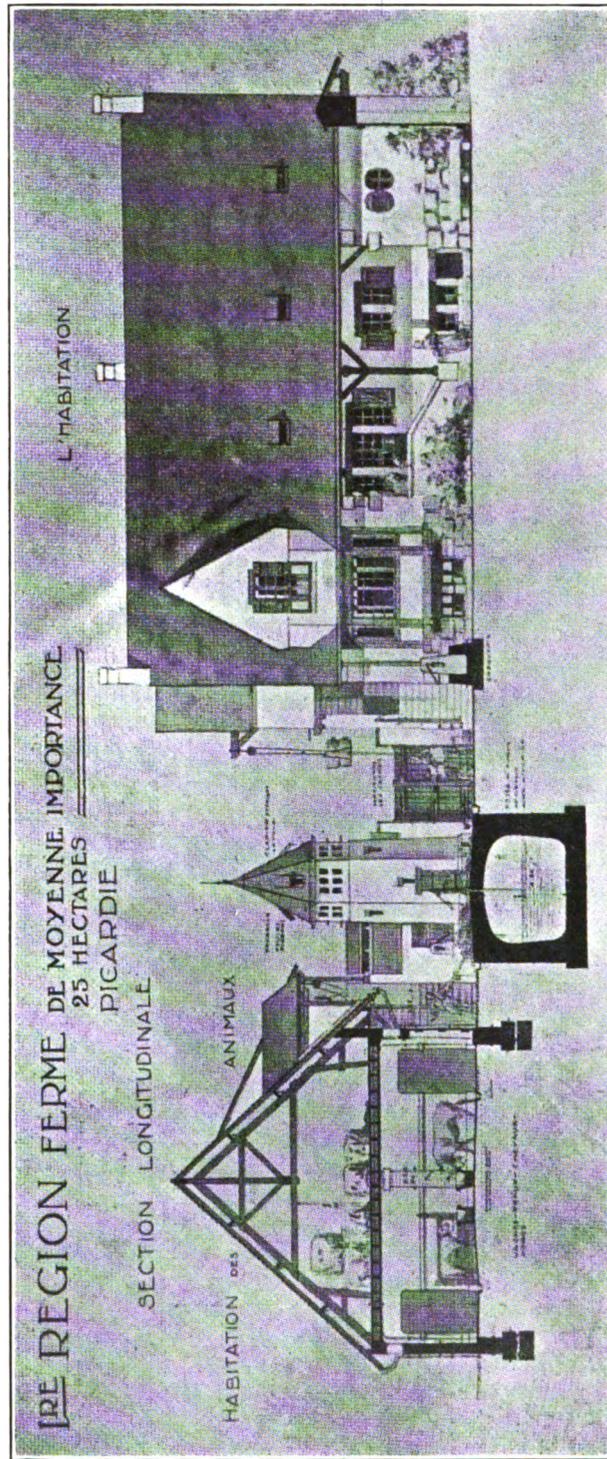
FARM BUILDINGS IN PICARDY (M. Guidetti)



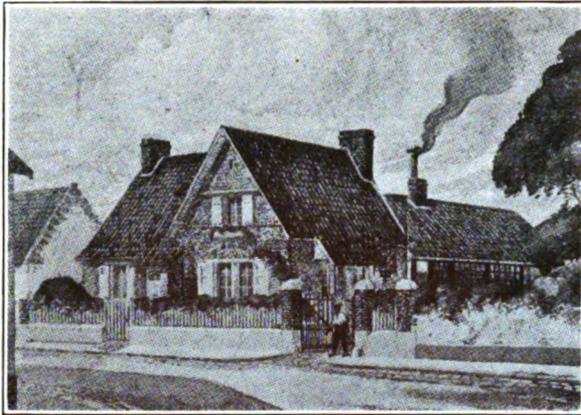
TAVERN IN THE NORTH (M. Barbotin)



VILLAGE INN IN THE MOUNTAINS OF ALSACE (M. Lambert)



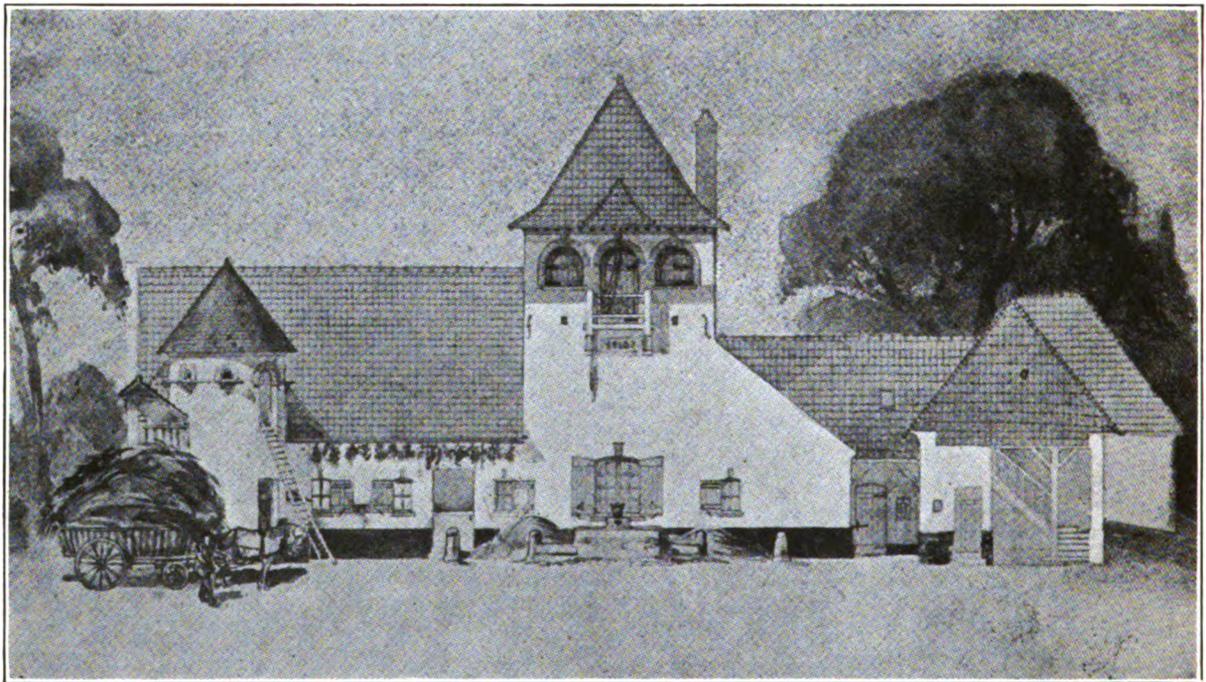
BUILDINGS OF A MEDIUM-SIZED FARM IN PICARDY: COURTYARD ELEVATION OF THE DWELLING-HOUSE AND LONGITUDINAL SECTION THROUGH THE STABLE (M. Anselmi)



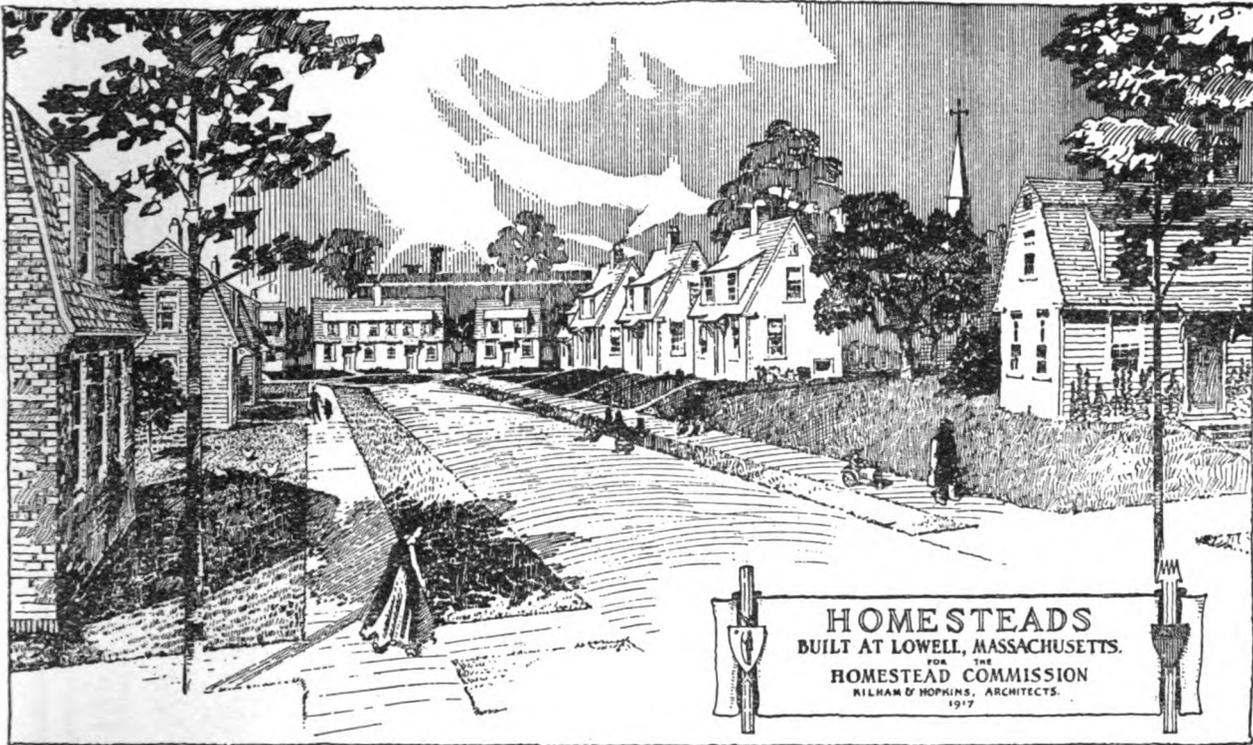
HOUSE OF A LOCKSMITH IN ARTOIS (M. Despeyroux)



BAKER'S HOUSE IN MEURTHE-ET-MOSELLE (M. Bois)



FARM BUILDINGS IN ARTOIS: ELEVATION ON THE COURTYARD (M. Mulard)



Housing by the Commonwealth of Massachusetts

IN 1912 the Homestead Commission recommended that the uncalled-for savings-bank deposits in the state treasury be used for an experiment in housing. Such use was found to be unconstitutional. The Commission was then influential in securing an amendment to the Constitution, ratified by the people of the Commonwealth on November 2, 1915, providing that "The General Court shall have power to authorize the Commonwealth to take land and to hold, improve, subdivide, build upon, and sell the same, for the purpose of relieving congestion of population and providing homes for citizens; *provided, however,* that this amendment shall not be deemed to authorize the sale of such land or buildings at less than the cost thereof."

The Commission then renewed its recommendation for an appropriation, asking the Legislature for \$50,000. The bill was defeated, but on the following year the sum was granted, and the Commission proceeded to apply it to a practical experiment in housing. The act follows:

An Act to Authorize the Homestead Commission to Provide Homesteads for Citizens

Section 1. The Homestead Commission is hereby authorized, by and with the consent of the Governor and Council, to take or purchase, in behalf of and in the name of the Commonwealth, a tract or tracts of land, for the purpose of providing homesteads, or small houses and plots of ground, for mechanics, laborers, wage-earners, or other citizens of this Commonwealth; and may hold, improve, subdivide, build upon, sell, repurchase, manage, and care for said tract or tracts and the buildings constructed thereon, in accordance with such terms and conditions as may be determined upon by the Commission.

Section 2. The Commission may sell said tract or tracts or any portions thereof, with or without buildings thereon, for cash, or upon such installments, terms, and contracts, and subject to such restrictions and

conditions, as may be determined upon by the Homestead Commission; but no tract of land shall be sold for less than its cost, including the cost of any buildings thereon. All proceeds from the sale of land and buildings or other source shall be paid into the treasury of the Commonwealth.

Section 3. The Homestead Commission is hereby authorized to expend not to exceed one hundred thousand dollars for the purpose of this act.

Section 4. This act shall take effect upon its passage.

The principal considerations actuating the Commission to an experiment in housing were stated in their fourth annual report as follows:

"There are not enough wholesome low-cost dwellings.

"There is no prospect that present methods will ever supply enough unless the state encourages their construction.

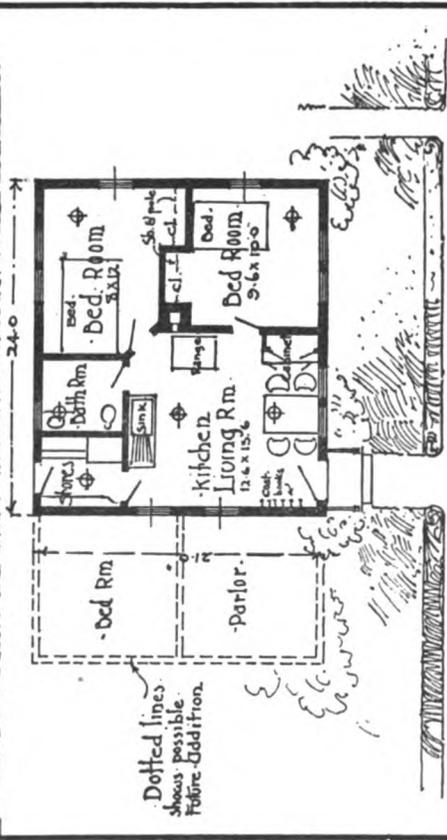
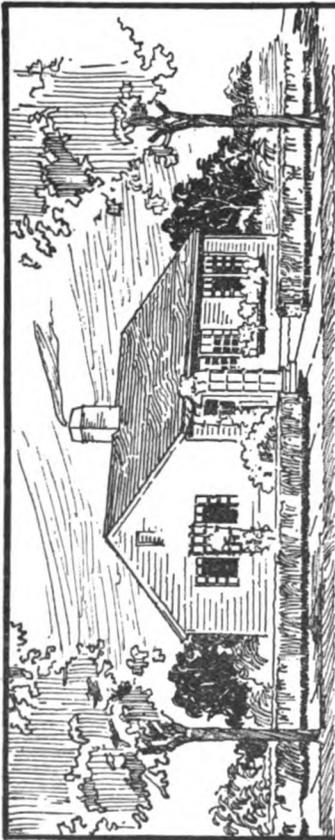
"Therefore the state should experiment to learn whether it is possible to build wholesome dwellings within the means of low-paid workers."

The Commission contemplated three kinds of housing development—the urban, suburban, and rural. For the first type, houses were to be detached or semi-detached, with about 5,000 square feet of land each, and were to be within easy walking distance of the mill or other place of employment.

The second type houses were to be detached, each house occupying a lot varying from $\frac{1}{8}$ to $\frac{1}{2}$ an acre, and the tract of land to be within a 5-cent car-ride of the mills.

The third type were to be farm cottages, on lots varying from $\frac{1}{2}$ acre to 5 acres.

The first experiment was with Type 1. The Commission found abundant unoccupied land in the cities visited—Boston, Lawrence, New Bedford, Fall River, Lowell, and

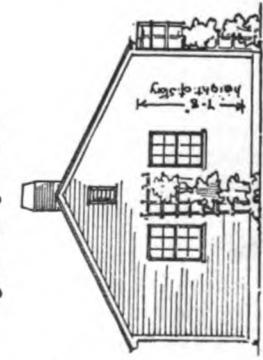


PLAN.
Scale 8 in. = 10'

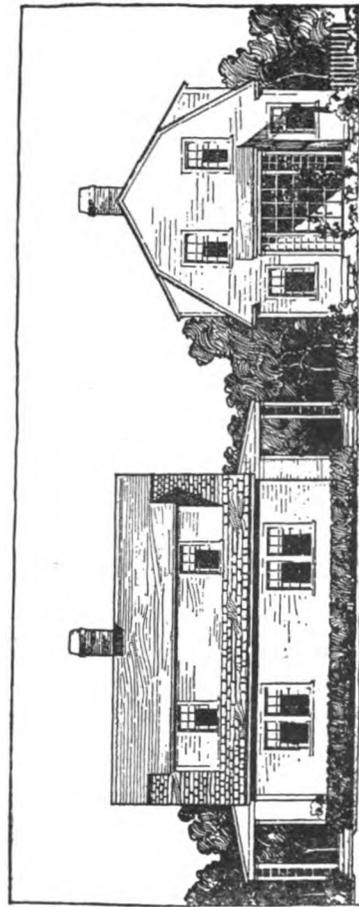
THREE-ROOM
BUNGALOW.

DATA -
COST OF HOUSE \$1100
AREA OF 1107.50 304 sq
MATERIALS -
Outside walls - Cedar Siding
Roof - Green Slate - Asphalt shingles
Inside walls & ceilings - Plaster
Floors - White - Millie. 4/4 in.

HOUSES
AT LOWELL MASS
FOR THE
HOMESTEAD
COMMISSION.
ARCHITECTS.
KILHAM & HOPKINS.
BOSTON.



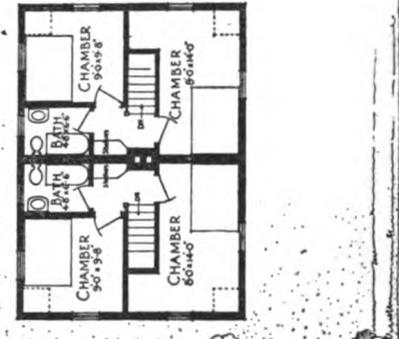
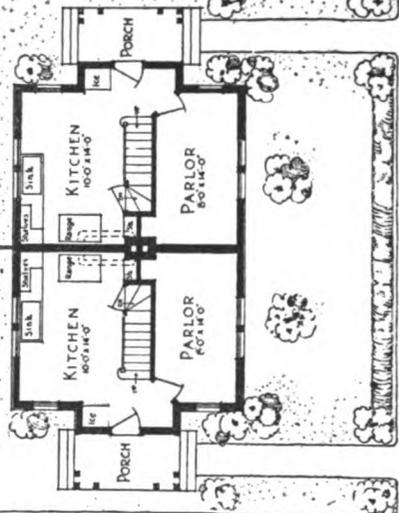
END ELEVATION.



FRONT ELEVATION

SIDE ELEVATION

SCALE 1/4 IN. = 1 FOOT



FIRST FLOOR PLAN

SECOND FLOOR PLAN

TWO FAMILY HOUSE
FOR
MILLWORKERS

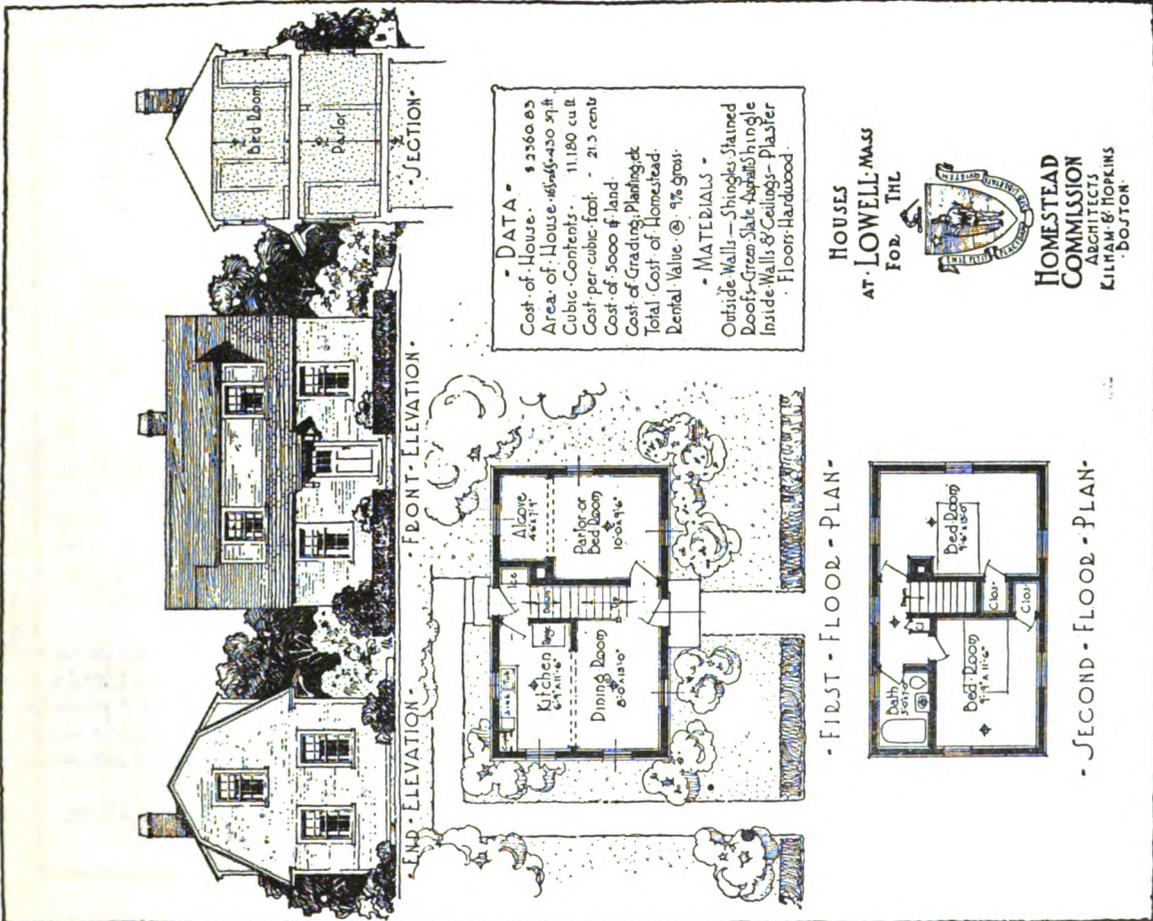
KILHAM & HOPKINS ARCHITECTS
9 PARK STREET BOSTON MASS.

DATA

Cost of House \$1870.34 Area of House 1522.33 sq
Cubic contents 8910.00 Cost per cu ft 20.9¢

MATERIALS

Outside walls - Siding
Roof - Green Slate - Asphalt shingles
Inside walls & ceilings - Plaster
Floors - Hardwood - Electric lights

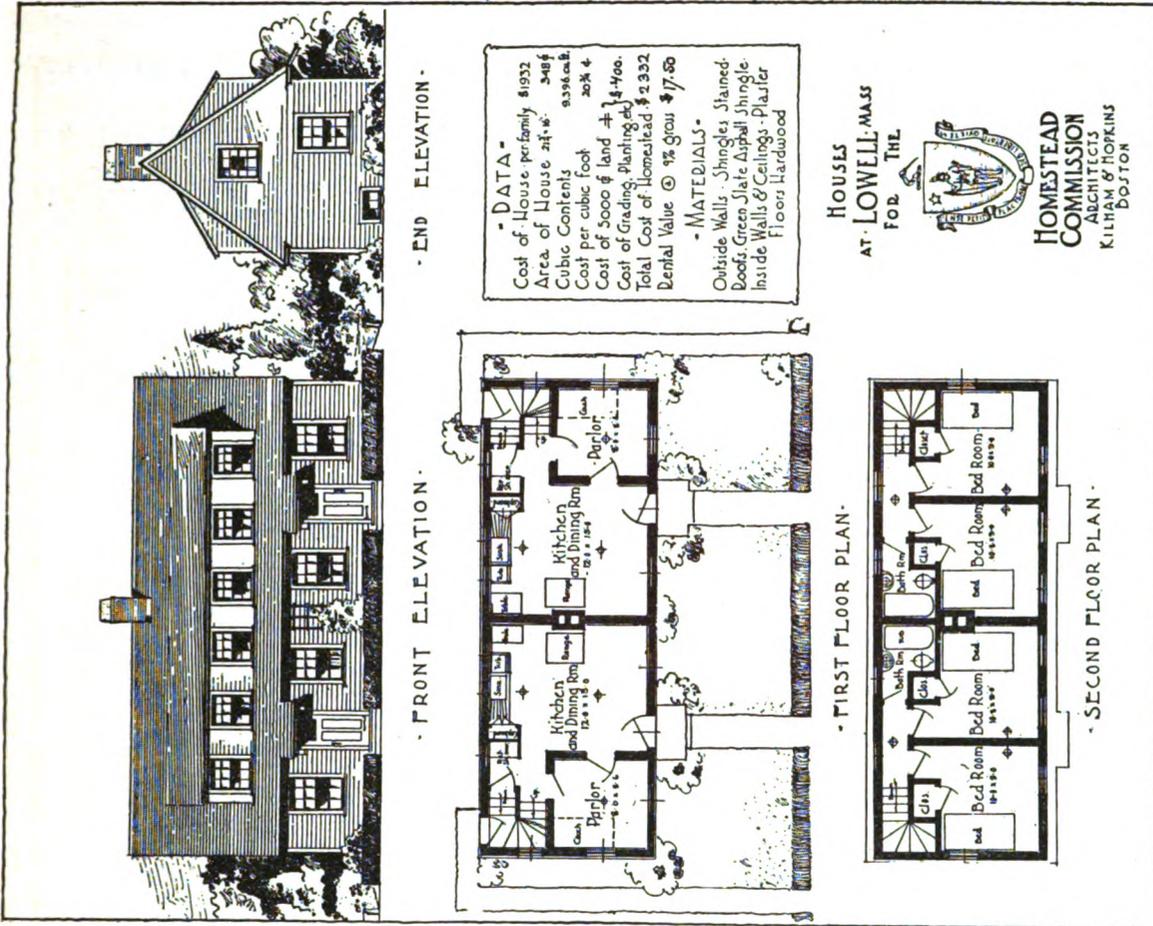


- DATA -
 Cost of House - \$2360.05
 Area of House - 6645.420 sq ft
 Cubic Contents - 11,180 cu ft
 Cost per cubic foot - 21.3 cents
 Cost of 5000 sq. ft. land - 20% +
 Cost of Grading, Planting, etc. - 14,400.
 Total Cost of Homestead - \$2,332
 Rental Value @ 9% gross - \$7.50

- MATERIALS -
 Outside Walls - Shingles, Stained
 Roofs - Green Slate Asphalt Shingle
 Inside Walls & Ceilings - Plaster
 Floors - Hardwood

HOUSES
 AT LOWELL, MASS
 FOR THE

 HOMESTEAD
 COMMISSION
 ARCHITECTS
 KILHAM & HOPKINS
 BOSTON



- DATA -
 Cost of House per family \$1932
 Area of House 2416. - 3484
 Cubic Contents 9326 cu ft
 Cost per cubic foot 20% +
 Cost of 5000 sq. ft. land - 14,400.
 Cost of Grading, Planting, etc. - 2,332
 Total Cost of Homestead - \$2,332
 Rental Value @ 9% gross - \$7.50

- MATERIALS -
 Outside Walls - Shingles, Stained
 Roofs - Green Slate Asphalt Shingle
 Inside Walls & Ceilings - Plaster
 Floors - Hardwood

HOUSES
 AT LOWELL, MASS
 FOR THE

 HOMESTEAD
 COMMISSION
 ARCHITECTS
 KILHAM & HOPKINS
 BOSTON

HOUSES BUILT BY THE MASSACHUSETTS HOMESTEAD COMMISSION

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

others, at prices ranging from \$45 to \$400 or more per acre. The tract of land finally chosen was in the heart of Lowell, a city of low-paid operatives. In working out plans for houses, the minimum accommodation advisable was believed to be as follows:

Living-room, kitchen, three bedrooms, closets, cellar.

Cooking, heating, lighting, washing, toilet, and bathing facilities.

Provision for drainage, sewage- and garbage-disposal.

There need not be a heating system, but provision should be made for stoves, other than cooking-range, in places needed, and construction may well allow for a future heating system. The structure should be made as fire-resisting as possible with due consideration for cost. In order to bring the cost to the extreme low limit, it was deemed feasible to combine living-room and kitchen, and provide a parlor on the first floor suitable for use as the third bedroom if the family was large.

The sizes of rooms appear to correspond with the standard sizes recommended by housing authorities, with the exception of the height. Here 7 feet 6 inches has been fixed for the first story, and 7 feet 4 inches for the second. It is very difficult to establish a standard of height by rules of logic, and so the architects have followed custom and allowed themselves to be guided by a sense of proportion. Small rooms appear more commodious if they are low-studded, and the relation of height to lateral dimensions is pleasanter. The number of stairs to be climbed is less, and there is a substantial saving in the cost of the house. Add to this the desirability of low lines on the exterior, and the absence of any particular disadvantage to offset these many advantages, and the change from housing standards seems justified.

The equipment provided included a kitchen-cabinet, sink and drain-board with shelves under, set tub, drain for refrigerator, bathroom with three fixtures, hot and cold water piped to sink and tub, bathtub and bowl, thimbles in the chimney for kitchen range and additional stoves, a register in the kitchen ceiling opening into the bathroom floor, and closet-space for each bedroom.

Provision for hanging clothes in the bedrooms can be made by means of a closet or by a recess. The latter offers the same amount of space, but is not enclosed, and so is not likely to become a catchall. If the housekeeper is neat, she can put up a curtain across the opening. If she is untidy, the clothes will at least be subjected to the cleansing influence of light and air.

In addition to the above equipment, the houses are all piped for a gas-range in the kitchen, and are provided with electric lights throughout. Each house has a cellar the full area of the house, with carefully pointed walls and cement floor. Where possible, the back door opens upon the landing of the cellar stairs, so that the cellar can be easily and directly entered from the garden.

When minimum-sized houses are sold to operatives, it is not treating the owner generously to make these houses difficult of alteration. They should be so designed as to permit additions to be made easily and without ruining the appearance of the house. From this point of view wood has advantages over masonry.

The Commission is experimenting with bungalows in which, by a simple mechanical device, it is an easy matter

to raise the roof and add a second story, or to detach an end wall and extend the house laterally.

The cost of these houses represents actual wartime conditions. The first houses were started in October, 1917, and other bids have been taken during January and February, 1918. The bids used were not exceptionally below the others; in fact, bids from two or three contractors were received which could have been utilized without injuring the financial projects of the undertaking, and the present contractor has expressed a willingness to build further houses at the same cost, showing that the undertaking has not been a losing venture on his part.

The method of sale proposed provides for a first payment of probably about 10 per cent, followed by successive monthly payments which will be the equivalent of interest plus a small amount on account of capital. By this plan the house is entirely paid for within a number of years, varying with the ability of the purchaser, but in no case more than twenty-eight years.

Massachusetts, with its admirable system of coöperative banks, provides an easy method for immediate ownership by the home-seeker. Deeds will be passed when payments amount to 20 per cent of the sale value. The Commission proposes to sell the property subject to certain restrictions. Under ordinary process of law, such property would fall within the scope of city laws and regulations as soon as sold by the state. It would then be part and parcel of the city and might, perhaps, be handled in such a way as to sacrifice some of the benefits intended by the state. On the other hand, a series of restrictions in addition may deter the would-be purchaser. Such a list, drawn up in legal terms, would very likely deter the ordinary man and would require careful explanation.

Another way of securing better neighborhood conditions in new housing developments is to provide a neighborhood center, or common building, where matters involving general neighborhood interest can be discussed, and where good fellowship can find a comfortable atmosphere in which to grow.

The Commission plans to follow the growth of its "colony," to assist in preparing the gardens, in matters of canning, cooking, and housekeeping, so that those who live in the new houses may be helped to a better mode of living and may act as disciples in spreading their ideas among others.

This spirit of common responsibility for the community welfare and of neighborhood goodfellowship may provide a better means of safeguarding the homes against bad conditions than a category of legal restrictions. Where a positive impulse is aroused, instead of a prohibition imposed, better results may be expected.

In the Homestead Commission's project there is no trace of paternalism or of charity. The act under which it is operating prohibits the sale of homesteads at less than cost. The object of the Commission has not been to supply the houses needed for the citizens of the Commonwealth, but to show that good houses can be supplied, and supplied within reach of the wage-earner. The Commission has hoped that when the results of its experiment were seen, private capital would be reassured and would enter the field of low-cost housing development.

WALTER H. KILHAM.

*The Need of Town-Planning Legislation and Procedure for Control of Land as a Factor in House-Building Development. II

By THOMAS ADAMS

Town-Planning Advisor, Commission of Conservation of Canada

IT IS obvious that the adoption of the most perfect system of planning and development of land will not do more than provide the right foundation on which to build up a solution by a slow and gradual process. In the degree in which that foundation is well laid, the ultimate social structure will be the more stable, and will be the more capable of adjustment to suit altered conditions from time to time as development proceeds; while, conversely, in the degree in which the foundation is badly laid the structure will be proportionately weak, and it will become the more difficult to go back to the beginning and remedy fundamental defects. Success can be attained only by using skill and exercising patience and vigilance in dealing with the problem in a scientific way. Attempts to reach a solution by short cuts and quick results, as in the past, can end only in failure.

General Considerations Involved

As a means of finding and applying the needed remedies, it seems necessary that several lines of activity should be pursued simultaneously. These include:

(a) The improving of national, state and local government organization in connection with all matters relating to land development.

(b) The making of a comprehensive investigation and survey of present conditions, and the preparing of detailed topographical maps and reports on rural conditions.

(c) The adopting of some system of planning all land for purposes of health, convenience and economic use, and the securing of adequate planning and development legislation and its effective administration by the governing authorities.

(d) The creating of agricultural and industrial settlements, free of artificial pressure and on sound economic lines.

(e) The formulating of a definite policy in regard to readjustment of social and industrial conditions after the war, particularly in relation to the problem of returned soldiers.

General recommendations in regard to each of these matters are set out below.

Government Organization

The Federal and state government legislation and machinery for dealing with the control of the planning, settlement and development of land, should be extended and improved.

There should be closer coöperation than hitherto between Federal, state and municipal governments, and between different branches of the public service, in regard to all matters dealing with land.

*Continued from the last issue.

The surveying branches of the governments should be strengthened and more comprehensive surveying work assigned to them.

A complete and coördinated system of Federal, state and municipal administration of land resources should be devised, with the whole organization centralized in a department or permanent commission of the Federal Government.

The operations of venders of real estate should be regulated, so as to prevent misrepresentation and other immoral practices in connection with the sale of land, and all real-estate operators should be licensed by governments under safeguards designed to prevent improper dealing in land.

State governments should consider their systems of administering highways, municipal affairs and public health, with special regard to the need of securing more coöperation and efficiency in connection with land and municipal development than is possible under present conditions, and for increasing the responsibilities and powers of municipal authorities, under the advice of a skilled department of local government in each state.

To meet a temporary need, the Federal Government should take an active interest in the housing of workers engaged in munition plants, particularly in government arsenals and in small towns and rural districts where there is lack of strong local government. The Federal Government should either require adequate accommodation and proper sanitary conditions to be provided at a reasonable cost for those who are engaged in the service of the country, or itself assist in making that provision, as is being done in Great Britain and allied countries.

Whether in regard to peace or war conditions, the main objects of any improvement in government organization, of rural and of urban conditions, must be to conserve life and to stimulate production. To achieve these objects it is essential, above all other things, that greater activity be shown by governments in protecting public health, in promoting sound systems of education, and in controlling land speculation.

The Cost of Neglect

We have the estimate from United States sources that feeble-minded children cost the United States Government \$90,000,000, and that crime costs \$600,000,000 a year. The feeble-minded child produces the strongest link that connects neglect of social and health conditions with crime.

While these figures are of value in conveying some impression of the importance of the problem of public health, they are, of course, of no value as an indication of the extent of the government responsibility, since the factors necessary to show the proportion of the loss due

to individual neglect and the proportion of maladministration must continue to be unknown. Nor are they any guide as to the respective losses caused by overcrowding in cities on the one hand, and by isolation and poverty in rural districts on the other hand. But enough is known to make it clear to every student of social conditions that a large share of the responsibility for the deplorable and unnecessary loss of life and physical deterioration on this continent rests with the various governing authorities, who have the powers to regulate land development, and that there are conditions in the rural districts as injurious to health and morals as in the crowded city slums.

Looking Ahead

At present, there is a "confusion of tongues" as to the desirability, or otherwise, of money and human energy being spent on works that are not absolutely essential to the prosecution of the war. The weight of evidence seems to be in favor of everything being suspended which can be put off without injury to our social and economic life. As conservation of health lies at the root of our social life, and as it is one of the most essential needs as a means of prosecuting the war itself, as well as to make up for the wastage of war and to utilize our natural resources, public health expenditures should be the last to be curtailed. Moreover, whatever public works may be delayed, there should be no delay in thinking out and formulating a policy for future action, having regard to past failure and to the lessons taught by the war.

Apart from the question of general education, there is need for improvement in the training of those engaged in municipal and sanitary engineering, land surveying, and assessment valuation, in order to qualify a larger body of professional men to specialize in the work of planning and developing land, controlling public health and assessing property values. The organization of municipal and sanitary engineers for purposes of specialized professional training and for the advancement of their particular branch of engineering is needed.

In our universities, too, we want to see an awakening to a more vital interest in civic problems and in the science of land development and industrial organization. Professor Geddes claims that the universities in all the countries in the passing generation have been strongholds of Germanic thought, with its mechanical and venal philosophy. "The reawakening movements of the universities have been slow, timid, blindfold, because lacking in civic vision."

The Land Problem

Enough, but not too much, has been said on the subject of land speculation. The governments have a special obligation, as the original venders of land, and in view of the far-reaching effects of immoral practices in connection with its sale, to employ special means to protect purchasers from such practices. There are numerous obvious steps which should be taken in this respect, including the registration of those engaged in real-estate operations and the application of adequate safeguards to protect purchasers.

Government control of land development and the system of assessing and taxing of land should have regard to its use, its non-use, and its abuse as an instrument of

production. The economic use of land must be encouraged, the non-use of land hindered, and the abuse of land prevented, by government policies; unless we intend to continue to sacrifice the surplus fruits of production—the only source from which increase of real wealth is derived—for the plaything of speculation.

A Comprehensive Survey

A comprehensive survey of the social, physical and industrial conditions of all rural territory should be made, with the object of ascertaining: first, the main facts regarding the problems of rural life and rural development in territory already settled and organized; and, second, more precise information than is now available regarding natural resources in unorganized territory.

The survey should be so prepared as to enable constructive proposals to be formulated regarding the economic development of the natural and industrial resources of the country, and regarding the location of new towns, railways and highways.

It should include a complete inventory and an additional survey of all lands which have been already surveyed and homesteaded with a view to securing their settlement under proper conditions and to devising means to lessen injurious speculation.

It should deal with questions of taxation and assessment of land and buildings for state and local purposes.

Agricultural and Industrial Settlements

New town settlements (garden cities) should be established where there are good facilities for profitable production and distribution, where manufacturing and intensive farming can be successfully carried on, and where advantage can be taken of the tendency to remove industries from crowded centers of rural districts or to establish new industries near waterpowers and raw materials.

Government capital, or the guarantee of bonds, should be made available for these settlements and should be made repayable at a fixed rate; the benefit of all profits derived in excess of that rate should be spent on improving the settlements.

The increment of land values created by the conversion of cheap agricultural land into a valuable town-site gives to the garden-city class of development a special financial stability, which is not possessed by the agricultural settlement.

Coöperation should be stimulated and encouraged by government action, and the facilities for coöperation should be provided by skilled planning; but this should be done without imposing undue restraint on personal initiative or freedom. Coöperative effort should be organized individual effort. In a coöperative scheme, artificial control should be limited to the prevention of wrongdoing, including the prevention of such forms of land development as are economically and socially injurious.

The recommendation that industrial, or partly industrial and partly agricultural, town settlements be established is apt to be regarded with suspicion by practical men because of its novelty. That novelty has now worn off in England, and garden cities and suburbs are no longer looked upon as visionary schemes.

The movement in England has attracted widespread

THE NEED OF TOWN-PLANNING LEGISLATION

attention in all European countries and in the United States and has caused influential bodies to advocate the establishment of similar communities in these countries.

Studying the Problem in the United States

The following resolution (Senate Resolution 305) was passed by the United States Senate in the early part of this year, and the inquiry instituted as a result is still proceeding:

"Whereas, the garden-city and garden-suburb movement in Europe has made wonderful progress during the first eight years of its existence; and

"Whereas, the object of this movement is to secure permanent and comfortable homes for the people on terms within the reach of the average income, and to combine the advantages of town and country in the same community; and

"Whereas, this movement is contributing materially to the health, comfort, and prosperity of the people who have experienced its benefits, and

"Whereas, the movement, in the estimation of many, points the way to the long-sought goal of a contented, home-owning population; and

"Whereas, a beginning along this line is claimed to have been made in the United States, and

"Whereas, thousands of American citizens have petitioned members of Congress for an investigation of the movement both in Europe and the United States; therefore be it

"Resolved, that the Senate Committee on Agriculture and Forestry be authorized and requested to hear and consider such testimony as may be produced before said committee in Washington regarding this movement, both in Europe, in the United States and elsewhere, and to report its findings to the Senate."

It is significant that this resolution was referred for consideration to the Committee on Agriculture and Forestry, indicating that it is the rural rather than the urban aspect of the movement which is being first investigated.

One of the main objects in carrying out the suggestion to create combined agricultural and industrial settlements would be to provide opportunities for the employment of returned soldiers in varied kinds of productive enterprises in both rural and urban areas.

These settlements would also be invaluable as a practical demonstration of town building and land development. Social progress in England during the last fifteen years has been greatly influenced as a result of the one experiment in industrial development and housing which has been carried out in Letchworth.

Before initiating any comprehensive policy to establish new centers of population, it might, however, be more prudent to begin by developing one new manufacturing and agricultural town, where systems of rural and urban land development could be tried out, where opportunities for varied kinds of employment could be provided, where the strength and weakness of different methods could be tested, and where there could be evolved, by a process of practical experience, the soundest economic principles on which development should be guided in the future.

Some Final Observations

False economic standards have been largely responsible for bad beginnings in land settlements, wasteful speculation, and unhealthy and haphazard developments of land that stand self-condemned as part of our social system. Some men have sought to excuse these evils on the ground that they are the outcome of natural laws, whereas they are largely caused by the refusal to recognize the demands of nature and to apply intelligent direction to what is purely artificial growth.

But probably, on the whole, there is now comparatively little disagreement as to the need for investigation and reform of our rural conditions, the only doubt still prevalent being as to whether the need is great enough to cause disturbance of our minds during the war. On that point there appears to be no doubt in allied countries, in every one of which new principles of land development are being studied and applied. Even in France, where one would think that the urgency of proceeding with the work of reconstruction of devastated areas would prevent careful preparation of plans of development, time is being given to think out and prepare schemes of regional planning with special regard to health and the teachings of modern science.

Already, a law has been passed requiring every town and village in that country, whether within the war zones or not, to lay out its future developments according to the principles of modern city planning. To enforce this, there will be a federal commission, with a general commission in each of the departments, and, under these general commissions, community commissions to direct local work. This may seem somewhat remote as an object lesson to America, which, happily, has no areas devastated by the war; but, as a matter of fact, the creative work that has been done in America requires the application of the same principles as are required in connection with the recreative work that is now forced upon the people of France, only we have in America the sort of advantage of starting from the beginning. But the chief lesson we may derive from the example of France in this matter is that, although that country is more directly affected than ours by the war, its rulers are not showing indifference to the work of social and economic reconstruction, on the ground that their whole activities should be concentrated on war operations. Indeed, they recognize that the very sacrifices which are being made in the war demand, in the interests of continued national stability, that they prepare plans of development which will ensure healthy living conditions and increased efficiency in production in the future. In the degree in which our undeveloped resources in America are greater than in France, and to the extent that our hands are at present more free to deal with any necessary readjustment of our conditions, we have, in that degree and to that extent, the greater responsibility to apply ourselves, unhesitatingly and at once, to the work of planning for the future, or organizing and coordinating our government machinery and of ascertaining the facts regarding our social and industrial conditions in town and country.

We need not ignore the lessons of other countries, but our first duty is to acquire a thorough knowledge of our own conditions and to formulate and strive for the attainment of our own ideals, in our own way, and with the realization of our power to shape our own future.

Military and Social Need of Better Wartime Housing*

By CHARLES MULFORD ROBINSON

IT HAS been well said that the war cannot be won by the men at the front alone. Behind the fighters there is required a vast organization, supporting and supplying them. Men, munitions, hospital supplies, food, comfort, and even cheer must be kept moving forward in ceaseless streams from the great reservoir at home. That the reservoir may be equal to these demands upon it, challenges the nation's patriotism and forethought. To this end, the Administration has commandeered, and has had ready response from, the best intelligence of the country.

The statement of all this may seem trite enough. But its significance will quickly become apparent if one traces the far-reaching influence of "the house that Jack built" for the worker in the munitions plant.

This, then, is the house that Jack built—a thing of shreds and patches, of sheet-tin and packing-boxes, of foul air, because unsanitary and overcrowded—part of a vast field of flotsam in a sea of mud. These are the people who live in the house that Jack built; wan, listless, sickly men; disheveled women; dying children. And this is the stream of munitions, made by people who live in the house that Jack built: slow, weak, uncertain. The splendid courage of the fighting men, the high patriotism which supplies millions of dollars to pay for the munitions, the inventive genius which devised them, the executive ability that planned the output, arranged the transportation, gathered the raw material, all this finds its efficiency reduced because no thought was given to the houses in which the workers dwell. Out of the little human tragedies, slowly enacted in scores of thousands of those houses, looms a national tragedy, and out of that a world catastrophe. The world may not be made safe for democracy, if democracy's individual homes, raised in haste to meet war needs, be not made reasonably safe for habitation. England, France, and even Germany, early learned this lesson which today the United States is facing.

It is not a very difficult or complex problem. The Government knows in exactly what places a demand for war munitions requires a sudden concentration of industrial workers. It knows now, not merely from the experience of the other warring countries but from local observation, that the need for a skillful planning of the cantonments, designed for the more or less temporary housing of men going out to war, was not really greater than is the need for the proper housing of the men who are manufacturing the war material. In fact, the latter need offers a problem of particular appeal, since it involves the shelter not alone of men who are being toughened for war, but also of frail women and of little children. And the men themselves

*EDITOR'S NOTE.—This article was written shortly before the death of Charles Mulford Robinson, and, due to the pressure on our pages of housing material, has been held until the present time. We have thought it best not to edit this article in any way, even though governmental action has now taken place while it was only being worked for when Mr. Robinson added his plea to those of the many others which were laid before the Administration. Perhaps it is especially fitting that these last words of his should be in support of a great national need and filled with the spirit with which he approached his problems.

in these communities are not the most physically fit. In increasing degree they are made up of those whom the military authorities rejected.

There is, further, the need that the homes of all these people—men, women, and children—shall afford them some moral as well as physical protection. Not that these people are worse than others, or have less power for resisting evil, but that their temptations are greater. The grave moral dangers of bad housing, through its overcrowding and its lack of privacy, are well known; but aside from that danger, the hours of these workers are long, and theirs is the grinding monotonous task, without the inspiration, the sustaining enthusiasm, the romance, that goes with the great adventure of war. There has been, on the other hand, no closing in their behalf by Government request of redlight districts; no vast Y. M. C. A. "huts" have been erected for them and provided with brilliant speakers and trained workers. Almost all the available recreation facilities in the munition towns have been commercialized and are of low type. Yet when the home is wretched, the street beckons. It means much to the Government that these men and women be kept as strong and contented as may be—poor homes are ever fertile ground for strike agitators. It means much to the individuals themselves and to their children. It means much also to the towns and cities where they have been assembled.

Yet it is clear that the provision of good homes, on an adequate scale, cannot be safely left to the communities so suddenly flooded. The invasion has brought a multitude of strictly municipal problems which demand solution. There are schools to be built, for example, streets extended, sanitation to be provided, policing and fire-protection to be afforded. Neither, on the other hand, can the private enterprise and private capital in the towns be wholly depended on to provide the needed housing, for there are great factories to be built and equipped or enlarged, with promise of better financial returns than housing offers. Still, it is known that, with initiative, and capital provided at reasonable cost, housing operations undertaken on a large scale, and in accordance with sound principles, can be made to give the desired results in sanitation, comfort, and happiness at no prohibitive cost—may even be made to pay their own way in so far as they serve the highly paid munition workers.

Perhaps this economic phase of the question is too readily overlooked. It is easy in thinking of the need, and then in picturing to one's self attractive industrial communities of pretty homes on pretty streets, to forget the economy with which those results can be obtained. When you think of it, however, the street which charms because it gently undulates, in adhering to a slightly irregular topography, or because, in lack of breadth, it is in scale with the little homes that border it, or perhaps, finally, because it has not the rigidity of absolute straightness, since it circles around a hill or other obstruction instead of expensively surmounting it—that street is likely to be actually cheaper to construct than is the broad and ugly

MILITARY AND SOCIAL NEEDS OF BETTER WARTIME HOUSING

street with its heavy cuts and fills and its needlessly wide roadway. It is cheaper also to maintain. Its house lots are not more attractive merely, but are less expensive to build upon. The adaptation of their length to the needs of the people who live on them further reduces their cost. The houses, themselves, built in large number, with somewhat standardized materials and from a few plans, are not so costly as their good looks and sanitation might suggest. In short, the thought of well-planned industrial communities, where the efficiency of munition workers is greatly increased because they are well and strong and happy, is wholly practical.

Again, whether the need to be met is a reasonably permanent one, or only temporary, must affect the Government policy in any particular case. But all these questions, and the kind of houses to be erected, and the terms on which they should be sold or rented are to be considered as really incidental matters. They should not be allowed to befog the one great issue of providing decent and sanitary living quarters for those workers without whom soldiers and sailors are impotent. "More even than your men," say the Allies, "we want from you ships, guns, and munitions." To supply that need, the United States must have homes as well as factories.

Institute Business

MEETING OF THE BOARD OF DIRECTORS HELD ON JANUARY 17, 18 AND 19, 1918, AT THE OCTAGON, WASHINGTON, D. C.

The meeting was called to order by President Mauran. Others present were First Vice-President La Farge, Second Vice-President Willcox, Secretary Parker, Treasurer Waid; Directors Coolidge, Jensen, Lubschez, Sellers, Faville, Fenner, Kimball, and the Executive Secretary.

The President read a telegram from Edwin H. Brown, stating that his Red Cross duties in New Mexico would prevent his attendance; also a telegram from Mr. Favrot to the effect that he could not be present.

Repairs to The Octagon Stables

The Secretary presented a report from the Building Committee, Wm. M. Kendall, Chairman, under date of January 4, 1918, to the effect that, through the liberality of President Mauran, Mr. Fenner, and Mr. Pope in contributing a fund of \$1,500, the structural brickwork, the woodwork, and roof of the stable are now in substantial condition. It was found that the restoration of the roof to its original flat form was more economical than the retention of the sloping one. The funds did not permit of further work on the exterior, such as restoration of the doors and windows. These have been boarded up temporarily. The report also referred to a careful examination of the Octagon grounds made by the Chairman, Mr. Pope, and Glenn Brown in November with a view to their restoration.

Gift of Proceedings to the Institute

The Treasurer read a letter of December 28 from Pierre LeBrun of the New York Chapter, in which he offered to the Institute a complete set of Proceedings, and to bind and send them to the Octagon if they should be accepted.

The Treasurer also read his letter of December 29 thanking Mr. LeBrun for this generous gift.

It was resolved that an expression of appreciation from the Board be sent to Mr. LeBrun by the Treasurer, and that the books be accepted and placed in the permanent records at the Octagon.

Initiation Fee Remitted for 1918

It was resolved that the resolution of 1917 remitting the initiation fee of those applicants for Institute member-

ship who were Chapter members prior to December 6 1916, be continued during 1918.

Rental of 521 18th Street

The Office of Naval Intelligence in the Navy Department has been lent, without compensation and as a matter of courtesy, the drawing-room at the Octagon for conference purposes; and has been rented the house at 521 18th Street on a yearly basis, beginning November 22, 1917. Under a written agreement with the Navy Department, the property is to be thoroughly repaired and kept in good condition without cost to the Institute, and the improvements will remain on the property without cost to the Institute at the end of the term.

Remission of Dues

The Treasurer reported that, in accordance with the resolution of the September Board meeting, notices were sent to all Institute members concerning the remission of dues for those engaged in active service in the Navy, Marine Corps, Aviation Corps, Red Cross, and related branches.

Return cards received and information direct from Chapter secretaries indicate that there are eighty-two men in active service. The Treasurer submitted a complete list of these, showing the name, chapter, and service in which engaged, also a second list of doubtful cases. It was resolved that the dues of all on the first list be remitted for the year 1918; and remission of the dues of those on the second list was left in the hands of the Treasurer for decision after investigation.

Remission of Dues for Members Engaged in Teaching Architecture

The Secretary presented a report of August 31, 1917, from Prof. W. P. Laird, Chairman of the Advisory Committee to the Committee on Education, concerning the suggestion that the Institute consider some plan for remitting the dues of its members who are engaged in teaching in the schools of architecture.

The Advisory Committee was of the unanimous opinion that no distinction in the matter of dues should be estab-

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lished between members engaged in teaching and others. In taking this position the Committee recognized the smallness of the teacher's income, but believed this to be largely compensated for by the regularity with which it was paid. It was also of the opinion that the benefits received by the teaching profession from membership in the Institute are not less than those to the profession generally, and that in the broadest sense of the word the Institute is equally indispensable to both of them. It was therefore of the opinion that no real difference existed as to the benefits received by the two groups and that there should be no difference in their obligations.

The report was accepted.

Excess Income Tax on Professional Men

The President reported a letter of December 7 from Mr. George Gibbs, President of the American Institute of Consulting Engineers, making inquiry as to what action had been taken by the American Institute of Architects with regard to the provision in the new income tax law as set forth in Section 209 with respect to excess income taxes against professional men.

Mr. Gibbs was advised that the Institute has taken no formal action, but was willing to confer in any preliminary way. For the purpose of such a conference Messrs. La Farge, Gilbert, and Waid were designated as a sub-committee in New York if further coöperation should be desired.

New Members Elected to the Institute

Aldrich, Will S., St. Joseph, Mo.
Bassett, David B., Philadelphia, Pa.
Berger, Carl P., Philadelphia, Pa.
Bernet, Harre M., Dallas, Tex.
Bradford, Joseph Nelson, Columbus, Ohio.
Cavin, William B., Philadelphia, Pa.
Doane, Ralph Harrington, Manila, P. I.
Eckel, George R., St. Joseph, Mo.
Edmunds, Franklin D., Philadelphia, Pa.
Erskine, Richard, Philadelphia, Pa.
Field, Gerald Castle, Seattle, Wash.
Groben, William E., Philadelphia, Pa.
Hawley, Samuel D., Philadelphia, Pa.
Holland, Leicester Bodine, Philadelphia, Pa.
Keen, Charles Barton, Philadelphia, Pa.
Kimball, Fiske, Ann Arbor, Mich.
Lane, Roy E., Waco, Tex.
McIlvaine, John Gilbert, Philadelphia, Pa.
Morrison, Karl E., Erie, Pa.
Savery, Addison H., Philadelphia, Pa.
Simon, Edward P., Philadelphia, Pa.
Simon, Grant M., Philadelphia, Pa.
Stem, A. H., St. Paul, Minn.
Tatum, Harold, Philadelphia, Pa.
Williams, Owen J., West Palm Beach, Fla.

Wise, Herbert C., Philadelphia, Pa.
Wood, William Albert, Philadelphia, Pa.

NOTE.—At this meeting of the Board a great deal of time was spent in the discussion of the interim reports of committees. Had it not been for the delay and loss of manuscript in the mails, these would have appeared in the last issue. The nearness of the convention in April now makes it appear unnecessary to print those reports in view of the fact that final yearly reports will be made at the convention.—EDITOR.

Nominations for Officers

TO THE SECRETARY OF THE
AMERICAN INSTITUTE OF ARCHITECTS,
Washington, D. C.

At the coming Convention of the Institute the question of a proposed amendment to the By-Laws, involving the continuation in office of the present administration, is to be settled.

In the event that the wish of the Institute, as expressed through its delegates, is not to amend the By-Laws, we believe that a complete list of nominations for officers should be before the Convention, and we therefore place in nomination the names of the following members to fill all offices.

This petition is submitted in accordance with Article IX, Section 2, of the By-Laws, and will be in your hands not less than thirty days prior to the Convention at which the election is to take place.

For President:

Thomas R. Kimball, of Omaha

For First Vice-President:

Elmer C. Jensen, of Chicago.

For Second Vice-President:

Wm. Stanley Parker, of Boston.

For Secretary:

Wm. H. Schuchardt, of Milwaukee.

For Treasurer:

Edgar V. Seeler, of Philadelphia.

For the Board of Directors:

(Four are nominated, as in the event of the election of Mr. Kimball to the Presidency, the nominee receiving the smallest number of votes would be elected to fill his unexpired term on the Board.)

Edward W. Donn, of Washington.

Robert D. Kohn, of New York.

S. S. Labouisse, of New Orleans.

Ellis F. Lawrence, of Portland, Ohio.

Signed by:

John Irwin Bright

E. P. Bissell

F. L. Ackermann

H. Van Buren Magonigle

F. Livingston Pell

D. Knickerbacker Boyd

Wm. D. Hewitt

C. L. Borie, Jr.

E. E. Fetterolf

Nomination for Election of Edward W. Donn, to the Board of Directors, A. I. A.

Washington Chapter—Unanimous Vote; San Francisco Chapter—William B. Faville, Chas. Peter Weeks, August G. Headman, Smith O'Brien, Morris M. Bruce, John Bakewell, Jr., Sylvain Schnaittacher; Philadelphia Chapter—Edward A. Crane, George I. Lovatt, Thomas M. Kellogg, John P. B. Sinkler, Edwin H. Fetterolf; South Carolina Chapter—N. Gaillard Walker, Edwin D. Sompayrac, Pres., Charles C. Wilson, George E. Lafaye, H. Olin Jones; Southern Pennsylvania Chapter—M. I. Kast, Thomas H. Hamilton, Edward Leber, Reinhardt Dempwolf, J. A. Dempwolf, W. B. Billmeyer, John B. Hamme, B. F. Willis, George F. Gemmill; Toledo Chapter—Lawrence S. Bellman, Edwin M. Gee, Charles M. Nordhoff, Harry W. Wachter, Bernhard Becker, George S. Mills, Thomas F. Huber; Michigan Chapter—William B. Stratton, D. J. von Schneider, Adolph Eisen, Richard Mildner, James B. Nettleton, H. J. M. Grylls, Charles Kottings, Marcus R. Burrowes, Emil Lorch, Arthur H. Scott; Iowa Chapter—Eugene H. Taylor.

The Copyright on the Uniform Contract Upheld by the Court

Various infringements of the Uniform Contract having been brought to the attention of the Institute, the infringers were duly warned to desist from the practice, which had been generally resorted to under the impression that the Institute had abandoned the Uniform Contract when it published the new Standard Documents. Abraham Kasman, doing business as the Excelsior Stationery Company, in New York City, declined to recognize the Institute's rights, and suit was brought against him. The decree of the Court was a complete victory for the Institute; together with the injunction, it is here printed:

UNITED STATES DISTRICT COURT,
SOUTHERN DISTRICT OF NEW YORK.

THE AMERICAN INSTITUTE OF ARCHITECTS, Plaintiff, vs. ABRAHAM KASMAN, doing business under the name of EXCELSIOR STATIONERY COMPANY, Defendant.	}	In Equity, No. 14-291.
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Decree

The bill in the above case having been filed and subpoena duly issued and served upon the defendant and an order taking the bill *pro confesso* having been entered on October 8, 1917, and it appearing that the defendant thereafter appeared and that an order was entered extending his time to answer but leaving the order to take a decree *pro confesso* in full force and effect until the filing of said answer, and it appearing that said defendant brought a motion to dismiss the bill, which motion was heard and denied, and an order having been entered on November 17, 1917, denying said motion and giving the defendant until November 26, 1917, to file his answer and leaving all previous orders in full force and effect, and it further appearing that no answer has been filed although such answer was due on or before November 26, 1917, and thirty days having passed since the entry of said order to take the bill *pro confesso*, it is thereupon adjudged and decreed as follows:—

First: That the copyright of the Uniform Contract set forth in the bill herein is good and valid.

Second: That the plaintiff is the sole and exclusive owner and proprietor of the copyrighted book entitled "The Uniform Contract" and attached to the bill of complaint herein as "Exhibit A," and that plaintiff has done all acts and complied with all legal requirements necessary to establish its right to the aforesaid copyright under the statutes of the United States in such case made and provided.

Third: That plaintiff has caused to be printed in the several copies of every edition of said book published by plaintiff or its licensee, on the title page of said book, the word "Copyright," together with the year the copyright

was entered, and the words "American Institute of Architects."

Fourth: That the plaintiff is also the owner of the entire right to recover damages and profits from all infringements of said copyright of its book and that defendant herein has infringed upon said copyright by producing and selling uniform contracts like "Exhibit B" to the bill attached.

Fifth: That a perpetual injunction issue against the defendant, the said Abraham Kasman, restraining him, his clerks, agents, servants, and employees from publishing, selling or exposing for sale, or causing or being in any way concerned in the publishing, selling or exposing for sale of the said book hereinbefore complained of and forming "Exhibit B" attached to the bill of complaint herein, and from directly or indirectly infringing upon said copyright.

Sixth: That this cause be referred to William Parkin, Esq., as special Master, to take, state and report an account of plaintiff's damages and defendant's profits under and in accordance with this decree, and to make special findings as to whether defendant received actual notice of infringement and continued thereafter to infringe, and how many infringing copies defendant made, sold, and had in his possession after said notice of actual infringement and also to specially report what measure of damages may appear to be just in view of the circumstances in lieu of actual damages and profits, the final determination of the plaintiff's recovery being reserved until after the filing of his report.

Seventh: That the defendant deliver up, on oath, into custody of the Master hereinbefore appointed all the infringing copies or devices, as well as all plates, molds, matrices, or other means for making such infringing copies.

Eighth: That the plaintiff do recover of the defendant its costs and disbursements of this suit to be taxed.

Dated December 3, 1917.

(Signed) MANTON,
U. S. D. J.

THE PRESIDENT OF THE UNITED STATES OF AMERICA,
TO

ABRAHAM KASMAN, his clerks, agents, servants and employees,

Greeting:

WHEREAS, it has been represented to us in our District Court of the United States for the Southern District of New York in a suit wherein The American Institute of Architects is plaintiff and you, the said Abraham Kasman, are defendant, that said plaintiff is the sole and exclusive proprietor of a copyrighted book "The Uniform Contract" as set forth in the bill of complaint herein; that the copyright of said book is good and valid; and that you, the said Abraham Kasman, defendant, have infringed upon said

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copyright and upon the exclusive right of the plaintiff thereunder.

Now, THEREFORE, we strictly command and enjoin you, the said Abraham Kasman, your clerks, agents, servants and employees, under the penalties that may fall upon you in case of disobedience, that you forthwith desist from publishing, selling or exposing for sale, or causing or being in any way concerned in the publishing or selling or exposing for sale of the book complained of and being

"Exhibit B" attached to the bill of complaint in said suit and from directly or indirectly infringing upon said copyright.

Hereof fail not.

WITNESS the Honorable Learned Hand, United States District Judge for the Southern District of New York, at the City of New York, on the 5th day of December, in the year of our Lord nineteen hundred and seventeen.

[SEAL]

(S) ALEX. GILCHRIST, JR., Clerk.

Subsequently a Final Decree was Entered as Follows:

UNITED STATES DISTRICT COURT,
SOUTHERN DISTRICT OF NEW YORK

THE AMERICAN INSTITUTE OF ARCHITECTS,
Plaintiff,

vs.

ABRAHAM KASMAN, doing business under
the name of EXCELSIOR STATIONERY
COMPANY, Defendant.

In Equity,
No. 14-291.

Final Decree

WHEREAS, by decree entered herein December 3, 1917, it has been ORDERED, ADJUDGED, and DECREED as follows:

First: That the copyright of The Uniform Contract set forth in the bill herein is good and valid.

Second: That the plaintiff is the sole and exclusive owner and proprietor of the copyrighted book entitled "The Uniform Contract" and attached to the bill of complaint herein as "Exhibit A," and that plaintiff has done all acts and complied with all legal requirements necessary to establish its right to the aforesaid copyright under the statutes of the United States in such case made and provided.

Third: That plaintiff has caused to be printed in the several copies of every edition of said book published by plaintiff or its licensee, on the title page of said book, the word "Copyright," together with the year the copyright was entered, and the words "American Institute of Architects."

Fourth: That the plaintiff is also the owner of the entire right to recover damages and profits from all infringements of said copyright of its book and that defendant herein has infringed upon said copyright by producing and selling uniform contracts like "Exhibit B" to the bill attached.

Fifth: That a perpetual injunction issue against the defendant, the said Abraham Kasman, restraining him, his clerks, agents, servants and employees from publishing, selling or exposing for sale, or causing or being in any way concerned in the publishing, selling or exposing for sale of the said book hereinbefore complained herein, and from directly or indirectly infringing upon said copyright.

Sixth: That this cause be referred to William Parkin, Esq., as Special Master, to take, state, and report an account of plaintiff's damages and defendant's profits under and in accordance with this decree, and to make special findings as to whether defendant received actual notice of infringement and continued thereafter to infringe, and how many infringing copies defendant made,

sold, and had in his possession after said notice of actual infringement, and also to specially report what measures of damages may appear to be just in view of the circumstances in lieu of actual damages and profits, the final determination of the plaintiff's recovery being reserved until after the filing of his report.

Seventh: That the defendant deliver up, on oath, into custody of the Master hereinbefore appointed all the infringing copies or devices, as well as all plates, molds, matrices, or other means for making such infringing copies.

Eighth: That the plaintiff do recover of the defendant its costs and disbursements of this suit to be taxed.

AND WHEREAS, this cause has been referred to William Parkin, Esq., as Special Master, to take, state, and report an account of plaintiff's damages and defendant's profits and what measures of damages may appear to be just in lieu of actual damages and profits, and

WHEREAS, hearing and examination of defendant, Abraham Kasman, has been had before said Special Master, and

WHEREAS, said Special Master has by report filed February 19, 1918, made an award of Seventeen hundred and forty Dollars (\$1740) damages in lieu of damages and profits, and

WHEREAS, full settlement has been made by said defendant, Abraham Kasman, of said award and all damages and costs of this suit, and

WHEREAS, said defendant, Abraham Kasman, has delivered up into the custody of said Special Master all the infringing copies or devices, as well as all plates, molds, matrices, or other means for making such infringing copies.

Now, THEREFORE, by consent of the parties hereto, it is ORDERED:

That the provisions of the First, Second, Third, Fourth and Fifth paragraphs of said decree shall be continued in full force and effect, and

That all the infringing copies or devices surrendered into the custody of the Special Master be delivered to plaintiff herein, and

That no further decree be entered herein.

Dated February 19, 1918.

[SEAL]

JULIUS M. MAYER, U.S.D.J.

We hereby consent to the above decree.

[SEAL]

EDWARDS, SAGER & RICHMOND,
Attorneys for Plaintiff.

[SEAL]

NATHAN VIDAVER,
Attorney for Defendant.

Structural Service Department

D. KNICKERBACKER BOYD, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE		CONTRACTS AND SPECIFICATIONS		FIRE-PREVENTION	
WILLIAM B. ITTNER, <i>Chairman</i>	St. Louis	FRANK MILES DAY, <i>Chairman</i>	Philadelphia	ROBERT D. KOHN, <i>Chairman</i>	New York
W. W. TYRRE	Minneapolis	M. B. MEDARY, JR., <i>Vice-Chairman</i> ,	Philadelphia	W. L. PLACK	Philadelphia
G. F. A. BRUEGGEMAN	St. Louis	ALLEN B. POND	Chicago	G. C. NIMMONS	Chicago
OWEN BRAINARD	New York	SULLIVAN W. JONES	New York	JOHN R. ROCKART	New York
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E. D. LITCHFIELD	New York	JOS. EVANS SPERRY	Baltimore	LYMAN A. FORD	New York
MATERIALS AND METHODS		GOLDWIN GOLDSMITH		QUANTITY SYSTEM	
*THOMAS NOLAN, <i>Chairman</i>	Univ. of Pa.	JULIUS FRANKE		SULLIVAN W. JONES, <i>Chairman</i> ,	
				Washington, D. C.	

(Each Chapter has a corresponding member who is chairman of the Chapter Subcommittee.)

CONTENTS

STONE, SLATE, BRICK, HOLLOW TILE, TERRA COTTA

SERIAL NO. 3, MARCH, 1918

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Building-Stones in General—Exterior and Interior. 3A

Governmental Activities and Statistical Data. 3A1

(a) An agreement was entered into, in 1914, between the United States Geological Survey, the Bureau of Mines, and the Bureau of Standards, for a co-operative study of the building-stone industry of the country. In general, this agreement provided that the Geological Survey should study the data, compare the classification, extent, and geology of undeveloped and quarried deposits of stone and collect statistical information on production and value of output; that the Bureau of Mines should investigate all mining and technologic data, with special reference to safety, efficiency of operation, and prevention of waste; and that the Bureau of Standards should undertake all the physical and chemical tests required for determining the value of stone for structural purposes, or as aggregate for concrete. The general object of the co-operative agreement was to obtain comprehensive data on the occurrence, quality, and methods of preparation for the market of the various building-stones of the United States.

(b) In the preceding Serial Number liberal quotations from *Contributions of the United States Geological Survey to Architects*, by Mr. Burckhard, in Vol. I of the Structural Service Book, were made.

One very important phase of Survey work on structural materials remains to be mentioned. Special investigations have been made, or are in progress, in which certain geologists spend the whole or a large part of their time at certain periods studying a single subject in a district, a state, or throughout the United States. These special investigations have resulted in the publication of *Papers or Bulletins* on such subjects as the brownstones of Pennsylvania, the Bedford oolitic limestones of Indiana, the Portland cement materials of the United States, the gypsum deposits of the United States, the stone resources of the United States (illustrated by maps showing the locations of quarries by classes of stone), the granites of Maine, the granites of the southeastern states, the marbles of western Vermont, the marbles of southeastern Alaska, building-stones of Minnesota, glass-sand in the Mis-

issippi Basin, the clays of the United States east of the Mississippi River, and slate in the United States.

The Geological Survey also co-operates with the Bureau of Standards in the petrographic study of test samples with a view of correlating physical and chemical properties of stone with their mineral composition and texture.

(c) The co-operative work of these three branches of the Government began, by agreement, with an investigation of the marble-quarrying industry and resulted in the publication, by the Bureau of Mines, of *Bulletin No. 106*, mentioned under 3D3b and in tests which are being conducted by the Bureau of Standards as described under 3D1b. Other activities of these Bureaus are mentioned under Sandstones 3E1.

(d) An automatic freezing and thawing apparatus for testing building-stones has been designed for use by the Bureau of Standards, a description of which was given in the 1916 Report of the Director as mentioned in the Structural Service Book, Vol. I, under 2J9d.

(e) The most recent work of the Geological Survey, with special interest to architects, is a study of the grading of the Indiana limestone, undertaken in co-operation with the Supervising Architect's Office and the Bureau of Standards; also a report on the marbles of the southern Appalachian states, manuscript of which has just been completed; and a bulletin on the granites of New England, virtually a second edition segregated into one volume of previous bulletins on the granites of different states of that region. Preparation of this report is somewhat more than half completed.

(f) In the chapter on "Stone in 1915" of the Survey, it was stated: "The stone industry as a whole has advanced with the development of the country, in spite of severe competition with brick, Portland cement concrete, and certain other artificial stone products. The use of these materials has seriously affected the production of the lower grades of stone for foundations and, to a less degree, the production of building-stone of higher grade, but it has had little or no effect on the use of monumental stone."

(g) Due to delays incident to the war, the chapter on "Stone in 1916"

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is not yet available, but special press notices from the U. S. Geological Survey give the following statistics as reported to G. F. Loughlin:

The value of the stone production of the United States in 1916 was \$79,041,699, an increase of nearly 6 per cent over the figures for 1915.

(b) Nearly 60 per cent of the stone sold in the United States is used as exterior building-stone, monumental stone, and crushed stone. The value of exterior building-stone quarried and sold in 1916 was \$11,715,016, which was 14 per cent of the total stone output. This was a decrease of 4 per cent compared with 1915. In 1916, 37 per cent of the exterior building-stone was granite, 40 per cent limestone, 11 per cent sandstone, and 10 per cent marble. Considerable marble that is not included in these figures was used for interior work.

In 1916 the output of monumental stone, both rough and dressed, was valued at \$7,036,536, or about 9 per cent of the total stone output. About 70 per cent of the monumental stone is granite, and the remaining 30 per cent is marble. The above figures do not include small quantities of limestone and sandstone used for monuments.

Crushed stone, representing 37 per cent of the value of total stone quarried, was valued at \$29,462,952 in 1916, an increase of 1 per cent over 1915.

Organized Bodies—Stone in General. 3A2

The ordinary man who builds knows little or nothing about stone, and frequently he cannot tell one variety of stone from another—to quote from *Stone*, a periodical devoted to the architectural uses of stone: "Truth compels the admission that a surprisingly large proportion of architects is also woefully ignorant concerning one of the most important materials of construction. These people need to be told, not once nor spasmodically, but constantly and convincingly, of the nature and physical characteristics of stone, of its eventual cheapness because of its durability, and of its beauty, fitness, and adaptability for every kind of building work. This is a task that does not belong to the individual quarry or stonemill, but to those associations that are formed to foster the interests of the entire trade."

Since the above was published, an awakening is taking place to the importance of a better understanding of the kinds of stones to be used in buildings and the best methods to be employed for their finish and setting, the number of associations has been added to, and important informative services have also been made available. Representing the interests of the stone industry in general, there are two large national organizations which contain many producers within their memberships. These are:

National Retail Monument Dealers' Association of America, Inc. 3A2a

Secretary: Frank Mallon, Port Huron, Mich.

Publications: "Code of Ethics," adopted at convention in Philadelphia, 1916, sets forth fifteen principles which include: The placing of adequate foundations under all work and the striving for higher standards of design and workmanship.

Purposes: Are as described in the "Code of Ethics."

At each annual convention an exhibition is held exemplifying the progress in granite, marble, and bronze work, with especial reference to mausoleums and other monuments.

International Cut Stone Contractors' and Quarrymen's Association. 3A2b

Secretary: Wm. A. Guthrie, 1 West 42d Street, New York City.

Holds an annual convention at which addresses are given and papers read concerning developments and progress in the stone industry. Purposes, membership, and publications not stated, though mention has been seen made of a *Monthly Leaflet*.

Journeyman Stone Cutters' Association of North America. 3A2c

Secretary: W. W. Drayer, Central Life Building, Indianapolis, Ind.

Is one of the nineteen "affiliated Internationals" comprising the Building Trades Department of the American Federation of Labor, listed in the *Structural Service Book*, Vol. I.

Association of American Cemetery Superintendents. 3A2d

Secretary: Wm. B. Jones, "Highwood," Pittsburgh, Pa.

Publications: "Proceedings" of annual conventions, containing papers and discussions on the characteristics and uses of stone and on the design and care of monuments, mausoleums, and component features of cemeteries.

Purposes: To correlate information and activities in connection with the management and care of cemeteries, the preservation of trees and other elements of scenic beauty, the appropriate use of materials, and the proper placing and care of monuments and mausoleums. This Association has been described in the "*Cyclopedia of American Horti-*

culture," as: "One of the three National societies conserving the landscape gardening and rural art of the country."

Information Obtainable. 3A3

(a) With respect to stone for building and other purposes, the publications of the U. S. Geological Survey are numerous and complete. Beside treating of all stone produced annually, in chapters on Stone in "*Mineral Resources of the U. S.*" (2A1c), these chapters are issued separately for earlier distribution.

(b) It is impossible to list publications of the various State Geologists (2A2). One of them, however, refers to some deposits of building-stone within the state of Mississippi, which are described in *Bulletin No. 12*, issued by the Mississippi State Geological Survey, E. N. Lowe, Director.

(c) The Bureau of Standards has published *Circular No. 45: "The Testing of Materials"* (1A3a), which refers to tests of stone in general. See the different stones mentioned herein for current tests being conducted.

(d) A laboratory is maintained by the Office of Public Roads and Rural Engineering, Department of Agriculture, in which tests are made on samples of rock, gravel, sand, clay, etc., as mentioned under 1A3d.

(e) In the *Annual Report* of the Chief of Ordnance, Watertown Arsenal, referred to under 1A3b will frequently be found results of tests on various building-stone.

(f) See *Journal of the Society of Constructors of Federal Buildings* (1A2d) for:

1. "Setting and Pointing Stonework," Carl C. Holloway, November, 1914.
2. "Reports of the Committee on Stone Inquiry" which are referred to under the various stones.
- (g) "Stones for Building and Decoration," Prof. G. P. Merrill, Curator of Geology in the U. S. National Museum, Washington.
- (h) "Report on the Comprehensive Strength, Specific Gravity, and Ratio of Absorption of the Building-Stones in the United States," Gen. Q. O. Gilmore.
- (j) "Building-Stones and Clays, Their Origin, Character and Examination," E. C. Eckel.
- (k) "Building Stones and Clay Products: A handbook for Architects," Heinrich Ries.
- (l) "Engineering Geology," H. Ries and T. L. Watson.
- (m) "Modern Stone-Cutting and Masonry," John S. Siebert and F. C. Biggin.
- (n) "Masonry and Stone-Cutting," E. Dobson.
- (o) "Engineering Contracts and Specifications," J. B. Johnson.
- (p) "Report on the Building and Ornamental Stones of Canada," W. A. Parks, Vol. I, 1912.
- (q) "A Handbook of Rocks," J. F. Kemp, 1906.
- (r) Among the pocket-books, handbooks, and other reference books, with sections pertaining to stone are:
 1. *Building Construction and Superintendence*, F. E. Kidder. Part I: "Building Stones," pp. 205-262, 878-891; "Cut Stone Work," pp. 263-310.
 2. *American Civil Engineers' Pocket-Book*, M. Merriman: "Stone Quarrying and Cutting," pp. 496-508.
 3. *Building Trades Handbook: "Materials of Masonry Construction"*, pp. 145-228.
 4. *Fire Prevention and Fire Protection*, J. K. Freitag, 1912.
 5. *Kidder's Architects' and Builders' Pocket-Book*, 1916.
 6. *The Civil Engineer's Pocket-Book*, J. C. Trautwine, 1913.
 7. *The Building Estimator's Reference Book*, F. R. Walker, 1917.
 8. *Handbook for Architects and Builders*, Illinois Society of Architects. Vol. XX, 1917.
 9. *Mechanical Engineers' Pocket-Book*, Wm. Kent, 1916.
 10. *Mechanical Engineers' Handbook*, Lionel S. Marks, 1916.
 11. *Handbook of Cost Data for Contractors and Engineers*, H. P. Gillette.
 12. *The Building Foreman's Pocket-Book and Ready Reference*, H. G. Richey, 1,118 pp.; illus.
 13. *A Handbook for Superintendents of Construction, Architects, Builders, and Building Inspectors*, H. G. Richey.
- (s) In several of the many volumes comprising each of the following will be found drawings, details, and descriptions of the stone architectural masterpieces of the Old World.
 1. *Dictionnaire Raisonné du Mobilier Français*, by Viollet Le Duc.
 2. *Encyclopédie de l'Architecture et de La Construction*, Directeur P. Planat.
- (t) See, also, *Dictionary of Architecture and Building*, Russell Sturgis (1B4).
- (u) *The Monument and Cemetery Review* contains each month plates and articles pertaining to the design and uses of stone in monuments and mausoleums, and in connection with features of landscape design. A section entitled, "Beautifying God's Acre," treats of these and other subjects of horticultural interest.
- (v) See *Proceedings*, American Association of Cemetery Superintendents:
 1. *Monuments and Other Memorials*, J. Curry, 1914.
 2. *Perpetual Care of Monuments and Mausoleums*, J. C. Scorgie, 1916.

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- (w) See **Memorials and Monuments**, L. Weaver. 200 subjects chosen from seven centuries.
- (x) See, also, **Ancient Sepulchral Monuments**, W. Brindley and W. S. Weatherly. Illustrations of over 600 subjects from various countries.
- (y) *Other references to stone* will be found in some of the publications listed under "Estimating Conditions, Quantities, and Cost Data" (1D).

As to Practice Recommended. 3A4

(a) There has heretofore been a lack of complete and authoritative information from organized sources with respect to building-stones and their uses. This condition, due partly to the fact that so much of the stone produced has been used for other than building construction, is now happily being improved through the coöperative efforts referred to herein under the respective stones.

(b) On the subject of Stones in General the recommendations of individual writers and authorities and treatises on ancient and modern stone buildings and methods will be found under Information Obtainable.

As to Samples of Stone. 3A5

In addition to the interesting quotation from *Stone* entitled, "Selling Stone by Sample," as printed in Vol. I of the Structural Service Book under 2J10s, the following extracts of similar purport from the report of the "Committee on Stone Inquiry," as published in the February, 1917, issue of the *Journal of the Society of Constructors of Federal Buildings*, are of especial interest, the mention of any particular stone being omitted as the substance of the remarks applies to all:

When a contract for a building is let, the quarryman submits a sample of stone for approval, and, being very proud of his product and of the fact that his is the best quarry in the district, he naturally selects and sends in the very best sample of stone that he has.

This sample that has been submitted to the office comes on to the job as representing the minimum of excellence that shall be allowed in the building; whereas, it really represents the maximum of excellence that can be obtained from the quarry; and the superintendent is under bond to see that the stonework in the building corresponds with the sample.

If the office would select an average sample of the stone that the district can produce; if the quarrymen would select their stone for the location in which it is to be placed; and if the superintendent would give a little freer interpretation to the sample, the trouble would be largely overcome.

To do this, an actual knowledge of the quality of the stone is required in order to determine the various grades. It is almost as difficult for the average man to do this as it is to determine the various grades of glass.

We have asked the quarries people to submit samples representing the grades.

We have also requested the various quarries to submit samples to us for our guidance, showing the defects in the stone. We believe that the thing for us to do is to arrive at a full knowledge of the qualities of the stone; and that the more knowledge we have the less friction there will be.

Limestone. 3B

Statistics and General Activities. 3B1

(a) The data for 1917 are not yet available, but the total value of limestone produced in 1916 is estimated at \$41,319,871, or over 52 per cent of the total stone production of the United States, and an increase of more than 17 per cent over the 1915 value. The value of the Indiana oölitic limestone quarried and sold at Bedford and Bloomington in 1916, according to a preliminary statement prepared by G. F. Loughlin, of the U. S. Geological Survey, was \$3,480,525, a gain of \$462,354, or more than 15 per cent, over the value for 1915.

Nearly 98 per cent of the total value for 1916 was represented by building-stone, valued at \$3,393,576, an increase of nearly 16 per cent over 1915. The average price per cubic foot in 1916 increased from 34 to 40 cents, but the total quantity of building-stone sold, 8,545,534 cubic feet, was less by 139,679 cubic feet than the quantity sold in 1915.

The slight decrease in the quantity of Indiana oölitic limestone sold as building-stone in 1916 may therefore imply a more marked decrease in sales of other kinds of building-stone.

The stone sold in 1916 for other uses than building amounted to 212,236 short tons, valued at \$86,949, a gain of nearly 43 per cent in quantity, but of only \$2,203, or less than 3 per cent, in value.

The decrease in price during a year of prevailing high prices is striking, but the increase in quantity is a gratifying indication that progress is being made in utilizing stone that would otherwise be discarded as waste.

(b) The U. S. Bureau of Standards is now making an extensive series of tests on seventy-two large specimens of Indiana limestone, which were gathered from as many different ledges and sources in the district.

It is hoped that during the current year the result of that series of tests will be available, which will naturally add materially to the general knowledge of the qualifications of Indiana limestone for every kind of structural application.

Indiana Limestone Quarrymen's Association. 3B2

Secretary: R. M. Richter, Bedford, Ind.

Publications: "Indiana Limestone Library," listed under Information Obtainable.

Purposes: Is a voluntary organization of producers of limestone formed for the purpose of transfusing information about this material and its application, and for promoting its greater use.

It is understood that this Association will take up officially the matter of recommendations and specifications for the setting of limestone and will welcome the suggestions or comments of architects. (See letter from Secretary under 3B5b.)

Bedford Stone Club Auxiliary, Inc. 3B3

Secretary: R. M. Richter, Bedford, Ind.

Organized to bring about better conditions in the limestone trade, as between the cut-stone contractor in this district and the general contractors throughout the country.

Publishes a circular enunciating these principles and giving in detail arrangements to be agreed upon with respect to the opening and scheduling of all estimates from cut-stone producers and contractors.

Information Obtainable. 3B4

(a) The U. S. Geological Survey (2A1m) has issued:

1. **The Limestone Quarries of Eastern New York, Western Vermont, Massachusetts, and Connecticut**, H. Rice. Seventeenth Annual Report, pt. 3 (continued).
2. **The Bedford Oölitic Limestone of Indiana**, T. C. Hopkins and C. E. Siebenthal. 1897. Eighteenth Annual Report, pt. 5 (continued), pp. 1050-1057.
3. **The Bedford Oölitic Limestone (Indiana)**, C. E. Siebenthal. 1898. Nineteenth Annual Report, pt. 6 (continued).
4. **Limestones of Southwestern Pennsylvania**, F. G. Clapp. 1905. Bulletin No. 249, 52 pp.
5. **Cement Materials and Industry of the United States**, E. C. Eckel. 1905. Bulletin No. 243. (Treats of limestone.) 65 cents.
6. **Limestone and Dolomite in the Birmingham District, Alabama**, Charles Butts. 1907. Bulletin No. 315G.
7. **Oölitic Limestone at Bowling Green and Other Places in Kentucky**, J. H. Gardener. 1910. Bulletin No. 430. 60 cts.
8. **The Oölitic Limestone Industry at Bedford and Bloomington, Ind.**, J. A. Udden. 1910. Bulletin No. 430. 60 cents.
9. **Portland Cement Materials and Industry of the United States**, E. C. Eckel, with contributions by E. F. Buchard and others. 1913. Bulletin No. 522, 401 pp. (Treats of limestone.)

(b) In *Journal of the Society of Constructors of Federal Buildings* (1A2d), see:

1. "Some Notes and Letters on Bedford Stone," Fremont B. Ward, November, 1914.
2. "Reports of the Committee on Stone Inquiry," which treat of limestone (referred to under 3B5a).

(c) The Indiana Limestone Quarrymen's Association (3B2), is issuing "The Indiana Limestone Library," which, to date, includes:

1. "Indiana Limestone." Vol. I.
2. "Indiana Limestone Bank Book." Vol. IV.
3. "Indiana Limestone Prize Residence Designs." Vol. XXVII

(d) "A Competition for a Detached Residence of Indiana Limestone"—The Report of the Jury of Award Announcing the Results of the Competition, Accompanied by a Reproduction of Twenty-four Prize, Mention, and Selected Designs, with 43 pages of text and illustrations, *The Architectural Review*, September, 1917.

An article describing this competition, instituted by the Indiana Limestone Quarrymen's Association, under the auspices of the above publication, with illustrations of the four prize designs, appears in the periodical, *Stone*, December, 1917.

(e) Other information pertaining to limestone will be found in most of the reference books and others listed under and following 3A3r.

As to Practice Recommended. 3B5

(a) Reports of the "Committee on Stone Inquiry," *Society of Constructors of Federal Buildings* (1A2d): This Committee was appointed in September, 1915, to investigate the limestone industry with special reference to Indiana oölitic limestone. In *The Journal* of this Society for January, 1916, is printed a preliminary brief report.

In *The Journal* for November, 1916, it is stated that, through the courtesy and coöperation of the Supervising Architect's Office, two members of the Committee later visited the Indiana limestone district and spent several days examining the various quarries and mills from which most of the marketable stone is obtained. More time was spent

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in the Bedford district than in any of the others, for the reason that the majority of the best producing quarries and mills are in this district, although the Bloomington district produces considerable quantities of good stone. There are about seventy concerns doing business in these districts. Indiana limestone is found as far north as Gosport and as far south as Mitchell, a distance of approximately 50 miles, and the strip varies in width from 2 to 6 miles. Other districts, such as Ellettsville, Stinesville, and Ramona, slightly north of Bloomington, also have some good quarries, but it was not deemed necessary to visit these places, as practically the same conditions exist as in the quarries visited.

The results achieved through this trip of investigation, the coöperation afforded by the producers, and a most interesting dissertation upon the characteristics of limestone, its classifications, grades, prices, and methods of quarrying, handling, and setting occupy twelve pages in this November issue.

In the February, 1917, issue of the Society's *Journal*, containing the "Proceedings" of the eighth annual convention, thirty pages are given over to a further report by this Committee and to discussions on the subject. Reference is made to an address there given by the Secretary of the Indiana Limestone Quarrymen's Association, illustrated by motion pictures, and to an Exhibition of limestone samples held in connection with the convention. This report, submitted to the Supervising Architect, concludes with recommendations, among them, as to quality, bed, samples, color, painting, handling, protection, and care of limestone.

(b) *Indiana Limestone Quarrymen's Association (3B2)*. In a letter from the Secretary, dated February 4, 1918, the following recommendations are offered to supplement and supersede those of last year under 2G6: "The product to be loaded on wagons, hauled and unloaded at the building-site by competent workmen and by such methods as will guard against mutilation and snipping. The stone to be stored at the building-site, whether for a few hours or for an indefinite period, so as to be entirely clear of the ground. Protection by proper means to be provided against contact with anything which would result in the accumulation of dirt, dust, soot, mud, or other staining agents. During extended periods of storage at the site, the product to be covered by tarpaulins, stout paper, or boards, as a protection against rain or snow.

"Indiana Limestone to be set in carefully prepared lime-mortar, tempered with 10 per cent stainless cement, and set in the wall without painting. After set, apply one heavy coat of hot asphalt heated on the premises, so as to cover all exposed rear portions of the stonework as well as all joints in the rear. If desired, a one-half inch coat of lime-putty may be applied uniformly across the exposed rear surfaces after the painting has been done and before the backing is laid. Cover the walls of the building in course of erection each night and at all times during cessation of work in order that rain, snow, or frost may be prevented from percolating through the backing and stonework.

"After the building is completed, clean the stonework with clear water in which any well-known brand of scouring-powder has been dissolved and boiled, applying same by vigorous scrubbing with stiff fiber brushes. After the cleaning has been completed, wash down the walls with clear water through a hose. The use of acids of any kind and in any proportion to be prohibited. If much wet weather was encountered during the erection of a building, the preferable practice is not to undertake a thorough cleaning process until improved weather conditions have given the stonework a reasonable opportunity to dry out."

Granite. 3C

Complete statistics of the granite production in the United States for 1916 are not yet available though preliminary reports as to some of the states have been issued by the U. S. Geological Survey, and the total valuation has been placed at \$17,418,582.

In 1915, the granite production was valued at \$17,864,000, divided as follows (by millions): Building 4.7, monumental 4.87, paving 2.35, crushed 3.82, the balance in curbing, flagging, rubble, and riprap.

In connection with this industry there exist the following national and local organizations:

The National Association of the Granite Industries of the United States, Inc. 3C1

Secretary: Robert D. Smith, 161 Devonshire Street, Boston, Mass.

It is the purpose of this organization to associate in a central body all persons, firms, or corporations engaged in carrying on the granite industry with respect to quarrying, manufacturing for building and paving work, and manufacturing for monumental purposes, in any part of the United States.

National Building Granite Quarries Association, Inc. 3C2

Field Secretary: John S. McDaniel, 31 State Street, Boston, Mass.

Purposes: "To search continually for what architects want to know about granite and to put this information in concise, interesting, and intelligent form; to promote the use of granite for building purposes, only in so far as the proper presentation of useful information carries its

own conviction; and to encourage a larger use of granite by expanding the Association's facilities to serve the architectural profession."

Is one of the Associations indorsing the third edition of the *Standard Documents of the American Institute of Architects*.

Granite Manufacturers Association of Barre, Vermont. 3C3

Secretary: Harold P. Hinman, Barre, Vt.

Publications:

(a) A house organ known as "Barre Granite" for distribution to members and discussion of the affairs of the Association.

(b) "Memorial Masterpieces," and other literature.

Consists of over 97 per cent of the quarry-owners and manufacturers in the Barre granite center, to promote the best interests of the Barre granite industry. Coöperates with the quarry owners' Association in a campaign to increase the volume of sales and to improve the quality of memorial and building work.

Barre Quarriers' and Manufacturers' Association. 3C4

Secretary: Harold P. Hinman, Barre, Vt.

(See Association just described under 3C3.)

Granite Paving Block Manufacturers' Association of U. S., Inc. 3C5

Field Secretary: Walter L. Weeden, 31 State Street, Boston, Mass.

Local Granite Associations. 3C6

It is stated that some of these, concerning whose activities and publications we have not heard, exist in Hardwick, Vt.; Milford, N. H.; Concord, N. H.; Quincy, Mass.; and Westerley, R. I.

Granite Cutters' International Association of America.

President: James Duncan, Hancock Building, Quincy, Mass. 3C7

Is one of the nineteen "affiliated Internationals" comprising the Building Trades Department of the American Federation of Labor, listed in the *Structural Service Book*, Vol. I.

Information Obtainable. 3C8

(a) The U. S. Geological Survey (2A1m) has published the following:

1. *The Granite Industry of the Penobscot Bay District, Maine*, G. O. Smith. 1905. Bulletin No. 260. (Exhausted.)
2. *Recent work on New England Granites*, T. N. Dale. 1907. Bulletin No. 315J, pp. 356-359.
3. *The Granites of Maine*, T. N. Dale. 1907. Bulletin No. 313, 202 pp. 35 cents.
4. *The Chief Commercial Granites of Massachusetts, New Hampshire, and Rhode Island*, T. N. Dale. 1908. Bulletin No. 354, 228 pp.
5. *The Granites of Vermont*, T. N. Dale. 1909. Bulletin No. 404, 138 pp. 20 cents.
6. *Supplementary Notes on the Granites of New Hampshire*, T. N. Dale. 1910. Bulletin No. 430, pp. 346-372. 60 cents.
7. *Granites of the Southeastern Atlantic States*, T. L. Watson. 1910. Bulletin No. 426, 282 pp.
8. *Supplementary Notes on the Commercial Granites of Massachusetts*, Bulletin No. 470, pp. 240-290. 1911.
9. *The Granites of Connecticut*, T. N. Dale and H. E. Gregory. 1911. Bulletin No. 484, 137 pp.
10. *The Aberdeen Granite Quarry, near Gunnison, Colo.* J. F. Hunter. 1913. Bulletin No. 540, pp. 359-362. 45 cents.
11. See, also, chapters on "Stone" in "Mineral Resources of the U. S." for each year. (2A1c, d.)

(b) "History of the Granite Industry of New England," Arthur W. Brayley.

(c) See *Proceedings*, Association of American Cemetery Superintendents (3A2d), 1917, article on granite by Professor Perkins, State Geologist of Vermont.

(d) Other information pertaining to Granite will be found in most of the reference books and others listed under 3A3r to y.

With respect to the interesting use of crushed pink granite as an aggregate to secure color-tones in stucco, see references in Serial No. 2, under 2B7u3, 4, and under 2D5o.

As to Practice Recommended. 3C9

(a) Report of the "Committee on Granite Inquiry"—*Society of Constructors of Federal Buildings*.

In view of the fact that the 1918 convention of the Society was indefinitely postponed, the report of the Committee on Granite, which was to have been presented for discussion at the convention, was printed in the September-December, 1917, *Journal*, so that members (and

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under the unusual conditions, any other persons interested) might submit written questions and discussions, which will be printed in the *Journal* during the coming year.

This Committee, appointed in January, 1917, for the purpose of investigating the granite quarries and the fabrication and uses of granite, had no definite instructions, except to cover generally the investigation of the entire industry and obtain all information that might be of use and interest to the members, and ascertain if the specifications as generally used for construction of federal buildings were ample to meet the various economic features as they occur in the production and fabrication of granite.

The interesting report covers seventeen pages in the *Journal*, and treats of such features as: "Structure of Granite Masses," "Structure of the Stone," "Texture," "Rift and Grain," "Extraction from the Quarry," "Fabrication," and "Specifications."

The Committee found, despite the fact that the granite industry is suffering a considerable depression, that there is still a demand for granite where a durable material is required, and the resumption of the use of granite for paving-blocks attests the high regard for this material as suitable for a wearing surface for heavy traffic.

(b) From letters written by prominent granite-producing concerns who have offered suggestions in connection with the use of granite, we quote the following:

(c) "Considerably more granite might be used in building work if the class of cutting were not specified to be too fine. For the average building, where the appropriation is not unlimited, good results in the appearance of the granite facing of a building may be obtained by graduating the class of cutting, starting at the ground-level and making it coarser toward the top of a building. There must necessarily be a belt-course or an entablature or other horizontal line around the building where the change in the class of cutting is to occur. It is a well-recognized fact by many architects that a coarse finish at a number of feet from the ground-level has about the same appearance as a finer finish near the level of the eye. Therefore, why should the extra money be put into a class of cutting which is unnecessary above a certain height?"

"Both marble and limestone, which are sawed, are used in thin courses. Many, if not most, of the large building granite manufacturers have saws, and we believe that this style of thin ashlar, alternating the courses so that they will bond well, should be used in a granite facing as well as in a marble or limestone facing."

Marble. 3D *Statistics and Governmental Activities.* 3D1

(a) The U. S. Geological Survey states that the value of the marble sold by producers in 1916, according to reports from eighty active marble quarries, was \$7,033,171. This was an increase of nearly 2 per cent compared with 1915, but was less than the value of any of the four preceding years.

The principal producing state is Vermont, the value of whose marketed product in 1916 represented over 43 per cent of the total value, and showed an increase of nearly 10 per cent in value over 1915. Tennessee, with a value of \$1,000,266, representing an increase of 4 per cent, was the next state in rank, and Georgia, with a value of \$903,343, a decrease of 7 per cent, was third.

These three states produce 70 per cent of the total marble output, although twelve other states produce this stone, the greater part of which is used for building or monumental work. The terrazzo stone, used to mix in with mortar in making floors, amounted to 24,340 short tons.

(b) The Bureau of Standards in its 1917 Report states:

1. In connection with the cooperative investigation of building-stones which is being carried on with the U. S. Geological Survey, Bureau of Mines, and Office of Public Roads, fifty samples of commercial marble have been tested to determine their compressive strength in a dry and wet state, transverse strength perpendicular and parallel to the bedding, tensile strength perpendicular and parallel to the bedding, percentage of water absorption, specific gravity, porosity, weight per cubic foot, electrical conductivity, coefficient of expansion, resistance to frost-action, resistance to the penetrations of stains, and chemical composition. A report on these tests is now being prepared for publication.
2. "A collection of the various commercial marbles has been made and placed on file at the Bureau of Standards. This collection at present consists of seventy-five polished slabs, 8 by 12 inches, and represents the principal commercial marbles of Vermont, Massachusetts, New York, Maryland, Georgia, North Carolina, Alabama, Missouri, Colorado, and California. This collection is now exhibited in suitable cases and may be examined by those interested in studying and comparing the various types of American marble."

(c) In the "Yearbook of the Bureau of Mines," by Van. H. Manning (1916), it is stated that "The presence of vast piles of waste marble at many quarries indicates the two important phases of the problem: First, the desirability of reducing waste by introducing improved quarry methods, and, second, the need of

utilizing accumulations of waste material. The bureau has shown that the proportion of waste may be reduced by intelligent prospecting and by separating blocks in accordance with rock structures. Blocks containing imperfections may be employed for riprap, road-building, lime-burning, soil-amendment, furnace-flux, rubble, and various other uses."

For investigations of marble quarrying by the Bureau of Mines see 3A1c and resulting *Bulletin* mentioned under 3D3b.

Organized Bodies. 3D2

In the marble industry there appears to be no national association composed entirely of producers. There exists, however, the first-named below national association of dealers.

National Association of Marble Dealers. 3D2a

Secretary: Wm. A. Davis, 1328 Broadway, New York City.

Publications:

1. "Code of Practice" adopted at the annual meeting in New York, November 11, 12, 1915. Copies furnished upon request.
 2. "Agreement" copies of which may be had upon request.
 3. *Bulletins* to members at frequent intervals.
 4. *Marble*, a monthly publication.
- Activities confined to interior marble. Has prepared, adopted, and circulated the "Code of Practice" above mentioned which governs conditions of estimating, awarding of contracts, grades of marble and workmanship.

The membership includes practically all of the important dealers in the United States, exclusive of New York City and the Pacific coast; also includes quarryers, many of whom are finishers as well.

In September, 1913, this Association entered into a five-year agreement (referred to above) with the Bricklayers', Masons', and Plasterers' Union, establishing a standard wage-rate throughout the country for the installation of marble.

The Association has indorsed the *Standard Documents* of the American Institute of Architects and looks forward to their more complete use as a solution of many controversies not now eliminated by the "Code of Practice," which establishes arbitration methods for settling disputes as to the grades and workmanship of marble.

Marble Industry Employers' Association. 3D2b

Secretary: Wm. K. Fertig, Cameron Building, New York City.

This local association, comprising the marble dealers of New York, is independent of the National Association before referred to.

International Association of Marble and Stone Polishers, Rubbers, and Sawyers. 3D2c

President: S. C. Hogan, 406 E. 149th Street, New York City.

Is one of the nineteen "affiliated Internationals" comprising the Building Trades Department of the American Federation of Labor, as listed in the *Structural Service Book*, Vol. I.

Note.—The Bricklayers', Masons' and Plasterers' International Union referred to under 3D2a1, in connection with the agreement described, is listed in this issue under 3H3.

Information Obtainable. 3D3

(a) The U. S. Geological Survey (2A1m) issues:

1. *Tennessee Marbles*, Arthur Keith. 1903. Bulletin No. 213, pp. 366-370. (Exhausted.)
 2. *Marble of White Pine Country, Nev.*, near Gandy, Utah, N. H. Darton. 1908. Bulletin No. 340G, pp. 377-380.
 3. *Marble in Chiricahua Mountains, Arizona*, D. Sidney Paige. 1909. Bulletin No. 380, pp. 299-311. 40 cents.
 4. *Variiegated Marble Southeast of Calera, Shelby County, Ala.*, Charles Butts. 1911. Bulletin No. 470, pp. 237-239.
 5. *The Commercial Marbles of Western Vermont*, T. N. Dale. 1912. Bulletin No. 521, 170 pp.
 6. *Ornamental Marble near Barstow, Cal.*, Robert W. Pack. 1913. Bulletin No. 540, pp. 363-368. 45 cents.
 7. *The Calcite Marble and Dolomite of Eastern Vermont*, T. N. Dale. 1915. Bulletin No. 589, 67 pp.
 8. See also chapter on "Stone" in "*Mineral Resources of the U. S.*," for each year (2Ac, d).
- (b) The Bureau of Mines in its investigation of problems connected with the mining and technology of various building-stones has issued the following, which will be found descriptive of the production and more efficient use of this material:
1. "The Technology of Marble Quarrying," Bulletin No. 106.
- (c) As to the care of interior and exterior marble, see "Care and Operation of Federal Buildings," by Julian Morton, in *Journal of the Society of Constructors of Federal Buildings*, July, 1915.
- (d) See "Marble and Marble Workers," W. S. Renwick.

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- (e) "Notes on Domestic White Building Marble," Topic 1081, Bulletin of Building Data League.
- (f) See references to the "Code of Practice" and "agreement" mentioned under National Association of Marble Dealers (3D2a).
- (g) Other information pertaining to marble will be found in most of the reference books and others listed under 3A3r to y.

Standard Details. 3D4

The Departments of the Treasury, War, and Navy, U. S. A., have issued Uniform Specifications for Plumbing Fixtures, which include Standard Details for water-closet, shower-bath, urinal and bath inclosures, as described under 3G6a.

Terrazzo and Marble Floors. 3D5

(a) An interesting series of papers on the use of marble in flooring, with suggested specifications, by Charles A. Marsh, Ernest L. Hesse, Carl C. Holloway, and David C. Trott, is contained in *Journal of the Society of Constructors of Federal Buildings* (1A2d1) for November, 1914; and a paper on "A Recent Experience with Terrazzo Work," by John E. Langley, will be found in the May, 1915, issue of same.

(b) For information on the cleaning of marble floors, stair-treads, and sand-finished marble, see paper on "Care and Operation of Federal Buildings" (3D3c).

Sandstone. 3E

Statistics and Governmental Activities. 3E1

(a) Sandstone valued at \$5,603,778 was produced and sold in the United States in 1916, according to G. F. Loughlin, of the U. S. Geological Survey. This was a decrease of 8 per cent compared with 1915, and was the lowest figure for this kind of stone since 1897.

In two of its principal uses—as curbing and as flagging—sandstone has in recent years been replaced by cement, a fact that accounts in large measure for the decrease in the production of this kind of stone. In 1916 the production of sandstone represented 7 per cent of the total output of stone, and the principal producing states, which contributed 59 per cent of the total output, were Pennsylvania (\$1,318,239), Ohio (\$1,274,181), and New York (\$714,558).

(b) In *Report of the Bureau of Standards, 1917*, it is stated: "Thirty-five samples of sandstone have been collected from the important quarries of the United States, and the work of preparing test specimens is well under way. The physical properties of these will be determined in approximately the same manner as those of the marble."

(c) In *Yearbook of the Bureau of Mines, 1916*, it is stated: "During the summer of 1915 a study of sandstone quarrying was begun. About fifty-five sandstone quarries were visited by the Bureau's quarry technologist, and investigations were made of all phases of the industry, including the physical properties and imperfections of sandstone and their effect on quarry operations. Methods of quarrying bluestone and ganister were also observed.

"These investigations disclosed a condition of excessive waste in many sandstone regions, the proportion in some instances reaching 75 per cent of the gross production. The gravity of this condition is intensified by the limited number of uses for which waste sandstone may be employed. The imperative need and the means of so improving quarry methods that the proportion of waste may be greatly reduced are emphasized. A study of the cause and prevention of accidents was conducted in conjunction with the efficiency and waste investigations." The result of the studies and observations made are embodied in a report on "Sandstone Quarrying in the United States," listed under 3E3b.

Bluestone. 3E2

(a) A fine-grained sandstone quarried in New York and north-eastern Pennsylvania, known locally as "bluestone," was produced in 1916 to the value of \$510,011, according to the U. S. Geological Survey. This represented a decrease of about 21 per cent, compared with 1915, and followed a decrease of over 40 per cent in that year.

(b) "Flagstone" is a name very commonly misapplied. This term should be considered as referring to the treatment rather than the stone, for to the trade this means any good bluestone or other sandstone, which has natural split surfaces on the flat exposure and bed and the thickness of which runs within the limitation of about 1½ to 4 inches. Above this thickness it becomes bluestone stock.

Information Obtainable. 3E3

- (a) The U. S. Geological Survey (2A1m) has published:
 1. *The Sandstones of Western Indiana*, T. C. Hopkins. 1896. Seventeenth Annual Report, pt. 3, pp. 780-787.
 2. *Brownstones of Pennsylvania*, T. C. Hopkins. 1897. Eighteenth Annual Report, pt. 5, pp. 1025-1043.
 3. Sandstone is discussed in "Structural Materials Available near Minneapolis," in Bulletin No. 430. 1910. 60 cents.

4. See, also, chapters on Stone in *Mineral Resources of the U. S.* for each year (2A1c, d).

(b) The Bureau of Mines (2A3) has issued: *Bulletin 124: "Sandstone Quarrying in the United States,"* O. Bowles. 1917. 143 pp.; illus.

(c) The Ohio State Survey, Prof. J. A. Bownocker, State Geologist, Columbus, Ohio, has published a bulletin on "Building Stones," in which sandstone is referred to.

(d) See *Journal of Society of Constructors of Federal Buildings* (1A2d1) for:

1. "How Sandstones Differ," May, 1916.
2. "Reports of Committee on Stone Inquiry," referred to under 3B5a, touch on sandstone.

(e) Other information pertaining to sandstone will be found in most of the reference books listed under 3A3r.

Soapstone. 3F

(a) In the production of soapstone the United States ranks first among all countries, and Virginia produces about twenty times as much as the four other producing states—Maryland, North Carolina, Rhode Island, and Vermont. The waste from breakage in quarrying, sawing into slabs, manufacturing, and final transportation is so great as to render success in the industry a matter of skilful manipulation. The value of the stone is in large measure proportionate to the work done upon it. In the rough it is valued at \$2 or less a ton, but when sawed into slabs its value is increased to about \$15, and when made into laundry-tubs it may attain a value of about \$30 a ton. The production of soapstone and talc in the United States is steadily increasing.—U. S. Geological Survey, *Press Bulletin*, November, 1916.

(b) *Standard Details*. The Departments of the Treasury, War, and Navy, U. S. A., have issued Uniform Specifications for Plumbing Fixtures which include Standard Details for water-closet, shower-bath, urinal and bath inclosures, as described under 3G6a.

Slate. 3G

Statistics and General Information. 3G1

(a) From *Slate in 1916*, advance chapter of *Mineral Resources of the U. S.* published by the U. S. Geological Survey, the following extracts are given:

The total value of slate sold in 1916 amounted to \$5,338,837. There was an increase of more than 26 per cent in quantity and of 44 per cent in value of mill stock, which in 1916 amounted to 5,782,842 square feet and exceeded the quantity sold in seven of the nine preceding years. This encouraging increase in mill stock was offset by decrease in sales of roofing slate, whose value represents a little over three-fifths of the total.

The increased cost of metals, the demand for them in other uses, and the increased cost of asbestos and other materials used in artificial roofing may give roofing slate an opportunity to regain some of this lost ground. Slate, either in ordinary shingles, as inland slate, or as filler for asphaltic roofing material, is available for use on roofs of all kinds.

(b) The slate production of the United States is practically confined to the northeastern part of the country, Pennsylvania and Vermont leading the states. Although scattered deposits, more or less developed, occur elsewhere, this eastern slate is shipped to supply markets on the western coast as well as in the central and southern parts of the country. The slate of most of the deposits in the various states has been described either in *Bulletin No. 586* of the U. S. Geological Survey or in previous reports on the slate industry. Slate is classified as roofing slate and mill stock, and the use for these different purposes depends largely, although not entirely, on the character of the slate, as mentioned under (c) and (d) quoted from *Slate in 1915*.

(c) *Mill Stock*: "Mill Stock requires a finer, more even-grained, and more compact material than roofing slate, and a material with a smooth cleavage surface. It must be of a fairly uniform color and not too hard to be easily worked by the slate-dressing machinery. The slates of Maine and Vermont and the 'soft-vein' slates of Lehigh and Northampton counties, Pa., are well adapted for mill stock, and these slates are also among the best of the roofing slates. The Arkansas slate has been used both for electrical and roofing purposes, and the Maryland and New York quarries also furnish a small quantity of mill stock.

"Mill stock includes slate used for blackboards, school slates, flooring, wainscoting, vats, tiles, sinks, laundry-tubs, grave-vaults, sanitary ware, refrigerator shelves, flour-bins and dough-troughs for bakeries, electrical switch-boards, mantels, hearths, well-caps, and tops for billiard, laboratory, kitchen, and other tables.

"Lehigh and Northampton counties, Pa., report the only stock produced for school slates and blackboards. The quarries in these counties can best produce this material on account of the unusually fine cleavage of the slate and the thickness and size of the beds."

(d) *Roofing Slate*: "Slate used for roofing is not necessarily of so fine a texture nor of so smooth a cleavage as the mill stock, but it must be hard, strong, and tough, and should not contain carbonates or iron pyrites, which decompose or oxidize under atmospheric conditions. A description of the process of dressing roofing slates was given in the report on slate in *Mineral Resources of the U. S.* for 1911."

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(e) *Graduated and Variegated Roofing Slate.* A decided impetus has in recent years been given the roofing slate industry through the activities of a few resourceful producers who have cooperated with some architects in procuring distinctive roofs. The effect desired is obtained by utilizing to the full the materials with which the quarries abound, including the largest range of color and varying sizes and thicknesses. Notes on certain kinds of roofing known as the "Old English Method" will be found in "Kidder's Pocket-Book," 1916, page 1498.

(f) A progressive producing concern informs us that it has in preparation a booklet to be illustrated with reproductions of panels of uniform size laid with different sizes and thicknesses of slate; also showing examples of use of "random" widths.

It also states: "Many architects specify familiar sizes, such as 20 x 10 inches, and refuse to take any others. This habit seriously handicaps the beauty and availability of slate roofing. As slate comes from the quarry in masses of entirely irregular size and shape, the slatemakers are obliged to split and 'trim' (square up) each block of slate quarried into perhaps three or four out of thirty-five commercial sizes, as may be least wasteful. Hardly 10 per cent of the quarry-run can be split to a given size, especially a large size, and in consequence it is slow and expensive to work upon one-size orders. If architects would permit quarrymen to fill orders in two or three different lengths, and 'random' widths (as in laying shingles), according to the general dimensions of roof to be covered, the latter could fill even large orders at comparatively short notice, as they could put in from 70 to 80 per cent of daily output instead of 8 to 10 per cent.

Organized Bodies.

3G2

In this industry no national organization appears to exist, and indeed it seems doubtful whether any local organized bodies of producers, save the first-named below, are now in active existence, though some have at times been formed.

Bangor Slate Association, Inc.

3G3

Secretary: L. M. Cowling, Bangor, Pa.

Publications: (a) "Booklet" mentioned under 3G5d, and (b) "Specifications" referred to under 3G6g.

Purpose: To give out information about genuine Bangor slate and to see that it is used when specified is the object of this Association which is composed of producers in this locality who manufacture slate for roofing or structural purposes.

International Union Slate and Tile Roofers.

3G4

Secretary: J. M. Gavlak, 3643 W. 47th Street, Cleveland, Ohio.

Is one of the nineteen "affiliated Internationals" comprising the Building Trades Department of the American Federation of Labor.

Other Information Obtainable.

3G5

(a) In addition to chapters on slate in "Mineral Resources of the U. S." (2A1c) and similar chapters separately printed (2A1d), the following are selected from publications of the U. S. Geological Survey (2A1):

1. "Chemical Notes on the Composition of the Roofing Slates of Eastern New York and Western Vermont," W. F. Hillebrand. 1899. *Nineteenth Annual Report*, pt. 3, §2.25.
 2. "The Slate Belt of Eastern New York and Western Vermont," T. N. Dale. 1899. *Nineteenth Annual Report*, pt. 3, pp. 153-200. §2.25.
 3. "The Slate Industry of Slatington, Pa., and Martinsburg, W. Va.," T. N. Dale. 1903. *Bulletin No. 213*. (Exhausted.)
 4. "Notes on Arkansas Roofing Slates," T. N. Dale. 1904. *Bulletin No. 225*, pp. 414-416. 35 cents.
 5. "Slate Deposits of California and Utah," E. C. Eckel. 1904. *Bulletin No. 225*, pp. 417-422. 35 cents.
 6. "Slate Investigations During 1904," T. N. Dale. 1905. *Bulletin No. 260*, pp. 486-488. (Exhausted.)
 7. "Note on a New Variety of Maine Slate," T. N. Dale. 1906. *Bulletin No. 285*, pp. 449-450. (Exhausted.)
 8. "The Slates of Arkansas," A. H. Purdue. 1910. *Bulletin No. 430*, pp. 317-334. 60 cents.
 9. "Slate Deposits and Slate Industry of the United States," T. N. Dale and others. 1914. *Bulletin No. 536*. A revised edition of Bulletin No. 275.
- (b) The State Geological Surveys (2A2) of Arkansas, California, Maryland, and New Jersey have published descriptions of the slate and the slate deposits of these states.
- (c) "Building-Stones and Clays, Their Origin, Character, and Examination," E. C. Eckel. Contains a chapter on slate.
- (d) The Bangor Slate Association, Inc. (3G3) issues, for general distribution, a *Booklet* entitled "Genuine Bangor Slate."
- (e) "Slate as a Roofing Material—The Color, Texture and Charming Irregularities That Can Be Produced in a Slate Roof Well Laid," Romer Shawhan, *House and Garden*, November, 1917. Illus.

(f) For descriptions in minute detail with diagrams and profuse illustrations of foreign practice in the cutting and laying of slates for roofing with hips, ridges, valleys, gutters, and all accessories of wood, metal, and other materials, see *Traité de Couverture et Plomberie*, by Oslet and Lascombe, 2 Vols.

(g) Further information pertaining to slate and its uses will be found in most of the reference books listed under 3A3r.

Practice Recommended and Standards Adopted.

3G6

(a) The Board on Uniform Plumbing Specifications, composed of representatives of the Treasury, War, and Navy Departments, issued, March 1, 1916, "Specifications for Plumbing Fixtures, etc., for the Treasury, War, and Navy Departments." It is interesting to note that these specifications, which are described in the *Structural Service Book*, Vol. I, under 9A, and will be referred to in the Serial on Plumbing this year, contain several plates showing standard details for inclosures and stalls for water-closets, shower-baths, urinals, and bathtubs. These are adaptable for either slate, marble, soapstone or glass, as may be called for by the specifications for the particular building in which they are to be erected, and are so used by these three departments and by some architects in their regular practice.

(b) The Department of the Navy, U. S. A., issues a specification for roofing slate of which a verbatim transcript is:

Roofing Slate—Navy Department Specifications. Serial Designation 5951, February 1, 1915.

General: (1) Slate shall be of the dimensions specified, not less than $\frac{1}{4}$ inch thick, best quality, uniform in size, color, texture, and composition; sound, dark blue or black, or other color desired. Tails and edges shall be cut square and true. Nail-holes shall be drilled and countersunk for the heads of nails. Slate shall be free from warped surfaces; quartz ribbons, or quartz particles, and the presence of injurious carbonates and sulphides shall be cause for rejection. Where unfading slate is desired, or the slate is to be exposed to acid fumes, slates which effervesce with hydrochloric acid applied as follows shall be rejected: Hydrochloric acid having a specific gravity of about 1.20 at 60° F. or about 38 per cent of absolute acid is to be diluted so that 60 per cent by volume of the diluted acid shall be water. This acid is to be applied to the freshly broken edges of the slate.

Trade Name: (2) Bidders shall state trade name of slate, name and locality of quarry, and, where required, submit sample of the slate which they propose to furnish.

NOTE.—Copies of the above specifications may be obtained as mentioned in the *Structural Service Book*, Vol. I, under 3A1a.

(c) The U. S. Geological Survey in *Mineral Resources of the U. S., 1915*, states:

1. *Measurement and Size of Roofing Slate.*—"Roofing slate is sold in the United States by the 'square,' a 'square' being a sufficient number of pieces of slate of any size to cover 100 square feet of roof, with allowance generally for a 3-inch lap. The size of the pieces of slate making up a square ranges from 7 by 9 inches to 16 by 24 inches, and the number of pieces in a square ranges from 85 to 686, according to the size of the pieces. The ordinary thickness of a piece is from $\frac{1}{8}$ to $\frac{1}{4}$ inch, and the approximate weight per square is about 650 pounds."

2. *Thicknesses.*—"It has been suggested that a failure to recognize a certain minimum thickness for slates has been unfavorable to the industry; that some producers are in the habit of splitting their slates too thin; and that the insistence by architects and the general public on thicker slates would result in much less breakage, a higher standard of splitting and sorting slates, and the marketing of a product of higher grade. The minimum thickness suggested is three-sixteenths of an inch for the strongest slates and fully a quarter of an inch for the common slates of somewhat less strength. The growing demand for thicker slates to produce rough effects should assist in this development of the industry."

(d) In "Kidder's Pocket-Book," 1916, p. 1499, it is stated:

1. *Laying Cost of Roofing Slate.*—"The square is also the basis on which the cost of laying is measured. 'Eaves, hips, valleys, and cuttings against walls or dormers are measured extra; 1 foot wide by their whole length, the extra charge being made for waste material and the increased labor required in cutting and fitting. Openings less than 3 square feet are not deducted, and all cuttings around them are measured extra. Extra charges are also made for borders, figures, and any change of color of the work and for steeples, towers, and perpendicular surfaces."

(e) In *Manual of the American Railway Engineering Association* (1A2c) the Committee on Buildings states:

As to Slope. "Slate and tile of suitable quality, properly protected and fastened, can be recommended on roofs with a pitch of six (6) inches to the foot or over, where expense is not the governing feature, and where they aid in producing the desired architectural effect, except that where there is much chance of driving snow, eight (8) inches to the foot should be the flattest slope allowed."

(f) See publications of the National Board of Fire Underwriters:

1. *Building Code Recommended, 1915: Part XV, "Roofs and Roof Structures,"* pp. 102-108.

2. *Dwelling Houses, A Code of Suggestions for Construction and Fire-Protection of 1916: Part IV, "Roofings, Approved Fire-resistive Materials for,"* p. 135.
- (g) The Bangor Slate Association, Inc. (3G3):
1. Specifications for "Genuine Bangor Slate Roofs for Flat Roofs" (over concrete and over sheathing).
 - (h) *Flat Surfaces*.—Slate is being much used for flat roofs and for terrace paving, garden walks and similar purposes. Concrete underfills for latter uses will be referred to in a later Serial Number, and specifications for flat-roof treatment have been developed by slate companies in collaboration with the Barrett Manufacturing Company, which are similar to those used in constructing the roof illustrated on p. vii of the Industrial Section.

Brick, Hollow Tile, and Architectural Terra Cotta. . . . 3H
Statistical Data and Governmental Activities. 3H1

(a) In the 1917 issues of the Structural Service Department, brick, hollow tile, and architectural terra cotta were described in connection with "Fire-resistive Construction," forming one-half of "Fire Prevention and Protection" which appeared in two issues. This year one issue, May, will be devoted entirely to that subject, after wood has been taken up in Serial No. 4, April. Burnt-clay products other than those under this heading will be referred to in later Serial Numbers in connection with other branches of construction, such as pottery and soil-pipe under Plumbing, wall-, floor-, and roof-tile under Plastic Products. The application of clay products to fire-prevention and -protection, as well as the use of all products previously treated, and of wood in the same connection, will be dealt with fully under "Fire-Prevention and -Protection" in Serial No. 5.

(b) In "Clay-Working Industries and Building Operations in the Larger Cities in 1916," by Jefferson Middleton, being advance Chapters from *Mineral Resources of the U. S. 1916*, Part II, it is stated that: The total value of all clay products marketed in 1916 was \$207,260,091, an increase of nearly 30 per cent over 1915. The special features to be noted are the large increase of common building-brick and fire-brick, and that the output of common brick in Cook County, Ill., in 1916, was 130,568,000 more than in the New York portion of the Hudson River region. Other features are the increase in engineering and refractory products and clay structural materials.

There is especial mention of the increase of clay products due to their use for fire-prevention purposes.

(c) The *Annual Report of the Director, Bureau of Standards, for 1917*, contains information from which the following extracts are made:

1. *Strength of Brick Piers*.
 An investigation of the load-bearing value and other properties of large brick piers has been completed and is being prepared for publication. This investigation was conducted in cooperation with the National Brick Manufacturers' Association, and includes tests of fifty brick piers of large size. In the construction of these piers, three grades of brick from each of the four widely separated districts east of the Mississippi River were used.

A study was made of various types of bonding and of different grades of mortar. Numerous auxiliary tests were made on the materials.

Of the mortars used, the cement-mortar develops about twice the strength of the lime-mortar, of 2,700 and 1,400 pounds per square inch, respectively, for the highest grade of brick. The cement-mortar is harder to work, however, and a combination lime- and cement-mortar which does not appreciably affect the strength of the piers is cheaper and has much better working qualities. The combination used in the present investigation was 1 part of cement and lime (by volume 65 and 35 per cent, respectively), to 3 parts sand. The strength of piers laid in the combination cement- and lime-mortar are practically the same as those laid in a 1 : 3 cement-mortar, giving twice the strength of those laid in 1 : 6 lime-mortar, and about four times the strength of those laid in 1 : 3 lime-mortar. The type of bond, as concerns the number of header courses used, has little, if any, effect upon the ultimate compressive strength of piers. The introduction of wire mesh in the horizontal joints adds strength if used in all the joints. This does not apply, however, if used in every third or fourth course only, and may even decrease the strength of the pier. The transverse rather than compressive strength of the individual brick is believed to bear the closer relation to the ultimate strength of brick masonry.

2. *Study of American Clay Refractories*.
 For the purpose of assisting in the classification of American clay refractories, a large number of firebricks have been examined with reference to their softening temperature, their ability to resist a pressure of 40 pounds per square inch at 1,350 degrees C., and their volume and porosity at various temperatures up to 1,500 degrees C. Since most of the domestic makes are represented in this series of tests, the information should be of a fundamental character and useful in the preparation of specifications governing their use.

3. *Sand-Lime Brick*.
 It is believed that sand-lime brick of better quality and less cost can be made by improving the methods of manufacture. An investigation was first undertaken to determine the effect of various factors upon the properties of a brick-made lime and sand, both of very fine size of grain, that is, smaller than 200 mesh. A decidedly stronger brick was obtained with a composition of equal parts by weight of lime hydrate and sand than with any other proportion. The best molding pressure was found to be 10,000 pounds per square inch. Maximum strength was attained by steaming from four to eight hours, longer periods causing a decrease in strength. This result in steaming was found to occur also with brick containing 10 per cent lime hydrate and 90 per cent of sand graded from 20 mesh to dust.

The investigation is being continued, using graded sand to replace the 200-mesh sand. The factor now being studied is the effect of the size of grain of the sand upon the compressive strength, transverse strength, and absorption of brick.

4. *Investigation of Tile and Tile Walls*.
 A report of the results of tests on about 200 hollow building tile is being prepared for publication. These tile developed strengths ranging from 4,000 to over 10,000 pounds per square inch when tested on end, and about one-half to three-fourths of these amounts when tested on edge or flat. The tests made to determine the relative degree of absorption of water showed values ranging from 6 to 11 per cent, a vitrified tile to the same scale of hardness ranging between 1 and 2 per cent. The strength of the tile was found to decrease almost directly with its degree of absorption.

The tile program also includes the testing of walls of widths from 3 to 6 feet; of from 6 to 8 feet, and 12 inches in thickness; and of uniform heights of 12 feet. The strength of a wall tested in this manner varies approximately from 200,000 to 600,000 pounds, depending on the thickness of the wall. About ten walls have been tested, and the work will be continued for the present year. The program is being carried out in concert with other laboratories, each laboratory endeavoring to cover the different geographical clay and manufacturing districts. (See report of A.S.T.M. Committee referred to under Information Obtainable, 3H4f.)

5. *Architectural Terra Cotta*.
 The use of certain burned clays in the molded or cast form, known as architectural terra cotta, to distinguish it from terra cotta or hollow building-tile, is increasing very rapidly, supplanting to a certain degree cut stone and architectural metals. As a larger part of the output is placed on the exterior of buildings, where it is subjected to all the severe weather conditions of this climate, it is very essential that it must have certain weather-resisting properties. It is also in certain unforeseen cases called upon to take stresses induced by movements of parts or the whole of the structure.

Under these conditions it seemed desirable to determine the physical characteristics of terra cotta as now manufactured in order to ascertain if it is possible to improve the present method of manufacture, and also to study its use and methods of placement in structures. This investigation will begin with a study of the various clays used and will follow the material through its various stages until its final placement on the structure.

Industrial Training and Educational Research. 3H2

(a) An important phase in the development of the clay-working industries is the vocational training provided in the many pottery classes, schools of industrial arts, mechanics' institutes, and other places, some of which are maintained by states and cities and others upon substantial foundations afforded for the purpose of advancing the crafts connected with building construction and equipment.

(b) As mentioned under 1A1, the colleges and universities of the country are performing distinctive service in the development of materials and methods pertaining to the structural industries. Many of those listed maintain departments or branches devoted to investigation and study in clays and clay-working. In addition to the University of Illinois (mentioned below), others contributing to the development of the ceramic arts are: Ohio State University; Department of Ceramic Engineering, Iowa State College; Rutgers College; the New York State School of Clay-working and Ceramics at Alfred University; and the Mellon Institute of Industrial Research, University of Pittsburgh.

University of Illinois, Engineering Experiment Station. 3H2c

Director: C. R. Richards, Urbana, Ill.
 Publications: (a) Circulars and (b) Bulletins on matters of general public interest and on important phases of problems affecting architects, engineers and others.
 Each bulletin is subject to a free initial distribution, on the basis of existing mailing-lists. It is also placed on sale with authorized agencies, both in this country and abroad. A limited number of copies is available for free distribution upon request, after the initial distribution.
 A name is placed upon the regular mailing-lists of the Station at the

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request of the person, institution, or company so desiring. These lists are divided into six classes: All-Bulletin, Structural, Electrical, Fuel, Railway, and Notification. In requesting a name placed on the list, state class of bulletins desired.

Purposes: Established 1903 to carry on investigations in engineering and to study problems of importance to professional engineers and to manufacturing, railway, mining, constructional, and industrial interests of the state. In December, 1916, its new Ceramic Engineering Building was formally dedicated.

Organized Bodies. 3H3

In the field of clay-working and industries allied to it there exist the following societies and other organized bodies, many of which have committees on standardization and maintain relations with the Bureau of Standards, the American Society for Testing Materials, and other agencies toward that end.

American Ceramic Society, Inc. 3H3a

Secretary: Charles F. Binns, New York State School of Clay-Working and Ceramics, Alfred University, Alfred, N. Y.

Publications:

1. "The Transactions" in nineteen volumes, varying in price from \$4 each, in paper, to \$6.25 in cloth.
2. List of papers and discussions contained in "The Transactions," furnished upon request.
3. Also, **Bibliography and Collected Writings**, as listed under "Information Obtainable."

Purposes: Its work has been confined to discussions of the many little-understood phases of the ceramic industry and has not yet reached the stage of definite specifications. Holds an annual meeting from which the resulting contributions to the development of the whole clay-working industry, published in "The Transactions," are to be considered as of great import.

The Refractories Manufacturers' Association. 3H3b

Secretary: Frederic W. Donahoe, 316 Oliver Building, Pittsburgh.

Publications:

1. **Refractories**, a bi-monthly magazine, devoted mainly to social service work.
2. **Charts**, as listed under 3H6d.

Purposes: To promote a closer relation between the manufacturer, dealer, and consumer of refractories of all kinds; to improve in every way the product of its members; and to standardize, as far as possible, the various designs and shapes manufactured.

Has endowed a Fellowship in Refractories at the Mellon Institute of Industrial Research University of Pittsburgh.

National Terra Cotta Society. 3H3c

Secretary: Arthur B. Pendleton, 1 Madison Avenue, New York City.

Publications:

1. "Architectural Terra Cotta, Standard Construction."
2. Architectural Terra Cotta Brochure Series: "The School," "The Theatre," and "Store-Fronts."
(1) \$5 to general public; (1) and (2) free upon request, to architects and qualified inquirers. (See description of these publications, under "Practice Recommended and Standards Adopted.")

Purpose: To encourage the production of the best materials and the maintenance of high and uniform standards of work; to spread the knowledge of the many advantageous qualities of good architectural terra cotta by widely advocating its merits; to cooperate in the investigation and study of the more important technical and other problems of the industry.

The Hollow Building Tile Association. 3H3d

Secretary: E. R. Sturtevant, 111 West Washington Street, Chicago.

Purposes: To promote the use of hollow building tile, and to make for increased efficiency in the industry.

Membership is composed of seventy manufacturers throughout the country. Meetings are held annually in the interest of improved standards in building tile, their incorporation in building codes, and in the interest of modern trade development.

The American Face Brick Association. 3H3e

Secretary: R. D. T. Hollowell, Fulton Building, Pittsburgh, Pa.

Issues no publications dealing with technical subjects. Membership is composed of manufacturers and distributors of facing bricks of all kinds throughout the country.

Purpose is to promote the interests of its members, to conserve the resources and increase the efficiency of the entire face-brick industry. Holds a meeting annually, and in December, 1916, adopted two important policies in modern trade development, namely: **Uniform Cost-Finding** and the **Open Price-Plan**.

The National Brick Manufacturers' Association. 3H3f

Secretary: Theodore A. Randall, Indianapolis, Ind.

Publications: **Convention Proceedings**, other transactions, and **reports of committees** which are published in full in *The Clay Worker*, the official organ of the Association.

Purposes: An educational organization, formed to relieve the clay trade of the "rule-of-thumb" methods which formerly characterized it. Its purpose is also to promote the interests of the makers and users of clay products. Has a committee on technical investigations and holds a convention annually, at one of which, in 1893, standards were adopted for the sizes of bricks. These were reaffirmed in 1899 and still obtain. (See 3H6f for these sizes.)

National Building Brick Bureau, Inc. 3H3g

Secretary-Manager: Theo. A. Randall, Indianapolis, Ind.

Publications: **Pamphlets and reprints**, entitled "Build with Brick," and others.

Purpose is to advocate the advantages and eventual economy of brick and substantial building construction and to encourage a greater use of brick in structural work of all kinds.

National Paving Brick Manufacturers' Association. 3H3h

Secretary: Will P. Blair, Engineers Building, Cleveland, Ohio.

Publications: (1) **Dependable Highways**, monthly, \$1 a year. (2) **Specifications for Brick Pavements and Roads** described under 3H6g.

Purposes: Dissemination among its membership of technical knowledge relating to the manufacture of their product; to bring to the attention of the public the merits of vitrified brick as a paving material; to influence to the greatest possible extent the proper construction of brick streets; furnishing faithfully information regarding brick and other materials, and comparative values as pavements.

Building Brick Association of America. 3H3j

Director and Special Agent: J. Parker B. Fiske, 40 W. 32d Street, New York City.

Publications: **Books and general literature**, as listed under Information Obtainable, 3H4k.

Purpose: Organized over seven years ago to provide publicity for the brick business and was supported by brick manufacturers. In a sense, this Association, which is now in the process of liquidation, laid the foundation for the American Face Brick Association, since formed, and described under 3H3e.

The Sewer Pipe Manufacturers' Association. 3H3k

Field Commissioner: John L. Rice, Second National Bank Building, Akron, Ohio.

Publications of interest in connection with sewer-pipe and culverts are referred to in the Structural Service Book, Vol. I, under 9B7

For description of "Clay Products for Building Construction," see "Information Obtainable" in this issue. (3H4l)

Is composed of members engaged in the manufacture of various clay products, as will be described in Plumbing Issue.

Bricklayers', Masons', and Plasterers' International Union. 3H3l

Secretary: Wm. Dobson, University Park Building, Indianapolis, Ind.

Is one of the nineteen "affiliated Internationals" comprising the Building Trades Department of the American Federation of Labor listed in the Structural Service Book, Vol. I, and referred to under 3D2a, as having entered into a five year agreement with the National Association of Marble Dealers.

There is also record of:

Sand-Lime-Brick Association. 3H3m

Information Obtainable. 3H4

- (a) The U. S. Geological Survey (2A1) has issued:
1. Many pamphlets and bulletins (2A1d and g) dealing with **clay resources** and various phases of the **clay-working industry**.
 2. Chapters on "The Clay-Working Industries" in "Mineral Resources of the U. S." (2A1c), in which all branches are treated and complete statistics given annually.
 3. The separate chapter for 1916 (2A1d) will shortly be available and is entitled "Clay-Working Industries and Building Operations in the Larger Cities"—contains many pages of valuable statistics concerning the entire building industry.

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4. See particularly, *Bulletin No. 324*, 1907, 50 cents. Pp. 14-61 contain "The Effects of the San Francisco Earthquake and Fire on Various Structures and Structural Materials," Richard L. Humphrey; and pp. 62-130, "The Effect of the San Francisco Earthquake on Buildings, Engineering Structures and Structural Materials," J. S. Sewell.
 5. See, also, "The Fire-Resistive Properties of Various Building Materials," Richard L. Humphrey. *Bulletin No. 370*, 99 pp. 1909 30 cents.
- (b) The U. S. Bureau of Mines (2A3), in its work on the **technology of clays**, has issued:
1. *Bulletin No. 53*: "Mining and Treatment of Feldspar and Kaolin in the southern Appalachian Region."
 2. *Bulletin No. 92*: "Feldspars of the New England and Northern Appalachian States."
 3. *Technical Paper No. 99*: "Probable Effect of the War in Europe on the Ceramic Industries of the United States."
- (c) The Bureau of Standards has issued a number of **Technologic Papers** (1A5b3) regarding the drying of clays, testing of clay refractories, vitrification and dehydration of clays, viscosity of porcelain, firebricks, sand-illme-brick, etc., all of which are listed in "Publications of the Bureau of Standards." For current investigations by the Bureau, see extracts from *Report* under 3H1c.
- (d) In the "Annual Report" of the Chief of Ordnance, Watertown Arsenal (1A3b) will often be found results of tests on clay products.
- (e) See "Proceedings" of the American Society for Testing Materials (1A5c1), as follows:
1. Vols. XIII, XIV, and XV, Part I, for "Report of Committee C-3 on Standard Specifications for Brick; I, Building Brick; II, Paving Brick"; containing results of tests and other data and suggestions concerning building brick. (See, also, Standards Adopted, 3H6b4.)
 2. Vol. XVII, Part II, for "Suggested Improvements in the Manufacture of Silica Brick," C. E. Nesbitt and M. L. Bell.
 3. Vol. XVII, Part I, Report of Committee C-10 on **Hollow Building Tile**. This, the first report of that Committee, is accompanied by a statement of organization, scope of work, and progress. Four subcommittees exist on **Strength and Load Tests**, on **Fire Tests**, on **Absorption and Frost Resistance**, and on **Insulation and Acoustics**. A list is given of twelve laboratories which are conducting cooperative tests (including the Bureau of Standards as mentioned under 3H1c4). Twenty-five pages are given over to tables of results of tests already made on compression, absorption, and in walls.
- (f) The American Ceramic Society, Inc. (3H3a), has published:
1. "A **Bibliography of Clays and the Ceramic Arts**," Dr. John C. Branner, 1906. Contains 6,027 titles of works on ceramic subjects. Cloth, \$2.
 2. The collected writings of Dr. Herman August Seger, Vol. I, 552 pp., cloth, \$7.50, contains:
 - (a) **Treatises** of a general scientific nature.
 - (b) Essays relating to **brick and terra cotta, earthenware, and stoneware and refractory wares**.
 3. Vol. II, 605 pp., cloth \$7.50, contains:
 - (a) Essays on **whiteware and porcelain**.
 - (b) Travels, letters and polemics.
 - (c) Uncompleted works and extracts from the archives of the **Royal Porcelain Factory**.
- To secure "List of papers and discussions" see 3H3a2.
- (g) The University of Illinois Engineering Experiment Station (3H2c) issues, among others, *Bulletins* as follow:
- No. 27: "Tests of **Brick Columns and Terra Cotta Block Columns**," A. N. Talbot and D. A. Abrams. 1909. 45 cents.
 - No. 36: "The Thermal Conductivity of **Fire-Clay** at High Temperatures," J. K. Clement and W. L. Ege. 1909. 20 cents.
 - No. 44: "An Investigation of **Built-up Columns under Load**," A. N. Talbot and H. F. Moore. 1911. 35 cents.
- (h) The Minnesota State Art Commission held a competition for a **brick or tile house** to cost \$2500. Illustrations of the drawings submitted appeared in the *Minnesotan*, and a folio containing the drawings of eighteen of these houses, each accompanied by a complete "bill of goods," may be had for \$2 from the Minnesota State Art Commission, Minneapolis.
- (j) *Journal of the Society of Constructors of Federal Buildings* (1A2d1).
1. "The **Manufacture of Vitrified Brick**," C. B. Sullivan. November, 1914.
 2. "**Rough-Texture Brick: A Query**," J. A. Sutherland. May, 1916.
 3. "**Architectural Terra Cotta**," Thos. F. Armstrong. March, 1916.
- (k) The Building Brick Association of America (3H3j) held a series of competitions through the medium of the *Brickbuilder*, and over one thousand plans were secured for **brick houses**. These were divided into groups and published in three books, entitled:
1. **One Hundred Bungalows**. 50 cents.
 2. **A House of Brick of Moderate Cost**. 50 cents.
 3. **A House of Brick for \$10,000**. 25 cents.
- General literature was also published as follows:
4. **The Beauty of a Brick House**. 5 cents.
 5. **The Maintenance of a Brick House**. 5 cents.
 6. **The Brick House Safe from Fire**. 5 cents.
 7. **Brick or Frame: Which?** 5 cents.
 8. **A Revolution in Building Materials**. 5 cents.
 9. **The Cost of a House—a Comparison between Brick, Wood, Cement and Hollow Block Construction**, J. Parker B. Fiske. 10 cents.
- (l) In the Sewer Pipe Manufacturers' Association (3H3k) 32-page booklet, "*Clay Products for Building Construction*" are descriptions and illustrations of **vitrified clay wall-copings, fire-clay flue-linings, and chimney-tops**.
- It also contains building-code suggestions and diagrams from publications of the National Board of Fire Underwriters on the **construction of chimneys and flues**; also a chimney and flue ordinance suggested by the National Fire Protection Association.
- (m) See *Quarterly* of the National Fire Protection Association for:
1. "**Hollow Tile Construction**," Vol. VII, No. 1.
 2. "**Terra Cotta or Tile Blocks**," Vol. IV, No. 4.
 3. "**Hollow Tile as a Factor in Fire-Prevention**," Vol. II, No. 2.
 4. For literature of further interest and value on all subjects treated under this head, see *Index* to publications of the N.F.P.A., and see, also, "Practice Recommended and Standards Adopted" (3H6) for appropriate publications of the N.F.P.A. and of the National Board of Fire Underwriters.
- (n) "The Development of the **Ceramic Industries** in the U. S.," a "communication" by A. V. Bleining, presented before the Franklin Institute, Philadelphia, Nov. 2, 1916; also, "**Some Industrial Problems in Silicate Technology**," delivered before the Franklin Institute on Dec. 14, 1917.
- (o) See various issues of *The Clay Worker* for papers and reports mentioned under The National Brick Manufacturers' Association and for other articles of interest.
- (p) Read "**Standardizing Face Brick**," F. W. Donahoe, *Brick and Clay Record*, Oct. 3, 1916.
- (q) "Some Attractive Homes Built of **Tile and Stucco**," E. C. Bartholomew, in *Architecture*, November, 1917. 4 pp.; illus.
- (r) "The Artistic Expansion of **Architectural Clay Products**—its Dependence on the Architect for Direction in Style and Treatment," Leon V. Solon, in *The Architectural Forum*, September, 1917. 4 pp.
- (s) "The Relation of the Potter to the Architect," Leon V. Solon, R.B.A., in *Architecture*, August, 1913. 5 pp.; with elevations and sketches showing the application of "**ornamental tile**."
- (t) "Notes on the Compressive Resistance of **Fire-Stone, Brick Piers, Hydraulic Cements, Mortars and Concretes**," Gen. Q. O. Gilmore.
- (u) "**Building-Stones and Clays, Their Origin, Character and Examination**," E. C. Eckel.
- (v) "**Practical Brick and Tile Book**," Dobson-Hammond.
- (w) "**Clays, Their Occurrence, Properties and Uses**," H. Ries.
- (x) "**Brick Houses and How to Build Them**," Radford.
- (y) "**Brickwork and Masonry**," Mitchell.
- (z) "**Bricks and Tiles**," Dobson."

Pocket-Books, Handbooks, and Other References. 3H5

In addition to the foregoing see, among others, the following publications for sections containing specific information on these subjects.

- (a) *Kidder's Pocket-Book*, 1916:
1. **Data on Bricks and Brickwork**, pp. 1454-1462.
 2. **Terra Cotta, Hollow Tile, and Brick** (see Index to Kidder's).
- (b) *Fire Prevention and Fire Protection*, J. K. Freitag, 1912, contains a chapter on "Wall Construction," which treats of **ornamental terra cotta**, with many construction details and notes, and of **structural terra-cotta walls and brickwork**; also chapters containing descriptions and illustrations of **hollow-tile floors, girder and beam protections**, combination hollow-tile and concrete floors, and other forms of burnt-clay construction.
- Fireproofing of Steel Buildings* by the same author (1909) contains descriptions and diagrams of a similar nature.
- (c) *The Civil Engineer's Pocket-Book*, J. C. Trautwine.
- (d) *Building Construction and Superintendence*, F. E. Kidder. Part I, "Masons' Work."
1. **Bricks and Brickwork**, Chapter VII.
 2. **Architectural Terra Cotta**, Thomas Nolan. Chapter VIII.
 3. **Form of Specifications** (for all parts of a building) Including **Architectural Terra Cotta and Brickwork**, Chapter XIII.
- (e) *The Building Estimator's Reference Book*, Frank R. Walker. Sections on **Terra Cotta, Hollow Tile and Brickwork**.
- (f) *Building Trades Handbook*, International Correspondence Schools.
1. **Brick Masonry**.
 2. **Chimneys and Fireplaces**.
 3. **Hollow-Tile Construction**.

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- (g) *Handbook for Architects and Builders*, Illinois Society of Architects, Vol. XX, 1917. Bricks and brickwork; also details of iron anchors, hangers, straps, clips, etc., used in setting architectural terra cotta.
- (h) *American Civil Engineers' Pocket-Book*, M. Merriman. 1916.
- (j) *Mechanical Engineers' Pocket-Book*, William Kent. 1916.
- (k) *Mechanical Engineers' Handbook*, Lionel S. Marks. 1916.
- (l) *Crosby-Flake Handbook of Fire Protection*, E. U. Crosby and H. A. Fiske. 1914.
- (m) See *Index to Lefax Data Sheets*, (1) Civil, (2) Mechanical.
- (n) *Handbook of Cost Data for Contractors and Engineers*, H. P. Gillette.
- (o) *The Building Foreman's Pocket-Book and Ready Reference*, H. G. Richey. 1118 pp.; illus.
- (p) *A Handbook for Superintendents of Construction, Architects, Builders and Building Inspectors*, H. G. Richey.
- (q) *Details of Building Construction*, Radford.
- (r) See *Clayworkers' Handbook*, Searles.
- (s) For "Brick and Terra Cotta Work During the Middle Ages and the Renaissance in Italy," see book with that title by Henry Strack, translated by Leigh Hunt, 1916, containing original sketches and drawings.
- (t) Also, *Beitrage zur Kenntniss der Backstein—Architektur Italiens*, by L. Runge, architect, 1853, containing 24 line plates, showing brick, terra-cotta, and faience work.
- (u) As of further interest, see some of the publications listed under "Estimating Conditions, Quantities and Cost Data," (1D); also the sections in the *Structural Service Book, Vol. I*, on Reports on Buildings under Fire (3E1), Vertical Structural Features (4C), Horizontal and Sloping Features (4D), Chimneys, Flues, and Fireplaces (10H).
- (v) *Catalogue, Architectural Exhibition*, 1913, St. Louis Architectural Club, contains an excellent treatise on brickwork, detailed and illustrated, with an introduction by Wm. B. Ittner.
- (w) *The Brick Church and Parish House*, published 1915 by Hydraulic Press-Brick Co., contains "Notes on Church Architecture in America" and plates and illustrations of the "Brickbuilder's Competition."
- For illustrations and other data on *Face Bricks*, see *Industrial Section*, p. xxi, Hydraulic Press-Brick Co.
- (x) See, also, *Atlantic Terra Cotta*, printed monthly for architects, and distributed by the Company with that name.
- (y) For some references to sand-lime-brick, see:
1. U. S. Geological Survey Publications: "Mineral Resources of the U. S., Part II," chapter on "Sand-Lime-Brick" (2A1c); and same Chapter issued as a separate publication.
 2. Bureau of Standards *Technologic Paper No. 85*: "Manufacture and Properties of Sand-Lime-Brick," Warren E. Emley, March 22, 1917.

3. "Chimneys, Flues and Fireplaces."
 4. "Specifications for Construction of a Standard Building" and specifications for construction of Office Buildings and other types for which see reports of the Committee on Fire-resistant Construction.
- (d) National Board of Fire Underwriters:
(See "List of Publications Available" on pp. 44, 45 of the *Structural Service Book*, Vol. I.)
1. "A Recommended Building Code" 1915: Part VI, "Walls," pp. 34-50.
 2. "Dwelling Houses." A Code of Suggestions for the Construction and Fire-Protection of, Part III, "Walls," pp. 21-31.
 3. A Suggested Building Ordinance for Small Towns and Villages, provides for the construction and equipment of ordinary non-fireproof buildings.
 4. A Code of Abbreviated Ordinances for Small Municipalities.
- (e) The Refractories Manufacturers' Association (3H3d) has committees to work with the American Society for Testing Materials, with the Refractories Committee of the American Gas Institute, and on Standardization of Fire Clay, on Silica, and on Government Adoption of Standards.
- It has adopted the following five standards, which have been issued as the beginning of a series of *Charts* (of Institute standard size) entitled:
1. Standard 9-inch and 9-inch Series Brick Shapes adopted July 29, 1913.
 2. Some of the Representative "Class B—Special Shapes" adopted December 8, 1914.
 3. Standard 9-inch and 9-inch Series Silica Brick Shapes adopted July 11, 1916.
 4. Standard Class "B" Silica Brick Shapes adopted January 9, 1917.
 5. Tables showing number of brick required to turn various circles, the brick being of standards adopted by The Refractories Manufacturers' Association.
- (f) The National Terra Cotta Society (3H3c) has issued an *Architectural Terra Cotta Brochure Series*:
1. Vol. I. "The School." Illustrated by photographs of many modern school buildings, erected entirely or in part of terra cotta.
 2. Vol. II. "The Theatre." Illustrated by many photographs of terra-cotta theatre buildings.
 3. "Store-fronts in Terra Cotta." Illustrating and describing the appropriate use of architectural terra cotta for the small store-front.
 4. "Architectural Terra Cotta, Standard Construction." July, 1914. A book of construction drawings (70 plates) showing the most approved form of terra-cotta construction for cornices, friezes, balustrades, etc., with anchorage irons and detailed notes, complete.

Practice Recommended and Standards Adopted.

3H6

- (a) Department of the Navy, U. S. A. issues:
1. "Brick and Cement, Fire," *Specification*, 50B6, May 1, 1916.
 2. "Bricks and Cements, Converter and Open Hearth," *Specification*, 50B5, May 1, 1916.
- (b) American Society for Testing Materials (1A5c) publishes:
1. Tentative Tests for Refractory Materials under Load at High Temperatures (Serial Designation C 16-17 T).
 2. Tentative Tests for Slagging Action of Refractory Materials (Serial Designation C 17-17 T).
 3. Tentative Methods for Ultimate Chemical Analysis of Refractory Materials (Serial Designation C 18-17 T).
 4. Standard Specifications for Paving Brick (Serial Designation C 7-15).
- (c) National Fire Protection Association:
(See "List of Publications Available" on pp. 43, 44 of the *Structural Service Book*, Vol. I.)
1. "Chimneys, Flues and Fireplaces, To Provide for the Safe Construction of."
 2. *Field Practice*: Chapter II, "Furnace Stacks, Chimneys and Flues"; Chapter VII, "Chimneys and Flues, Their Common Dangers, Means of Safe Construction, Repairing and Maintenance."
- (g) National Brick Manufacturers' Association (3H3f).
1. *Standard sizes for bricks*:
The following are the sizes officially adopted as Standard: Common brick, 8¼ x 4 x 2¼ inches; paving brick, 8½ x 4 x 2½ inches; pressed brick, 8¾ x 4 x 2¾ inches; Roman brick, 12 x 4 x 1½ inches; Norman brick, 12 x 4 x 2¾ inches.
It is to be noted that, due to the different kinds of clay used and varying degrees of heat by reason of location of bricks in the kiln, these sizes will naturally vary slightly, though presumably not enough to affect any layout which allows for ample jointing.
- (h) The National Paving Brick Manufacturers' Association (3H3h):
1. *Specifications for the Construction of Vitrified Brick Street Pavements and Country Roads* (furnished upon request), containing:
 - (a) Green Concrete Foundation;
 - (b) Sand-Cement Super-foundation;
 - (c) Sand-Cushion Type.
- (j) National Fire Proofing Co.:
For suggested details of wall construction with hollow-tile building blocks and for "Manufacturers' Standard Specifications" prepared by that Company in collaboration with the editor of the *Structural Service Department* while acting as Consulting Architect to Sweets Catalogue Service, see pp. 304, 305, "Sweets Architectural Catalogue, 1916."

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4. See particularly, *Bulletin No. 324*, 1907, 50 cents. Pp. 14-61 contain "The Effects of the San Francisco Earthquake and Fire on Various Structures and Structural Materials," Richard L. Humphrey; and pp. 62-130, "The Effect of the San Francisco Earthquake on Buildings, Engineering Structures and Structural Materials," J. S. Sewell.
5. See, also, "The Fire-Resistive Properties of Various Building Materials," Richard L. Humphrey. *Bulletin No. 370*, 99 pp. 1909. 30 cents.
- (b) The U. S. Bureau of Mines (2A3), in its work on the technology of clays, has issued:
 1. *Bulletin No. 53*: "Mining and Treatment of Feldspar and Kaolin in the southern Appalachian Region."
 2. *Bulletin No. 92*: "Feldspars of the New England and Northern Appalachian States."
 3. *Technical Paper No. 99*: "Probable Effect of the War in Europe on the Ceramic Industries of the United States."
- (c) The Bureau of Standards has issued a number of **Technologic Papers** (1A5b3) regarding the drying of clays, testing of clay refractories, vitrification and dehydration of clays, viscosity of porcelain, firebricks, sand-lime-brick, etc., all of which are listed in "Publications of the Bureau of Standards." For current investigations by the Bureau, see extracts from *Report* under 3H1c.
- (d) In the "Annual Report" of the Chief of Ordnance, Watertown Arsenal (1A3b) will often be found results of tests on clay products.
- (e) See "Proceedings" of the American Society for Testing Materials (1A5c1), as follows:
 1. Vols. XIII, XIV, and XV, Part I, for "Report of Committee C-3 on Standard Specifications for Brick; I, Building Brick; II, Paving Brick"; containing results of tests and other data and suggestions concerning building brick. (See, also, Standards Adopted, 3H6b4.)
 2. Vol. XVII, Part II, for "Suggested Improvements in the Manufacture of Silica Brick," C. E. Nesbitt and M. L. Bell.
 3. Vol. XVII, Part I, Report of Committee C-10 on **Hollow Building Tile**. This, the first report of that Committee, is accompanied by a statement of organization, scope of work, and progress. Four subcommittees exist on **Strength and Food Tests, on Fire Tests, on Absorption and Frost Resistance, and on Insulation and Acoustics**. A list is given of twelve laboratories which are conducting cooperative tests (including the Bureau of Standards as mentioned under 3H1c4). Twenty-five pages are given over to tables of results of tests already made on compression, absorption, and in walls.
- (f) The American Ceramic Society, Inc. (3H3a), has published:
 1. "A Bibliography of Clays and the Ceramic Arts," Dr. John C. Branner, 1906. Contains 6,027 titles of works on ceramic subjects. Cloth, \$2.
 2. The collected writings of Dr. Herman August Seger, Vol. I, 552 pp., cloth, \$7.50, contains:
 - (a) *Treatises* of a general scientific nature.
 - (b) *Essays* relating to brick and terra cotta, earthenware, and stoneware and refractory wares.
 3. Vol. II, 605 pp., cloth \$7.50, contains:
 - (a) *Essays* on **whiteware and porcelain**.
 - (b) *Travels, letters and polemics*.
 - (c) *Uncompleted works and extracts from the archives of the Royal Porcelain Factory*.
 To secure "List of papers and discussions" see 3H3a2.
- (g) The University of Illinois Engineering Experiment Station (3H2c) issues, among others, *Bulletins* as follow:
 - No. 27: "Tests of Brick Columns and Terra Cotta Block Columns," A. N. Talbot and D. A. Abrams. 1909. 45 cents.
 - No. 36: "The Thermal Conductivity of Fire-Clay at High Temperatures," J. K. Clement and W. L. Egy. 1909. 20 cents.
 - No. 44: "An Investigation of Built-up Columns under Load," A. N. Talbot and H. F. Moore. 1911. 35 cents.
- (h) The Minnesota State Art Commission held a competition for a **brick or tile house** to cost \$2500. Illustrations of the drawings submitted appeared in the *Minnesotan*, and a folio containing the drawings of eighteen of these houses, each accompanied by a complete "bill of goods," may be had for \$2 from the Minnesota State Art Commission, Minneapolis.
- (j) *Journal of the Society of Constructors of Federal Buildings* (1A2d1).
 1. "The Manufacture of Vitrified Brick," C. B. Sullivan. November, 1914.
 2. "Rough-Texture Brick: A Query," J. A. Sutherland. May, 1916.
 3. "Architectural Terra Cotta," Thos. F. Armstrong. March, 1916.
- (k) The Building Brick Association of America (3H3f) held a series of competitions through the medium of the *Brickbuilder*, and over one thousand plans were secured for **brick houses**. These were divided into groups and published in three books, entitled:
 1. **One Hundred Bungalows**. 50 cents.
 2. **A House of Brick of Moderate Cost**. 50 cents.
 3. **A House of Brick for \$10,000**. 25 cents.
 General literature was also published as follows:
 4. **The Beauty of a Brick House**. 5 cents.
 5. **The Maintenance of a Brick House**. 5 cents.
 6. **The Brick House Safe from Fire**. 5 cents.
 7. **Brick or Frame: Which?** 5 cents.
 8. **A Revolution in Building Materials**. 5 cents.
 9. **The Cost of a House—A Comparison between Brick, Wood, Cement and Hollow Block Construction**, J. Parker B. Fiske. 10 cents.
- (l) In the Sewer Pipe Manufacturers' Association (3H3k) 32-page booklet, "*Clay Products for Building Construction*" are descriptions and illustrations of vitrified clay wall-copings, fire-clay flue-linings, and chimney-tops.

It also contains building-code suggestions and diagrams from publications of the National Board of Fire Underwriters on the construction of chimneys and flues; also a chimney and flue ordinance suggested by the National Fire Protection Association.
- (m) See *Quarterly* of the National Fire Protection Association for:
 1. "Hollow Tile Construction," Vol. VII, No. 1.
 2. "Terra Cotta or Tile Blocks," Vol. IV, No. 4.
 3. "Hollow Tile as a Factor in Fire-Prevention," Vol. II, No. 2.
 4. For literature of further interest and value on all subjects treated under this head, see *Index* to publications of the N.F.P.A., and see, also, "Practice Recommended and Standards Adopted" (3H6) for appropriate publications of the N.F.P.A. and of the National Board of Fire Underwriters.
- (n) "The Development of the Ceramic Industries in the U. S.," a "communication" by A. V. Bleining, presented before the Franklin Institute, Philadelphia, Nov. 2, 1916; also, "Some Industrial Problems in Silicate Technology," delivered before the Franklin Institute on Dec. 14, 1917.
- (o) See various issues of *The Clay Worker* for papers and reports mentioned under The National Brick Manufacturers' Association and for other articles of interest.
- (p) Read "Standardizing Face Brick," F. W. Donahoe, *Brick and Clay Record*, Oct. 3, 1916.
- (q) "Some Attractive Homes Built of Tile and Stucco," E. C. Bartholomew, in *Architecture*, November, 1917. 4 pp.; illus.
- (r) "The Artistic Expansion of Architectural Clay Products—its Dependence on the Architect for Direction in Style and Treatment," Leon V. Solon, in *The Architectural Forum*, September, 1917. 4 pp.
- (s) "The Relation of the Potter to the Architect," Leon V. Solon, R.B.A., in *Architecture*, August, 1913. 5 pp.; with elevations and sketches showing the application of "ornamental tile."
- (t) "Notes on the Compressive Resistance of Fire-Stone, Brick Piers, Hydraulic Cements, Mortars and Concretes," Gen. Q. O. Gilmore.
- (u) "Building-Stones and Clays, Their Origin, Character and Examination," E. C. Eckel.
- (v) "Practical Brick and Tile Book," Dobson-Hammond.
- (w) "Clays, Their Occurrence, Properties and Uses," H. Ries.
- (x) "Brick Houses and How to Build Them," Radford.
- (y) "Brickwork and Masonry," Mitchell.
- (z) "Bricks and Tiles," Dobson."

Pocket-Books, Handbooks, and Other References. 3H5

In addition to the foregoing see, among others, the following publications for sections containing specific information on these subjects.

- (a) *Kidder's Pocket-Book*, 1916:
 1. **Data on Bricks and Brickwork**, pp. 1454-1462.
 2. **Terra Cotta, Hollow Tile, and Brick** (see Index to Kidder's).
- (b) *Fire Prevention and Fire Protection*, J. K. Freitag, 1912, contains a chapter on "Wall Construction," which treats of **ornamental terra cotta**, with many construction details and notes, and of **structural terra-cotta walls and brickwork**; also chapters containing descriptions and illustrations of **hollow-tile floors, girder and beam protections, combination hollow-tile and concrete floors, and other forms of burnt-clay construction**. *Fireproofing of Steel Buildings* by the same author (1909) contains descriptions and diagrams of a similar nature.
- (c) *The Civil Engineer's Pocket-Book*, J. C. Trautwine.
- (d) *Building Construction and Superintendence*, F. E. Kidder. Part I, "Masons' Work."
 1. **Bricks and Brickwork**, Chapter VII.
 2. **Architectural Terra Cotta**, Thomas Nolan. Chapter VIII.
 3. **Form of Specifications** (for all parts of a building) Including **Architectural Terra Cotta and Brickwork**, Chapter XIII.
- (e) *The Building Estimator's Reference Book*, Frank R. Walker. Sections on **Terra Cotta, Hollow Tile and Brickwork**.
- (f) *Building Trades Handbook*, International Correspondence Schools.
 1. **Brick Masonry**.
 2. **Chimneys and Fireplaces**.
 3. **Hollow-Tile Construction**.

STRUCTURAL SERVICE DEPARTMENT

- (g) *Handbook for Architects and Builders*, Illinois Society of Architects, Vol. XX, 1917. Bricks and brickwork; also details of iron anchors, hangers, straps, clips, etc., used in setting architectural terra cotta.
- (h) *American Civil Engineers' Pocket-Book*, M. Merriman. 1916.
- (j) *Mechanical Engineers' Pocket-Book*, William Kent. 1916.
- (k) *Mechanical Engineers' Handbook*, Lionel S. Marks. 1916.
- (l) *Crosby-Flake Handbook of Fire Protection*, E. U. Crosby and H. A. Fiske. 1914.
- (m) See *Index to Lefax Data Sheets*, (1) Civil, (2) Mechanical.
- (n) *Handbook of Cost Data for Contractors and Engineers*, H. P. Gillette.
- (o) *The Building Foreman's Pocket-Book and Ready Reference*, H. G. Richey. 1118 pp.; illus.
- (p) *A Handbook for Superintendents of Construction, Architects, Builders and Building Inspectors*, H. G. Richey.
- (q) *Details of Building Construction*, Radford.
- (r) See *Clayworkers' Handbook*, Searles.
- (s) For "Brick and Terra Cotta Work During the Middle Ages and the Renaissance in Italy," see book with that title by Henry Strack, translated by Leigh Hunt, 1916, containing original sketches and drawings.
- (t) Also, *Beitrage zur Kenntniss der Backstein—Architectur Italiens*, by L. Runge, architect, 1853, containing 24 line plates, showing brick, terra-cotta, and falence work.
- (u) As of further interest, see some of the publications listed under "Estimating Conditions, Quantities and Cost Data," (1D); also the sections in the *Structural Service Book, Vol. I*, on Reports on Buildings under Fire (3E1), Vertical Structural Features (4C), Horizontal and Sloping Features (4D), Chimneys, Flues, and Fireplaces (10H).
- (v) *Catalogue, Architectural Exhibition, 1913*, St. Louis Architectural Club, contains an excellent treatise on brickwork, detailed and illustrated, with an introduction by Wm. B. Ittner.
- (w) *The Brick Church and Pariah House*, published 1915 by Hydraulic Press-Brick Co., contains "Notes on Church Architecture in America" and plates and illustrations of the "Brickbuilder's Competition."
For illustrations and other data on Face Bricks, see Industrial Section, p. xxi, Hydraulic Press-Brick Co.
- (x) See, also, *Atlantic Terra Cotta*, printed monthly for architects, and distributed by the Company with that name.
- (y) For some references to sand-lime-brick, see:
1. U. S. Geological Survey Publications: "Mineral Resources of the U. S., Part II," chapter on "Sand-Lime-Brick" (2A1c); and same Chapter issued as a separate publication.
 2. Bureau of Standards *Technologic Paper No. 85*: "Manufacture and Properties of Sand-Lime-Brick," Warren E. Emley, March 22, 1917.
3. "Chimneys, Flues and Fireplaces."
4. "Specifications for Construction of a Standard Building" and specifications for construction of Office Buildings and other types for which see reports of the Committee on Fire-resistant Construction.
- (d) National Board of Fire Underwriters:
(See "List of Publications Available" on pp. 44, 45 of the *Structural Service Book*, Vol. I.)
1. "A Recommended Building Code" 1915: Part VI, "Walls," pp. 34-50.
 2. "Dwelling Houses." A Code of Suggestions for the Construction and Fire-Protection of, Part III, "Walls," pp. 21-31.
 3. A Suggested Building Ordinance for Small Towns and Villages, provides for the construction and equipment of ordinary non-fireproof buildings.
 4. A Code of Abbreviated Ordinances for Small Municipalities.
- (e) The Refractories Manufacturers' Associations (3H3b) has committees to work with the American Society for Testing Materials, with the Refractories Committee of the American Gas Institute, and on Standardization of Fire Clay, on Silica, and on Government Adoption of Standards.
It has adopted the following five standards, which have been issued as the beginning of a series of *Charts* (of Institute standard size) entitled:
1. Standard 9-inch and 9-inch Series Brick Shapes adopted July 29, 1913.
 2. Some of the Representative "Class B—Special Shapes" adopted December 8, 1914.
 3. Standard 9-inch and 9-inch Series Silica Brick Shapes adopted July 11, 1916.
 4. Standard Class "B" Silica Brick Shapes adopted January 9, 1917.
 5. Tables showing number of brick required to turn various circles, the brick being of standards adopted by The Refractories Manufacturers' Association.
- (f) The National Terra Cotta Society (3H3c) has issued an *Architectural Terra Cotta Brochure Series*:
1. Vol. I. "The School." Illustrated by photographs of many modern school buildings, erected entirely or in part of terra cotta.
 2. Vol. II. "The Theatre." Illustrated by many photographs of terra-cotta theatre buildings.
 3. "Store-fronts in Terra Cotta." Illustrating and describing the appropriate use of architectural terra cotta for the small store-front.
 4. "Architectural Terra Cotta, Standard Construction." July, 1914. A book of construction drawings (70 plates) showing the most approved form of terra-cotta construction for cornices, friezes, balustrades, etc., with anchorage irons and detailed notes, complete.
- (g) National Brick Manufacturers' Association (3H3f).
1. *Standard sizes for bricks*:
The following are the sizes officially adopted as Standard: Common brick, 8¼ x 4 x 2¼ inches; paving brick, 8½ x 4 x 2½ inches; pressed brick, 8⅝ x 4 x 2⅝ inches; Roman brick, 12 x 4 x 1½ inches; Norman brick, 12 x 4 x 2⅝ inches.
It is to be noted that, due to the different kinds of clay used and varying degrees of heat by reason of location of bricks in the kiln, these sizes will naturally vary slightly, though presumably not enough to affect any layout which allows for ample jointing.
- (h) The National Paving Brick Manufacturers' Association (3H3h):
1. *Specifications for the Construction of Vitrified Brick Street Pavements and Country Roads* (furnished upon request), containing:
(a) Green Concrete Foundation; (b) Sand-Cement Super-foundation; (c) Sand-Cushion Type.
- (j) National Fire Proofing Co.:
For suggested details of wall construction with hollow-tile building blocks and for "Manufacturers' Standard Specifications" prepared by that Company in collaboration with the editor of the Structural Service Department while acting as Consulting Architect to Sweets Catalogue Service, see pp. 304, 305, "Sweets Architectural Catalogue, 1916."

Practice Recommended and Standards Adopted.

3H6

- (a) Department of the Navy, U. S. A. issues:
1. "Brick and Cement, Fire," *Specification*, 50B6, May 1, 1916.
 2. "Bricks and Cements, Converter and Open Hearth," *Specification*, 50B5, May 1, 1916.
- (b) American Society for Testing Materials (1A5c) publishes:
1. Tentative Tests for Refractory Materials under Load at High Temperatures (Serial Designation C 16-17 T).
 2. Tentative Tests for Slagging Action of Refractory Materials (Serial Designation C 17-17 T).
 3. Tentative Methods for Ultimate Chemical Analysis of Refractory Materials (Serial Designation C 18-17 T).
 4. Standard Specifications for Paving Brick (Serial Designation C 7-15).
- (c) National Fire Protection Association:
(See "List of Publications Available" on pp. 43, 44 of the *Structural Service Book*, Vol. I.)
1. "Chimneys, Flues and Fireplaces, To Provide for the Safe Construction of."
 2. *Field Practice*: Chapter II, "Furnace Stacks, Chimneys and Flues"; Chapter VII, "Chimneys and Flues, Their Common Dangers, Means of Safe Construction, Repairing and Maintenance."

General Index to Structural Service Department

Serial numbers will be published as subjects are covered. For complete classified index, see Structural Service Book, Vol. I

<p>Acoustics. Johns-Manville, H. W., Co. xvii Administration (General and Office). 1B Asbestos Products. Johns-Manville, H. W., Co. xvii Automatic Sprinklers. Brick. Hydraulic Press Brick Co. xxi Broken Stone. 2D Blue Prints. New York Blue Print Paper Co. xxvii Cast Stone. 2B12 Cement and Concrete. 2B Atlas Portland Cement Co. xiii Atlas White Cement xviii Chutes (Laundry). Pfaudler Co., The xxiv Chutes (Mail). Cutler Mail Chute Co. xvi Conduits. National Metal Molding Co. xxv Composition Floors. American Materials Co. xxvii Contractual Relations. 1C Corrosion and Treatment of Metals. Damp-Proofing. 1F Doors (Metal). Merchant & Evans Co. xx Electrical Fittings and Supplies. National Metal Molding Co. xxv Engineering Service. 1A Corrugated Bar Co. xxviii Estimation. 1D Excavation. 1E Filters. Loomis-Manning Filter Distributing Co. xxvii Fittings (Steam, Plumbing, Gas). Crane Company xiv Flooring (Composition). American Materials Co. xxxii Floor Hardener. Sonneborn, L., Sons, Inc. 3d Cover Foundational Requirements, Concrete Piling, Steel Piling. 1E Gas Appliances. Humphrey Co. xxix Glass (Stained). Heinigke & Smith xx Granite.</p>	<p>Glass (Wire). Mississippi Wire Glass Co. xxii Greenhouses. Lord & Burnham Co. ix Gypsum. Serial Nos. 3, 4, and 11C1 Hardware. Vonnegut Hardware Co. xv Hollow Tile. Inspection Service. 1A Insulations. Johns-Manville, H. W., Co. xvii Interior Finish (Wood). Sisman Co., Andrew G. xxvii Laboratories (Testing and Research). 1A Lath (Metal). Associated Metal Lath Manufacturers v Berger Mfg. Co., The xviii Northwestern Expanded Metal Co. vi Lath (Wood). Bishopric Manufacturing Co. iii Laundry Chutes. Pfaudler Co., The xxiv Lime and Hydrated Lime. 2C Lumber. Southern Pine Association x-xi White Pine Bureau xxx Mail Chutes. Cutler Mail Chute Co. xvi Magnesia Covering. Johns-Manville, H. W., Co. xvii Metal Lath. Associated Metal Lath Manufacturers v Berger Mfg. Co., The xviii Northwestern Expanded Metal Co. vi Monuments and Mausoleums. Paints (Steel and Iron Preservative). Paints, Varnish and Enamel. Matheson Lead Co. xxii Paints (Waterproofing). 1F Piling. 1E Pipe (Cast Iron). Cast Iron Soil Pipe Makers' Association xxiii Plastering. 11D5 and 11D6 Plumbing Equipment. Crane Company xiv Standard Sanitary Mfg. Co. xii Trenton Potteries Co., The xix Preservation of Iron and Steel. Preliminary Procedure. 1B</p>	<p>Quantity Survey. 1D. Quantity Survey Co. 4th Cover Radiators (Steam). Roofing. 1A Research. American Sheet & Tin Plate Co. xx Barrett Mfg. Co. vii Johns-Manville, H. W., Co. xvii Taylor, N. & G., Co. xx Merchant & Evans Co. xx Safety Devices. American Abrasive Metals Co. 2d Cover Vonnegut Hardware Co. xv Sash (Steel). Lupton's Sons, David, Co. iv Sheet Metal Cornices, Skylights, Ventilators. Lupton's Sons, David, Co. iv Specifications and Drawings. 1C Stains, Shingle. Cabot, Samuel, Inc. xxiv Stair Treads. American Abrasive Metals Co. 2d Cover Standardization. 1A Stone Masonry, Broken Stone, Sand, and Gravel. 2D Structural Steel and Iron. 1G Stucco. Atlas White Cement xviii American Materials Co. xxvii Stucco Board. Bishopric Manufacturing Co., The iii Tests. 1A Tile (Mosaic). Associated Tile Manufacturers, The xxvi Treatment of Concrete Floors and Surfaces. 2B Sonneborn, L., Sons, Inc. 3d Cover U. S. Geological Survey. 2A Ventilation. Lupton's Sons, David, Co. iv Water-Heaters (Gas). Humphrey Co. xxix Waterproofing. 1F. Whitewash (Gov't. Formulas). 2C5. Windows (Metal). Lupton's Sons, David, Co. xxi Wood. Sisman Co., Andrew G. xxvii Southern Pine Association x-xi White Pine Bureau xxx</p>
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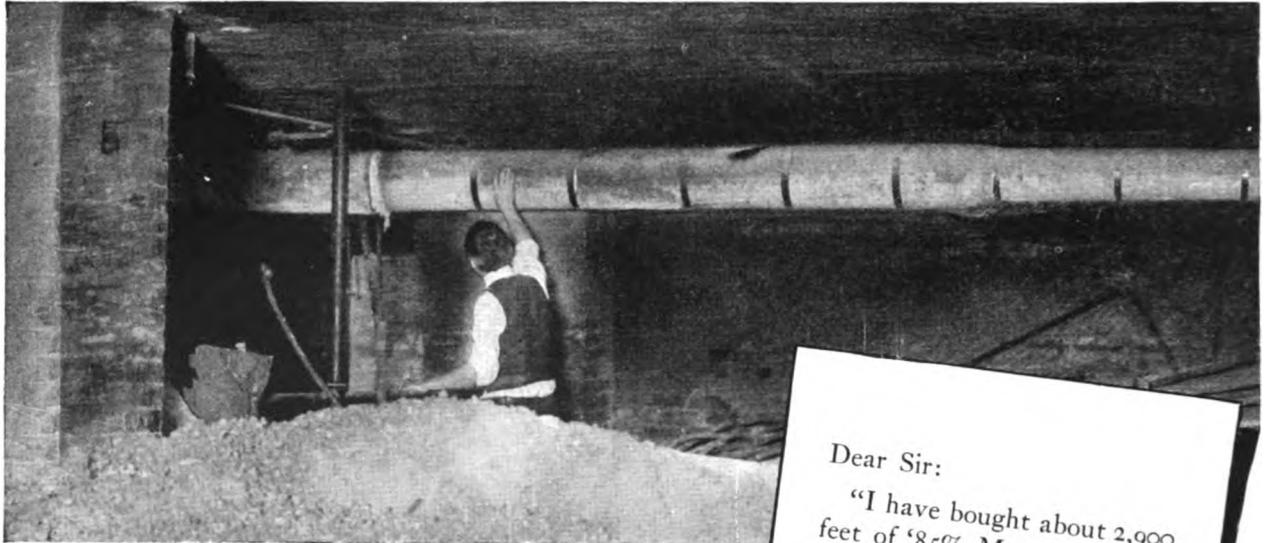
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The Building was torn down, but its 16-year-old Magnesia Pipe-Coverings were good enough to reapply

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The letter quoted above was received a short time ago by one of the members of the Magnesia Association. Its story of Magnesia Durability will interest Architects and Engineers who want to specify the kind of insulation that is sure to last.

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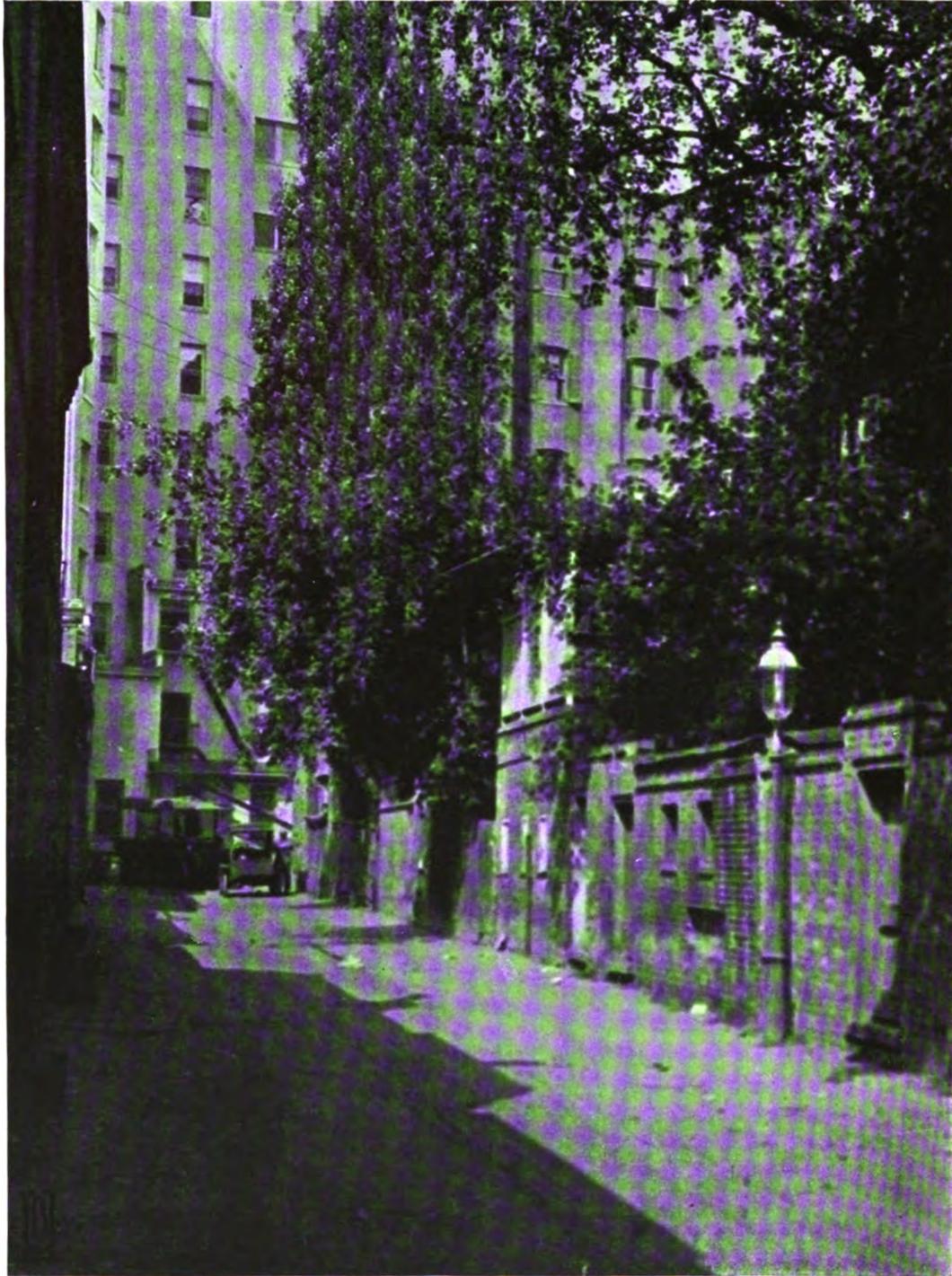
L. B. RUNK, Land Title Building, Philadelphia, Pa.

LIST OF CHAPTERS, 1917

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| <p>ALABAMA.—*W. T. Warren, Empire Building; †J. A. Miller, Title Guarantee Building, Birmingham.</p> <p>BALTIMORE.—*Josias Pennington, 330 North Charles Street; †Clyde N. Friz, 1523 Munsey Building, Baltimore.</p> <p>BOSTON.—*Henry H. Kendall, 93 Federal St.; †Charles Collens, 40 Central St., Boston.</p> <p>BROOKLYN.—*Carroll H. Pratt, Plan and Engineering Dept., Merchants' Ship-building Cor., Bristol, Pa.; †Alexander Mackintosh, 55 Bible House, Astor Place, New York City.</p> <p>BUFFALO.—*Franklyn J. Kidd, 110 Franklin St.; †Robert North, 808 Niagara Life Building, Buffalo.</p> <p>CENTRAL NEW YORK.—*O. H. Waltz, Trust Company Building, Ithaca; †E. S. Gordon, 300 Sibley Block, Rochester.</p> <p>CINCINNATI.—*Louis Dittoe, Carew Building; †J. F. Sheblessy, 519 Main St., Cincinnati.</p> <p>CLEVELAND.—*C. S. Schneider, 2248 Euclid Ave.; †H. W. Weeks, 1900 Euclid Ave., Cleveland.</p> <p>COLORADO.—*W. N. Bowman, 915 Central Savings Bank Building; †M. B. Biscoe, 901 Mining Exchange Building, Denver.</p> <p>COLUMBUS.—*C. St. John Chubb, Jr., 237 Seventeenth Avenue; †C. E. Richards, Hartman Building, Columbus.</p> <p>CONNECTICUT.—*W. R. Briggs, 1115 Main St., Bridgeport; †A. Raymond Ellis, 36 Pearl St., Hartford.</p> <p>DAYTON.—*Albert Pretzinger, Reibold Building; †Clifford C. Brown, Reibold Building, Dayton.</p> <p>GEORGIA.—*William J. Sayward, Candler Building; †W. J. J. Chase, Candler Building, Atlanta.</p> <p>ILLINOIS.—*D. H. Burnham, 209 South LaSalle St.; †Henry K. Holman, 1544 East Fifty-seventh Street, Chicago.</p> <p>IOWA.—*Allen H. Kimball, Iowa State College, Ames; †Eugene H. Taylor, 222 South Third St., Cedar Rapids.</p> <p>KANSAS CITY.—*Carl Boller, Gayety Theater Building; †Selby H. Kurfiss, Scarritt Building, Kansas City.</p> <p>LOUISIANA.—*Moise H. Goldstein, Title Guarantee Building; †Charles L. Armstrong, Q. M. Dept., Camp McArthur, Waco, Texas.</p> <p>LOUISVILLE.—*Herman Wischmeyer, Starks Building; †Val P. Collins, Paul Jones Building, Louisville, Ky.</p> <p>MICHIGAN.—*Charles Kotting, 2306 Dime Savings Bank Building; †Adolph Eisen, 926 Hammond Building, Detroit.</p> | <p>MINNESOTA.—*W. W. Tyrie, 320 Auditorium Building; †Cecil Chapman, 84 South Tenth St., Minneapolis.</p> <p>NEW JERSEY.—*Gilbert C. Higby, 207 Market St., Newark; †Hugh Roberts, 1 Exchange Place, Jersey City.</p> <p>NEW YORK.—*Egerton Swartwout, 18 W. 34 St.; †Stowe Phelps, 215 West Fifty-seventh Street, New York City.</p> <p>NORTH CAROLINA.—*W. H. Lord, Asheville, N. C.; †Earl G. Stillwell, Hendersonville.</p> <p>OREGON.—*Joseph Jacobberger, Board of Trade Building; †Alfred H. Smith, 802 Board of Trade Building, Portland.</p> <p>PHILADELPHIA.—*John P. B. Sinkler, 112 South Sixteenth St.; †Edward A. Crane, 1012 Walnut St., Philadelphia.</p> <p>PITTSBURGH.—*Richard Hooker, Farmers' Bank Building; †Frederick T. Bigger, 522 City-County Building, Pittsburgh.</p> <p>RHODE ISLAND.—*W. T. Robertson, 1216 Turk's Head Building; †Norman M. Isham, 1013 Grosvenor Building, Providence.</p> <p>SAN FRANCISCO.—*John Bakewell, Jr., 251 Kearny St.; †M. M. Bruce, 1281 Flood Building, San Francisco.</p> <p>SOUTH CAROLINA.—*E. D. Sompayrac, Palmetto Building, Columbia; †N. G. Walker, Rock Hill.</p> <p>SOUTHERN CALIFORNIA.—*John J. Backus, City Hall; †H. F. Withey, 1017 Van Nuys Building, Los Angeles.</p> <p>SOUTHERN PENNSYLVANIA.—*Miller I. Kast, 222 Market Street, Harrisburg; †Edward Leber, 42 West Market St., York.</p> <p>ST. LOUIS.—*M. P. McArdle, Chemical Building; †Wilbur T. Trueblood, Carleton Building, St. Louis.</p> <p>TEXAS.—*J. H. Hubbell, 619 North Texas Building, Dallas; †F. C. Teich, 915 Union National Bank Building, Houston.</p> <p>TOLEDO.—*T. F. Huber, Spitzer Building; †L. S. Bellman, Ohio Building, Toledo.</p> <p>VIRGINIA.—*Wm. C. Noland, Beaver Dam, Va.; †Benj. F. Mitchell, Seaboard Bank Building, Norfolk.</p> <p>WASHINGTON (D. C.).—*Waddy B. Wood, 816 Connecticut Ave.; †R. L. Macneil, Bond Building.</p> <p>WASHINGTON STATE.—*Daniel Huntington, 513 Colman Building; †G. C. Field, 727 Henry Building, Seattle.</p> <p>WISCONSIN.—*T. L. Rose, 1312 Majestic Building; †Henry J. Rotier, 813 Goldsmith Building, Milwaukee.</p> <p>WORCESTER.—(Merged with the Boston Chapter, November 1, 1917.)</p> |
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*Presidents.

†Secretaries.



AN OLD ALLEY WALL, WASHINGTON, D. C.

Ben J. Lubschez

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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No. 4

Shadows and Straws

IN COMMON WITH OTHER PUBLICATIONS, we are obliged to ask the indulgence of our readers for such delay in the reception of their Journal as may be occasioned by the overburdened mail service, and we earnestly request that we be notified when copies of the Journal are not received within a reasonable time, for losses in transit are not otherwise discoverable by us.

We are also at a further disadvantage, due to the fact that we are dependent upon the mails for the transmission of copy and proof, and thus the March issue went to press containing several errors and omissions because of the failure of the post. Otherwise we would have explained that the illustrations of the French houses were made from the plates published in *L'Illustration*, our own photographs still being delayed. There were several other minor errors to which we will not allude, in the hope that only those who perceived them may look kindly upon our explanation.

THE HOUSING ACTIVITIES of the Shipping Board have accelerated their pace during the last few weeks. The organization of the Production Division (Housing), in charge of Robert D. Kohn, of New York City, indicates that actual operations will soon be under way. Assisting Mr. Kohn in the direction of this work, will be Ernest J. Russell, of St. Louis, Frank Goodwillie, of New York City, and Alexander Bing, also of New York. A fourth assistant may be added should the present scheme of organization remain as at present conceived.

Next in line come the Construction Department, the Engineering Department and the Design Department. The first is in charge of W. G. Luce, of Chicago, and is coordinated with the Cantonment Division in the matter of making purchases. This department has its corps of local inspectors and its expediting and purchasing organization. The Department of Engineering is in charge of Morris Knowles, and will deal with the questions of sewers and streets and other public utilities. The Department of Design is in charge of Frederick L. Ackerman, with B. A. Haldeman, of Philadelphia, having direction of the city-planning work. Andrew Thomas, of New York City, will have supervision over architectural standards and the examination of plans, while a competent corps of estimators and draughtsmen will be attached to this department.

This is the personnel, up to the present time; but Washington changes so fast nowadays that one hardly dares record a matter of this kind in a monthly publication, lest it be quite wrong by the time it reaches the subscriber.

APPPLICATIONS FOR AN ALLOTMENT of the still unappropriated sixty millions of dollars for housing continue to pour in upon the Department of Labor's housing bureau. The task of investigating these requests and of establishing clearly defined needs will call for an extraordinary tact, patience, and intelligence. But enough imperative needs are already known to indicate that the appropriation of fifty millions will not by any means meet the demand. The other ten millions carried in the bill are for

housing accommodations in the city of Washington. Nothing has yet been definitely decided in this particular, but it seems likely that the land taken by the nation for a park in front of the Union Station will be utilized for a series of apartment hotels, temporary in nature, and designed comfortably to house the great number of single men and women who are coming to Washington in greater numbers. Still further relief could be provided in Washington if the thousands of army officers now living in the city were provided for by barracks, perhaps in East Potomac Park.

Congress intends that only Government-owned land shall be utilized for housing purposes at present, and it is also necessary to consider the already serious transportation problem in working out a right answer to Washington's present congestion. The spirit which at first manifested itself in Congress as opposed to any utilization of the oval in the rear of the White House will perhaps now give way to the necessities of the moment, and it is possible that more temporary apartment hotels may be erected on this space, since it is conveniently located for thousands of departmental employees.

Washington is at present in the throes of a fever of temporary building. Between the Washington Monument and the Lincoln Memorial one might easily suppose that a gigantic canal was being constructed, but in reality the foundations are being put in for the huge concrete office building which is to be erected on this site, and which will no doubt stand for many years. In fact, the vastly over-populated capital is today more like a mining camp under the fever of a new discovery of gold than like the peaceful capital of the nation ready to put on its incomparable spring raiment. The exigencies of war have descended upon it relentlessly, and its dangerous streets, overcrowded transportation facilities, and general disarray, combine to strike the observer with a momentary pang of regret, even though the sacrifice be a willing one.

IN THE SENATE, during the recent discussion of the Housing Bill which has encountered a series of delays that cannot be reconciled with the gravity of the emergency the bill is designed to relieve, Senator Thomas, of Colorado, made a statement which has an

especial bearing upon the question of low-cost housing. He was speaking particularly of that portion of the bill which has to do with the house shortage in the city of Washington, and said:

"So far as this bill relates to the District of Columbia, and perhaps in its entirety, it suggests to my mind the one material and substantial method of relieving the embarrassments of Government employees. I have always contended that increases of salaries in times like these, like increases of wages, only serve to swell the profits of landlords and supply dealers, because they elevate their prices in proportion as the capacity of the consumer increases. The only effect of the bill which we passed yesterday, by means of which some twenty-odd millions of dollars were added to our annual expenditures, will be to transfer that much money, through the medium of the employees of the Government, to those who deal in the necessities of life."

Senator Thomas has here hit upon an aspect of our economic system which the war has emphasized to a glaring degree.

CONSIDERABLE PUBLICITY has been given to a tentative set of standards prepared by the Housing Bureau of the Department of Labor, and in a public announcement the *Architectural Record* refers to these as constituting a "new Federal housing code." It would be regrettable if a work which, as is clearly stated in the preamble thereto, is "not intended as inflexible requirements," should generally be accepted as a hard and fast "code." In the first place, these standards have been considerably revised already, and they are still subject to revision. They are to be utilized as a series of recommendations and, instead of completely anesthetizing the architect by subjecting him to a rigorous and inflexible code, are intended to give some latitude to his genius and talent. Violations of the elementary principles of good small-house planning will be rejected, but every serious and thoughtful effort toward improvement will be carefully considered and accepted, wherever possible.

The standards are not yet ready for publication, nor have they been officially adopted by either the Department of Labor or the Shipping Board. It seems particularly unfortunate that a hasty draft, given out in proof form only, should have been utilized to give the impression that this country had a "new Federal housing code."

SHADOWS AND STRAWS

A FEW MONTHS AGO the Philadelphia Chapter of the Institute initiated a study of local housing conditions, moved to this action by the lack of decent living quarters for war workers. Beginning with the purely local situation, the necessity was quickly seen of visualizing the problem from a far broader point of view, since the wise location of one group or community could be suggested only after a careful study of the whole great industrial section bordering on the Delaware River. This study developed the fact that freight destined for Philadelphia and adjoining places was being unloaded at Easton and Reading, sixty miles away, and thence delivered to its destination by motor trucks which were obliged to use the city streets of Philadelphia, even when in transit to Trenton on the one side or Wilmington on the other. This led to a consideration of thoroughfares and the suggestion that by the construction of two or three connecting links, this traffic could be diverted at Conshohocken and attain its destination at the riverfront, outside of Philadelphia, without passing through that city. It further developed that the question of water transportation for the port of Trenton could be solved by the construction of a great basin adjoining that city, thus avoiding the problem of dredging the river, a problem of almost insurmountable difficulty. Thus the primary problem of housing was expanded into a great broad-visioned scheme looking toward a vast and comprehensive development of one of the greatest industrial areas in the world. The work of the Chapter was quickly appreciated by the city of Philadelphia, and at a meeting with the Mayor the Chapter was formally requested to continue its studies, in order that as soon as possible a convention of the governing bodies in all the sixty-mile area shown in the accompanying illustration might be called to discuss the question. What Philadelphia thinks of this work of the Chapter is well disclosed in the following editorial from the Philadelphia *Public Ledger*:

"The comprehensive plans committee has now had presented to it a large diagram map of Philadelphia and vicinity which takes in a sixty-mile radius, so far as the Schuylkill Valley and the Lehigh Valley go, and a thirty-mile radius along the Trenton-Philadelphia-Wilmington line. While this is a purely tentative survey of the underlying possibilities that inhere in the proper development of this section of the country as one of the great work-shops

of the world, it is worth careful study, since it brings up clearly what unquestionably is to be the slogan of the future; and that is, the development of the countryside for industrial and commercial purposes through a larger use of motor-trucks than has ever been contemplated. We have had all sorts of suggestions for belt lines and new trolley lines, new railways and new railway connections, but the suggestion which has been made by the farsighted members of the local Chapter of the American Institute of Architects, for the connecting up of what might be called a series of industrial boulevards which shall drain into Philadelphia as the great port of entry and outgo, glimpses the situation from a new angle and one that is preëminently up-to-date."

"Philadelphia is on the edge of a newer and greater career. But to meet the opportunities there must not only be coöperation by all the communities that form the Philadelphia district, but more than that, the industrial competency of the whole region, its productive capacity, must be assured of an 'industrial drainage' of the most scientific character. This means not only an intercommunity drainage by means of the motor roads, trolleys, and railroads, which all bear on the food-supply, on the housing problem and on the proper location of industrial plants, but a continental drainage as well, by which the facilities of the port of Philadelphia will be used to the utmost. All these things are patent, but the results will never be garnered unless all those responsible get together and work as one body to a given definite end in the interest of a twentieth-century industrial city."

Thus the housing question assumes its rightful place, not as an incoherent attempt to deal with each problem separately, but as a great inter-related question vitally affecting each community. This is a service which all the communities are quick to appreciate, and is a convincing evidence of the fact that the way to gain recognition of the contribution which the architect has to make is not to clamor for it but to merit it by offering a constructive program on a scale commensurate with the needs of war and the whole tendency of broad planning for the future.

Inspired by this achievement of the Philadelphia Chapter, the Boston Chapter has inaugurated a similar survey. A committee has been appointed and is now at work making a study of the metropolitan district of Boston. It has received the enthusiastic sanction of the mayor and other city authorities and interests, and the city has placed at the disposal of the committee a sum of money with which to pay the necessary expenses. In both cities the members of the chapter committees serve without charge, and their work will be followed with eager interest.



**PLAN OF PHILADELPHIA
& ADJACENT TERRITORY**
 SHOWING A DEVELOPMENT OF HOUSING,
 MOTOR-TRUCK, RAILROAD & WHARF
 FACILITIES IN CONNECTION WITH
 INDUSTRIAL EXPANSION

SKETCH SHOWING THE WORK OF THE PHILADELPHIA CHAPTER IN ITS SURVEY OF THE INDUSTRIAL AREA BOUNDED BY TRENTON, WILMINGTON, EASTON AND READING. See page 161.

Placing the Building Industry at the Service of the Nation

ALMOST a year ago, when the building industry in this country was face to face with war problems and the question arose as to how it could best serve the Nation, the *Journal of the American Institute of Architects* in its issue of July, 1917, made the following statement:

"The building situation is clear: No work should be done which would hamper the work of war preparation and prosecution. On the other hand, it is, as the President plainly states, of the utmost importance that all industry be kept moving in close parallel to the true demand for legitimate needs. The country needs buildings of all kinds. How shall it proceed in order to meet that need in the fullest measure, with no impairment of the production of war material? The solution of that question depends, first, upon the final calculations of the Government's present and future needs for war, as a basis upon which to compute the price, kind, and quantity of building materials, labor, and transportation available for building; and, second, upon that form of patriotism such as will inspire all those in control of the manufacture and distribution of building materials with a desire to make a healthful building program possible. Given that desire, the question can be handled without any governmental investigation. It would be far better if, instead of tempting and incurring a price-regulative fiat, which has not worked out in other countries, manufacturers and distributors could meet and agree upon a patriotic basis.

"All forms of production in this country are represented by well-organized associations. Why cannot these highly systematized forces be put at the service of the Nation instead of remaining either inactive or selfishly occupied with their own particular affairs? While it is no doubt true that some organizations of the kind described have studied the question from the unselfish point of view, the amount of activity of that kind seems lamentably small in the face of the President's urgent request for cooperation. Here is an opportunity to make such a demonstration of patriotism as that for which the President has asked.

"Our suggestion is this: That every such organization meet and consider in what manner the industries it represents can be put wholly at the service of the Nation—and by wholly we mean just what the President means. We now know that the war will be won, not by the heroism of men but by the perfection of organization. Who can contribute more to such an end than those who have spent years in organizing the industries of our country into the strong group associations which now so widely obtain? It would seem pathetic if we cannot profit from England's example! Why wait for the Government? Why not meet it half way?"

Since that time, and due to the fact that the *Journal's* suggestion was not acted upon, except in a few cases, further uncertainties have developed. There have been issued, apparently

with governmental sanction, numerous statements on the building situation. These do not in all cases coincide, either as to diagnosis or remedy, and it has become increasingly clear that in a country of this size no general rule can be laid down as a guidance for the building industry.

Above and beyond all other considerations, the fundamental principle that must actuate the analysis it is now proposed to make, stands this question: In what manner can the building industry serve the Nation in the highest degree? But this question resolves itself immediately into two parts: First, how can it contribute to the utmost speed in meeting the building needs of the Government? Second, how can it contribute, in addition, and without in the slightest degree impairing its primary service, to that industrial activity which is necessary in order to provide money for the war? This industrial activity concerns itself first of all with the problem of employing the maximum number of workmen who are not actually needed in direct war service.

The answer to these questions can come only through a patient, impartial, and thoroughly accurate investigation. There must be an orderly arrangement of facts upon which to base conclusions. To that end, the American Institute of Architects has accepted the task of initiating a national conference shortly to be held and at a place later to be designated, to which representatives of all factors in the building industry will be invited to come and take part in a discussion, first, of a plan for organizing this really tremendous undertaking, and, second, of providing the ways and means for putting that plan rapidly under way.

When there are considered the extent and possibilities of the service which thus may be rendered to the Nation, the profession of architecture may well feel proud that, almost by tacit consent, the task of initiating and helping to guide this work has fallen to the American Institute of Architects. Plans are already maturing for the calling of the conference, and it is expected that the time and place will very shortly be made known through the press of the country.

Notes on Rebuilding in France and Belgium*

By THEODORA KIMBALL†

THE most striking effect of the war on town-planning in Great Britain has been a recognition of the economic value of the garden-city movement, which has expressed itself above all in the new munitions towns, already familiar to readers of the Journal. To Belgian town-planners—some of them in England studying the garden-city developments, and some of them in Holland promoting an international project for the organization of city-planning knowledge—the war has brought the conception of a national plan for desolated Belgium,—to be national in scope and nationally produced. This conception has been sympathetically set before the Journal readers by Mr. Hammarstrand's articles. In France, with some of the most productive lands totally laid waste, the war has strengthened and crystallized the efforts for an official city-planning organization, and has also given rise to a movement manifested in the 1917 Exhibition of Regional Architecture and in the recent competitions for types of buildings practicable for after-war construction, yet traditional in the devastated regions.

Traditional Forms and Modern Needs

M. Lavedan's enthusiastic article, translated in the March Journal, shows with what ardor this idea of provincial individuality in farm and village architecture is being embraced. The present French movement has a comparative interest to anyone who has followed the "Old Cottages" revival of a dozen or so years ago in England, with its very considerable literature and its vigorous effect on the architecture of the modern English cottage; and similarly the *alte heimatischen Bauformen* revival in Germany, stimulated by J. A. Lux and Paul Schultze-Naumburg. In discussion of cottage types suitable for garden cities, Mr. Culpin, of London, has commented on the excesses of this English

*The publications from which were made the translations in this article were originally placed at the disposal of the writer through the courtesy of Dr. James Ford, of Harvard University. Some of these publications have now been secured from France for the city-planning collections of the Library of the School of Landscape Architecture at Harvard, where visitors are most welcome to consult them.

†Librarian, School of Landscape Architecture at Harvard University.

revival. To the French architects who gathered at the Conferences held during the 1917 Exhibition of Regional Architecture,‡ M. Paul Léon—himself one of the foremost in the movement—sounded this note of warning:

Some facts [shown by the Exhibition] cannot fail to hold the attention: the exact adaptation of the plan of the house to its economic function, the suitability of its forms to the employment of the materials composing it; the justness of scale everywhere made appropriate to the modes of human work and to its daily necessities; the ornamentation introduced not for itself, but in answer to some need of life, whether it be a question of the painting of Flemish houses, of the *soubassements* of Champagne or Picardy, of the gables of the Ile-de-France.

However fruitful these teachings may be, does it follow that the future house is to reproduce the one which existed in its place? It does not seem so.

First, whatever may be the permanence of rural forms, we have seen that they do not escape the transformations of modern life. If man is obliged to adjust his existence to natural conditions, he also reacts upon them and transforms them in his turn. Navigable ways, then the railroads, have caused in the nineteenth century, new kinds of materials of construction to penetrate everywhere: tiling in place of thatch, brick instead of mud. Are we, out of respect for the past, going to maintain mediocre materials abandoned in the present day, and, to safeguard the regional character in spite of everything, cover a brick wall with traditional wood? The question cannot be admitted.

The same means of transportation have modified the aspects of rural life and driven toward the large cities the peasant industry closely allied to culture. Are we, through love of the picturesque, going to restore the windowed *atelier* of the weaver of Cambrésis which, for a long time has been nothing more than an empty cellar? On the other hand, agriculture assumes more and more an industrial form through the employment of mechanical methods for tillage, thrashing, and general traction. That is data of which it is fitting to take account in the new planning of the barns, should one have to change their traditional dimensions or the form of their opening.

In a word, the most elementary hygiene condemns certain forms of habitation, and I do not think that it is forbidden, through respect for regionalism, to seek to establish in the disordered accumulation of the Lorraine farm independent circulations and indispensable separations, any more than to approach—without much hope, moreover, of solving it—the very delicate question of the handling of the dung-heaps. One could multiply to infinity such examples.

Still, in taking account of the necessary advances, it is

‡For reproductions of some of the drawings shown at this Exhibition and the translated text of M. Vaillat's preface to the Catalogue, see the Journal for March, 1917.

NOTES ON REBUILDING IN FRANCE AND BELGIUM

important not to alter the ancient and, as it were, historic physiognomy of the peasant-house.

The Present Architectural Situation in France

It was very gratifying to those responsible for the recent competition,* that the regional types evolved were satisfactory both æsthetically and economically. These types included a large-farm group, a small-farm group, a blacksmith's shop, a village inn, a workingman's house, etc., in each of the four regions designated. A committee from the American Red Cross was asked to consider the drawings of the competition with a view to Red Cross coöperation in the propagandizing of the results. The Committee found that the prize drawings not only had charm and regional suitability, but also were practical and economical to construct, and at the same time set examples for better sanitation and agricultural efficiency. It is intended that the suggestion, especially current since the Exhibition of Regional Architecture a year ago, should now be carried out; that models should be made in pasteboard, attractively colored, and that these should be shown in schoolhouses or townhalls throughout the invaded districts, as soon as it may be practicable. In this way the inhabitants who are to rebuild may see just what they need in striking and comprehensible form, and thereby be drawn away from the allurements of the large-scale speculative builders who might dot France with an eruption of ugly and monotonous houses.

The evil possibilities of speculation and unintelligent standardized commercial building have been fully realized by the French architects. It is naturally felt that local architects, steeped in the tradition of the region, may produce the most spontaneous results. It is, however, recognized that large-scale building is inevitable, and, indeed, absolutely necessary to encompass the enormous amount of construction that must follow the war. A number of groups of French contractors, engineers, and architects are preparing for such large-scale reconstruction; but it is understood that they will in no case try to supplant local architects, engineers, or contractors, where these are able to act. These groups are already getting in touch with even-

*For reproductions of some of the drawings submitted, see the March, 1918, Journal.

tual clients and preparing plans against the coming of peace. Local architectural and engineering societies, as well as the great societies centered in Paris, are working on reconstruction problems.

One of the most interesting reports, or rather group of reports, is that prepared by the Société des Architectes Diplômés par le Gouvernement, relating principally to materials of rural reconstructions. Some of the basic recommendations are: the utilization of local materials, and, immediately on the final withdrawal of the enemy, the rehabilitation of local factories and sources of materials as far as possible; the increase and intensification of cement manufacture in France; the prevention of speculation especially in materials needed for various types of cements and concretes; the utilization of colonial forests for the wood supply, and the immediate beginning of securing this; the establishment of stocks of materials needed for rebuilding; further study of economical methods of construction not yet employed in France, and the collection of such data as may be utilized at the proper moment.

The whole question of permanency of materials used in immediate building, as well as the character of such work, has caused much discussion. In a recent book, *La Cité de demain dans les Régions dévastées*, by MM. Auburtin and Blanchard, architects, a selection is given from M. Auburtin's report on materials to the S.A.D.G. This shows so well the broad point of view essential to the solution of these difficult questions that a considerable piece of translation here follows:

This exposé does not claim to furnish a solution for each problem. Its object is rather to start criticisms to cause the birth of ideas, to incite to the rational organization of the studies to be undertaken, the trials to be made, and to serve as a starting-point for works in which clear-sighted minds and trained competence will take part, works which will give, without the least doubt, the most fortunate results toward the solving of the question of reconstructions, meeting these primary conditions: ease, facility, and rapidity of transportation and preparation, solidity and the strictest economy.

Whatever these results may be, it is certain that they will offer materials very different from the local traditional materials; in consequence, the appearance of the villages will not always be able to recall the local color of the former communities. Does this mean that all search for the æsthetic is to be banished from these studies? It is certain that the employment of new materials, meeting un-

avoidable necessities before everything, does not inevitably imply ugliness. The search for charm and pleasingness in the new constructions, if it is entrusted to competent people, can be successfully exercised, from the moment when the needs peculiar to each region, and the local traditions in so far as they are logical and useful, are judiciously respected.

From this point of view, we do not lack resources; and much talent is ready to set to work to create, with these modest means, agreeable and charming works. The architects of taste and talent, quite fitted to furnish the most appropriate types of each building, whether suited for a habitation, or farming or commercial exploitation, will be able to add, in the interiors as on the façades, the simple discrete note of color to enliven and vary the aspects. And then nature offers its inexhaustible resources to envelop with verdure and flowers the new dwellings; let us hope that we will know how to take advantage of them, as we see so frequently in England and in Switzerland.

These æsthetic qualities will rise, moreover, as well from the more or less fortunate, more or less picturesque, grouping of the buildings, as from the particular study of each construction. But there arises the question of the grouping of the new constructions. Will these be united on communal lands outside of the former community, or will they be rebuilt, if not on the former sites, at least, in their proximity, each proprietor wishing to construct his dwelling on his own piece of ground? A kind of question evidently impossible to solve at the present time and to treat in a general way.

This question is connected with that of the provisional or the definitive. Those constructions in economical materials, made to last at least ten years, can last forty or fifty years; do they not, then, stand a chance of remaining definitive? It seems premature to wish to express an absolute answer. If the ruin of the former village is complete, and if the grouping of the new habitations is practical and comfortable, perhaps they will remain definitive. On the other hand, when the inhabitants will have received the total amount of their indemnities, when the resumption of active work will have given them back normal revenues, when the revised laying-out of the thoroughfares will have been made and the re-lotting of lands at an end, when the ordinary modes of construction and professional handiwork will be again under normal conditions, many landowners, lodged on communal plots or on their former sites, will wish to reinstall themselves on their property. Will the construction which will have sheltered them become useless? It is to be desired that it will not, for the prosperity of the country having caused the demands of enterprises to increase, these constructions, slightly remodeled, if it is possible, to put them into harmony with the new ones, will be annexes already made for the increased needs.

Moreover, who can say at the present time what the economic situation of these regions will be in ten, fifteen, or twenty years? One has seen districts completely modified after these great upheavals such as wars are, or as a consequence of the unexpected industrial development or of the discovery of underground metals; agricultural countries of indifferent yield have become prosperous metallurgic centers. For this reason, the problem of the

future must be reserved, and the possibility of an economic adaptation perhaps very different from that which we have seen thus far, provided against. But there we enter the domain of the unforeseen, and our rôle is already vast enough if we know how to meet the multiple conditions which the present reveals to us.

German Ideas for Rebuilding Belgium and France

While we have been able to follow closely the French and Belgian plans for rebuilding, very little news has come through as to German plans for the reconstruction of these very areas. Two or three passages in French publications occur which throw a strong light on the French and Belgian attitude toward these German schemes.

The following passage occurred in an address of M. Joseph Reinach at one of the Conferences on Regional Architecture:

Commencing with the month of February, 1915—it will soon be two years ago—a German art-critic, writing in the review, *Die Gegenwart*, has been giving advice to the German architects who would have to reconstruct the towns and villages which the German armies had burned down in Belgium and in our country. The principal passage of this manifesto has been reproduced by M. Vaillat in one of his substantial studies on the *Cité Renaissance* which *Le Temps* publishes. It does not appear that M. von Bülow has had the idea of limiting the work of the German architects to the French or Belgian territories which, according to his ambition, would be united to the German empire. His idea is indeed that the populations of all the destroyed cities could not do better than to address themselves, in their own interest, only to architects from beyond the Rhine, and he specifies—I quote—"to Rhenish architects, or those of South Germany, who are better acquainted with and perceive better the necessities of our neighbors of the West (the Belgians and us) than the architects of Northern Germany."

The old-time historian used to say of the conquerors of former days that there where they have made solitude, they call it peace. The barbarians of today are more practical: where they have heaped up ruins and made a desert, they scent business. Of the moral obstacle, the barrier literally physical, henceforth between them and us, they do not yet take account.

There are pieces of impudence of which the mentioning suffices; to strike against them with the lash of anger or of irony would be to do them too much honor. Similarly it is superfluous to say that, even if we count on reclaiming from conquered Germany the reconstruction at her expense of the towns and villages which she has made into rubbish heaps, we exclude, in advance, all imitation of these architects of Munich and others whose æsthetic sense is equally an offense to good taste and to good sense. Reconstruction in their manner would cause to be regretted the tragic beauty of the ruins.

However, I have not unburied this Germanic impertinence for the mere satisfaction of pointing it out, but rather

NOTES ON REBUILDING IN FRANCE AND BELGIUM

for this reason that it is going to lead us by the most direct road to the just solution of the problem imposed by German devastation upon our ravaged countryside. It will not be sufficient to reconstruct these destroyed villages; they will have to be reconstructed in the French style, and also, according to the rhythm and style of each of the ravaged districts.

Is it, or is it not, under influences, German especially, that we have seen in the years preceding the war, a certain number of artists, who were not architects only, turn aside toward the singularities—to employ the most moderate expression—of this *modern style*; which was neither modern, nor, above all, a style? Courtesy for importations from across the Rhine has had something to do with it; but one must see in it particularly the passing misunderstanding of one of the most certain and most ancient principles of art. The truth of it appears nowhere more evident than in architecture. This is it, such as it has long since been discerned by unerring taste for fine things and by history:—a style is not invented; it is not manufactured out of whole cloth; it does not spring up in the night like a mushroom; but it is only one of the stages of an evolution which began at the birth of human civilizations and will end only with them.

The next account is taken from a report on Belgian Reconstruction by M. Patris, the Belgian architect, who has taken keen interest in the study of English town-planning and, in 1916, began at Paris a school to give technical training for service in the work of reconstruction. This report was published in the book of MM. Auburtin and Blanchard, previously referred to.

At a summons of the German authority stationed in Belgium, German, Austrian, and even Swiss architects have freely bestowed their attention upon the reparation of the damages committed in occupied Belgium.

The 28th and 29th of August, 1915, a war congress for the maintenance of the monuments and the restoration of the towns was held at Brussels, under the protectorate of Governor General von Bissing, and in the presence of Duke Johann Georg of Saxony.

We have had the pleasure of having before us the minutes of the closed meeting of the 29th of August, which sums up, to such a degree that they seem grossly ironical, the benevolent intentions of the participants of the Congress toward Belgium and the Belgian architects. We shall not argue about the eventual efficacy of these resolutions.

But it is interesting to summarize here the conclusions of this discussion, presided over by Karl Rehorst, Architect-Counsellor attached to the General Government of Belgium, for the reconstruction of the towns. This is what they are:

(1) Edifices of historic or artistic value, partially or totally damaged, will be restored in the original style.

(2) Public or private buildings, of historic or artistic value, but of too great antiquity, and which shall be entirely destroyed or injured in their vital structure, will not be in any case reconstructed on their former lines.

(3) All the new constructions, replacing the former ones destroyed and not restored, must be of a suitable architecture, indicate through their architect the period in which they have been erected, and conform as much as possible to the character of the place.

(4) As a matter of principle, one must refrain from *dégagements*.

These conclusions were unsuccessful in rallying the German architects, the more so as they revived old quarrels. To find a basis of understanding, Baurat Stübgen summoned the league of German architects, and the Berliner Architekten Vereinigung in order to call forth a meeting that would bring things to a point. Let us say here that these palavers resulted in the declaration, sincere or not, as to the impossibility of taking away from the Belgian architects the mission of raising up again their ruins according to their aspirations, their faculties, and their national necessities.

Thus the matter rests; but this untimely intervention of professional Germany in a situation whose cruelty can be lessened only by a contribution of reverential and patriotic affection permits us, everything considered, to make a useful discovery. It has revealed to us a curious evolution among some artists who have among their assets so many works whose essential quality consists in being only clever replicas of a past art, scientifically but not artistically, resuscitated.

If they admit the abandoning of ancient structures damaged in their essential parts, this resolution will constitute a formal recantation of the integral restoration such as they practised in their country, where, moreover, it has stirred up for them more than one unpleasant incident. But if, furthermore, they admit that an old edifice can be replaced by a construction representative of our epoch, what is the type of Munich or Weimar art which could decently rig itself up in the local character which would permit it to neighbor fittingly with its architectural antitheses?

The following little item appeared in the *Temps*, of Dec. 15, 1915, under the headline, *Pour la Reconstruction des Villages détruits*:

Under the auspices of the Société des Arts et Métiers and in the presence of representatives of the [German] Government, a preparatory conference took place in Strassburg, December 7, 1915, to discuss the question of the reconstruction of the villages destroyed by the war in Alsace-Lorraine. The Ministerial Councillor Franz has announced the elaboration of a project of a law, which will remain in force after the war and which institutes in each *cercle* consultation offices to direct the works. They will strive, he said, to preserve the local architecture; and there will be centralized in one hand the reconstruction of an entire locality, in order to assure the æsthetic unity of the general effect.

This news item was commented on, in a lively manner, at a conference of the Société des Habitations à bon marché, and the hope was expressed that it would not be under German authority that the destroyed towns of Alsace-

Lorraine would be rebuilt. The centralization of reconstruction in one body is noted as a typically German method. It is one which the French have criticized severely in the garden cities of England and Germany as not making for an indigenouslyness of expression, and not assuring the variety in unity which is, to the French architects, an especially important consideration in the present situation. Centralized power in rebuilding is foreign not only to the French taste but to the French economic structure, since the land is principally in small holdings and, unless present legislation is radically changed—as the most intelligent city-planners feel is necessary—total communal schemes not voluntary, would be exceedingly difficult. This situation has been held responsible in part for the slow progress of the garden-city movement in France. In the course of the discussion just referred to, M. Dufourmantelle mentioned the recommendation of the Prussian government that the destroyed villages of East Prussia should be rebuilt after the model of the German garden cities. Certainly, if Margarethenhöhe at Essen were the model, the result might be in itself æsthetically satisfying, apart from the question of its regional appropriateness or accordance with local tradition.

National Organization for Reconstruction

In the French plans for a national organization for reconstruction, full recognition has been given to this principle of individuality, both in architectural schemes, as we have seen, and in city-planning proposals. Wherever competent local agencies are able to act, they will be called upon. But it is realized that many little towns and villages, completely ruined, have no local resource to form the nucleus for organizing reconstruction work. For such as these, the necessity for help from some centralized body is patent. A general city-planning law, the *Loi Cornudet*, pending before the war and revised in the light of recent experiences, was passed last year. This law provides for national,

departmental, and local commissions, and makes planning a legal prerequisite to reconstruction. Provision is made for the fullest coöperation between the authorities of the communes and the technical experts furnished through the government for commissions where local men are not available, as well as in the case of locally chosen experts, when, of course, such coöperation would be certain. A technical procedure along scientific city-planning lines is prescribed in the law. Until recently there have been several official governmental agencies charged with reconstruction and rehabilitation plans in one aspect or another, with an unfortunate lack of coördination. Now, however, there has been a unification of these official activities in the *Office de Reconstruction* under the Ministère du Blocus et des Régions libérées. All civil repairing or rebuilding work is to be under charge of this *Office*. So far there has been temporary governmental reconstruction only, except in the case of eight or nine villages in the territory once liberated, but now, it is to be feared, in the region again devastated by the recent German advance. In these villages, work was done through coöperative societies, one architect and one contractor handling all the work.

Those who have an adequate and successful reconstruction most dearly at heart realize how little can be done at the present time, when men, materials, and transportation facilities are needed to the uttermost for winning the war. What amounts to relief work is almost all that can be hoped for in the way of an immediate physical manifestation. But, like the Belgians who, with only a strip of their country remaining, have passed a compulsory city-planning law and are working for a national plan, the French are preparing for peace by their legislation, by their coördination of the various forces concerned in reconstruction, and by their plans for popular education through which French hopes for enlightened rebuilding may well be brought to pass.

The Circean Shadow.* II

By RICHARD WALLACE TUDOR

IN THE preceding chapter we sought to demonstrate two things: first, the development of class consciousness by introducing the student to the region of architectural thought through forms expressive of anti-democratic traditions; second, the narrowing of his concept of vocational interests and activities by an exaggerated emphasis at the outset upon the values assigned to form and proportion—and their expression in design.

What develops during the next step? How shall we appraise the process? Have we a standard by which to appraise? If so, what *is* our standard? If there is a standard, what *is* its primary interest? Is that interest represented by what we discuss in convention? Is it the design and construction of individual buildings or groups of related buildings with a bit of entourage? Is our central interest so expressed?

Or, are we interested in the social and physical organization of our entire environment? Is that our central interest? Unhesitatingly I say, No! It is not, and with equal emphasis I assert that we must make it our central interest; for, unless we start with well-organized town plans and a broad framework which establishes the masses of our buildings, we shall continue to render more chaotic the already sadly bungled mass. Thus, our circle of professional activities will grow smaller and smaller, notwithstanding our educational propaganda: we shall end by becoming structural decorators—nothing more. That is the fate which now stares us in the face!

The selection of a central interest is the primary consideration with which we must deal. We cannot even discuss the subject of education until we have made that choice. To me it seems obvious beyond any doubt or question that if education is to contribute to our growth and advancement, our central interest must be made the central theme of our educational effort. It must be made vivid upon the student's introduction to his work; it must be made the axis about which his interest and his inquisitiveness revolve *throughout* the entire period of his educational experience—and by no

means does that experience end with his graduation from the school. Let us also bear clearly in mind that society is not concerned whether we become the exponents of that central interest which looks to the amelioration of our present physical environment—the replacement of chaos, disorder and ugliness with order and beauty—the creation of a more just and a more sane community life. Society will follow the leaders who can point the real way. In the end, it will not choose the pretender, but the tried and proven leader!

But our vital concern at the moment is the education of the architect. Looking backward, we may well ask what central interest do we at present find expressed in the work of our schools?

In our schools the theory of design serves as a focus of the student's interest. What central interest is revealed by our manner of teaching design? The student scrapes acquaintance with a few classic forms (we call these forms the "alphabet"). These he is taught to "indicate" graphically. As soon as he has acquired some technical skill, he is given a "problem." The problem *suggests* a situation in life (though generally remote), and his task is to assemble his acquired forms or "motives" (acquired without the slightest degree of inquisitiveness on his part) into what is termed a composition. This is finally "judged" according to a set of artificial academic standards. As he acquires more skill or dexterity, larger problems are *presented* to him, and he skips from one little circle of *re-presented* human interest (expressed to him through a printed program) to another, "solving," statically, problem after problem with never a real opportunity to check his effort against actual situations in the dynamic world about him—satisfied when he gets his mention or his prize.

How Does the Student Think?

But in education *thinking* is tremendously important. How does the student think? What are our methods of inducing thought? With what sort of thought-provoking subject matter does the student deal?

*Continued from the last number.

What should be revealed as regards thinking? Since the essentials of method are identical with the essentials of reflection, we should find, "first, that the pupil have a genuine situation of experience—that there be a continuous activity in which he is interested for its own sake; secondly, that a genuine problem develop within this situation as a stimulus to thought; third, that he possess the information and make the observations needed to deal with it; fourth, that suggested solutions occur to him which he shall be responsible for developing in an orderly way; fifth, that he have opportunity and occasion to test his ideas by application, to make their meaning clear, and to discover for himself their validity."

Do the problems in design, as presented, *represent genuine situations in experience?* What about the first problems—the tombs, temples, mausoleums, colonnades, pergolas, triumphal arches—do these problems so qualify? Education should be a growth, a development, an expanding of the mental processes: it is not like packing a trunk. The first problems, and most of the later ones, represent spheres of interest which are utterly foreign to the experiences of the student; they represent situations which might as well be staged in China.

Recall to mind the confusion, the foggy uncertainty, the utter lack of aim associated with the first effort in design. How were these first "problems" organized? Did judgment, based upon experience, have any part in selecting the arrangements?

While problems of this sort develop a certain kind of technical ability, they do not stimulate thinking. The reason for this is simple indeed: the student does not possess the information nor the capacities to make the observations needed to deal with such problems.

Providing the student with a knowledge of architectural forms and motives is a phase of the educational problem. We must not confuse this phase with that which induces clear, responsible thinking. The fundamental error we have committed is that we have substituted methods based upon acquisitiveness and not upon inquisitiveness. We load the student up with his ancestors' baggage, and we help him arrange it as though he were going to travel in their world. What we should do is to assist him in *thinking* his way out of the passive, receptive

attitude in which he enters the school into an inquisitive, interpretative attitude of thinking in terms of form. With what mental baggage shall he provide himself on his journey into a new world—a living world—a world restless with the eternal pursuit of order and ceaselessly in pursuit of the leader who can show the way?

When do we give the student an opportunity or occasion to test *his* ideas by application, to make their meaning clear, and to discover *for himself* their validity? Broadly speaking—never! Programs are written for him; he never organizes the broad outlines of the problem by an interpretative study of situations in the field of reality. The criticisms he receives are in the main directions—values relating to what he does are always assigned by others, not by himself.

There is a formality termed a "judgment" and a "public criticism" of his design; this is the test—the only test—the conclusive test. This is pure unadulterated stupidity! The student (the future architect) is actually discouraged from checking his ideas in the field of reality, for the judgment, the criticism, the imposed conclusive academic standards of appraisal passed upon his work are final. (He must obtain his marks to win his degree.) He dare not think counter to the court of last resort—that would be academic treason.

The Method of Teaching

What should be revealed as regards *method*? "Expressed in terms of the attitude of the individual, the traits of good method are straightforwardness, flexible intellectual interest or open-minded will to learn, integrity of purpose, and acceptance of responsibility for the consequences of one's activity, including thought." What is revealed in our present-day architectural schools? At the very outset, instead of opening the student's mind by inductive methods to the social significance of architecture, to the very broadest concept of the functions which it is the privilege and the duty of the profession to perform, we present him with a few forms. These forms are expressive of situations having no immediate personal interest and relating to conditions in which the student has had little or no personal experience.

He questions the value of the orders—we suppress his inquisitiveness by evasive answers.

THE CIRCEAN SHADOW

He sees little value to be derived from "solving" his first problems. He is told they are exercises in composition and proportion. Many of the problems are mere tasks. In the proportion that he questions does he acquire a "permanent tendency to fumble, to gaze about aimlessly, to look about for some clue of action besides that which the subject matter supplies. More and more he becomes dependent upon suggestions, until he utterly lacks that sureness of attack which is characteristic of the person who has gained his store of knowledge through experience in dealing with actual situations.

Instead of requiring that the student examine a situation for himself in order that he may form his own ideas as to the terms of the program which would really illuminate it, and, in consequence, direct and guide his choice of forms used to express it in terms of architecture, instead of requiring this, we provide him with a sort of formula, a set of rules, whereby he may more accurately guess what he should emphasize in order to produce a result which would be deemed "in character." In the graphic presentation of the plan we encourage the use of a great variety of standard "indications," lines, forms, points, silhouettes, which are not only quite meaningless but which effectively suppress any desire on his part really to interpret his own conception of reality.

The result of these standards and the uniformity of procedure in attacking all sorts of problems is to suppress effectively any tendency of the student to approach the solution of his problem in a state of open-mindedness.

Our "problems" are presented as situations to be dealt with without question. As an aid in solving them, we bid the student accept a great variety of forms, motives, arrangements as actual solutions of his problem. The fact that these "solutions" from which he draws his inspiration may fail so to qualify apparently does not matter.

But why do we persist in keeping students in the dark regarding real situations? Why do we cling like grim death to our paper programs? We say that the complex situations in real life would confuse him. He must be protected lest he over-emphasize details.

We prefer that he have as a program an imaginary situation: we do not want him to check his ideas in the workaday world. As a

decorator he becomes exceedingly clever: he can design a Chinese pagoda upon short notice.

But by such a process he loses his responsibility of judgment. Situations in real life appear as situations in another world—the old world into which we have directed his educational journey.

But how may the student obtain a responsibility of judgment? How shall we help him to gain a knowledge which he can apply, not only to the best solution of a building problem, but toward the solution of the infinitely greater problem of communal development in all its aspects? Shall we try to do these things by setting him the task of solving puzzles in design? That is the theory we have pursued. Do we not now see that it is not the way? That this can only be done in one way—through experience in dealing with actual situations in real life?

The Nature of Subject Matter

What do our architectural schools offer in the way of subject matter? Consider this suggestion: "The scheme of a curriculum must take account of the adaptation of studies to the needs of the existing community life; it must select with the intention of improving the life we live in common so that the future shall be better than the past. Moreover, the curriculum must be planned with reference to placing essentials first, and refinements second. The things which are socially most fundamental, that is, which have to do with the experiences in which the widest groups share, are the essentials. The things which represent the needs of specialized groups and technical pursuits are secondary. There is truth in the saying that education must first be human and only after that professional. But those who utter the saying frequently have in mind in the term human only a highly specialized class: the class of learned men who preserve the classic traditions of the past. They forget that material is humanized in the degree in which it connects with the common interests of men as men." Do we agree with this suggestion? Hands up! Of course we agree—in theory. But what about practice? What about actualities in our schools? Do they reveal any such concept of education? If we judge honestly there can be but one answer. They do not. They deal exclusively with the needs (desires) of special groups. To these they

cater. Do they deal with things which are socially most fundamental? They do not.

The architectural ideal set up in the school is a false ideal. The subject matter consists, in the main, of situations (presented, not examined) relating exclusively to the needs and desires of a small group within the state. When the subject matter relates to collective interests, as, for example, a problem in town-planning, we completely ignore the fundamental issues involved. Unless our schools can take hold of such problems in a really fundamental way (which will be discussed in a later number) the world which architecture should serve, might conceivably be the gainer if the schools closed their doors and retired from the field.

It is our superficial treatment of fundamental, social, and economic questions which creates the attitude so common in the profession that

(To be continued.)

all that is required to elevate humanity is to deposit over the surface of things a little "fine art" and to shout about the act in the press.

But this is about a theory of education. What of results? What is the attitude of the architect? How does the architect react when confronted with the thousand and one obstacles of present-day practice—the stupid conditions imposed by clients, by laws, by low standards of taste, by economic fallacies in the use of property, by an independent governmental administration? Speaking broadly—speaking of the entire profession—the architect reacts exactly as he was taught to react in the school. He accepts the conditions, and he attempts to envelop the utterly absurd situations in modern life with a pleasing architectural envelope.

He never developed nor organized a program in the school: why should he do so in practice?

Unity of the Profession*

PROFESSOR F. M. SIMPSON [F.]: In advancing a plea for unity amongst architects, I am well aware that I am venturing on dangerous ground, and possibly laying myself open to the rebuke that "fools rush in where angels fear to tread." I understand it was resolved some time back that controversial matters should be held in abeyance until the end of the war, the reason given being that it would be unfair to the men serving at the front to come to a decision in their absence. With the principle of that resolution I heartily sympathize. I should be the last person to suggest any action of which they might disapprove. But for them, and others like them, we should not be meeting here to-day. But I confess I doubt if these men—who are now engaged on an infinitely bigger matter than even the future of architecture in this country—when they return from the trenches, the craters, dug-outs, and the mud, will want to plunge into the turmoil of what will appear to them but petty politics in comparison with the great decisions for which they have been fighting. I venture to think that if nothing is done now to advance these matters a step nearer solution, the remark of the majority on their return will be "What! still at the same old job! haven't you settled that yet?"

There can be no diversity of opinion amongst architects as to the urgent need for unity in our profession. We have suffered from the lack of it for a hundred years or more. For unity means strength, and strength compels respect. If we had been united and strong at the beginning of the

*Briefed from the Journal of the R. I. B. A.

NOTE.—A large part of this discussion related to questions affecting professional unity and concerned itself with the special interests of the R. I. B. A., the Society of Architects, and the Architectural Association. We have also omitted those portions which dealt at length with the issue of registration.—EDITOR.

war, the architectural profession would not have been so completely ignored as, unfortunately for the country and ourselves, it has been. Our President referred to this in his opening address last month; and the point was also exceedingly well put, although tardily, by Mr. Ernest Newton, Sir Aston Webb, and other members of the deputation which waited on Mr. Neville Chamberlain last February. I will only add one remark. Never before in the history of the world, so far as I am aware, has a profession been virtually forbidden to practise by Act of Parliament. No doubt the prohibition was necessary. It was accepted as such; and to the eternal credit of architects throughout the country there has been no grumbling. Our only grievance, and I think a substantial one, is that when the Government stopped all private building enterprise, they gave public building work and public posts and appointments, which by right of training and fitness belong to architects, to members of other professions, and to men of no profession at all.

It is no good crying over spilt milk; but spilt milk has a moral. The need for unity in the profession does not end with the conclusion of the war. It starts again, and with redoubled force, at the Declaration of Peace. Then, as never before, it is imperative that we should be united and strong. We must be in a position to make our wants known, our influence felt, and our aims and aspirations respected. We must be able to approach public bodies, and speak to them with undivided voice, on all matters affecting our calling. We must be able to hold our own with members of other professions, and to stamp out the jacks-of-all-trades, and the tradesmen, who now too often try to usurp our functions, and angle for work for which, both by their lack of training and artistic ineptitude,

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they are entirely unfitted. Above all, we must uphold the dignity of the Art of Civil Architecture, for the advancement of which our Institute was founded and received its Charter.

The last should be our principal aim. We are not out merely to profit the Institute, or fill our own pockets; although if both result, so much the better. Our business in the first place is to consider what is best for *Architecture*; what steps can be taken and what modifications made in our policy and constitution which, whilst inflicting no injury on anyone now—or at all events a minimum amount only—will produce the most beneficial effect in the future. We must look ahead—twenty, thirty, even fifty years hence. . . .

In the proposed Charter the Institute asks for the right to register practically all architects in Great Britain. The principle is admitted that all such men, good or indifferent, are to receive an official stamp. This stamp may, or may not, be of some pecuniary value to them in the exercise of their profession; but I submit that it will have no effect on the advancement of architecture, and do nothing whatsoever in the direction of unification. There will still remain the twofold divisions—architects who are members of the Institute and architects who are not. The latter, having their stamp, are unlikely to apply for membership, will never take any interest in our or any other architectural body, nor trouble to use any influence they may possess in furthering the advancement of the profession as a whole.

The suggestion I venture to put before you is that the Institute should invite all architects, . . . to become members of our body.

If that invitation be generally accepted, it will doubtless mean some increase in the number of Fellows and Associates, but the majority of new men would probably become Licentiates. . . .

Some modification of the restrictions previously imposed on Licentiates would doubtless be necessary if that class be greatly increased. . . .

These, however, are details. The main questions are: How would a large influx of new members help toward unity and the advancement of architecture? And what safeguard is necessary to ensure that architecture shall advance? . . .

Outside architects at the present time benefit undoubtedly by action taken by the Institute. An appeal might be made to them to join on two grounds. First, that it is not fair they should benefit from results toward which they subscribe neither time nor money; and, secondly, that adhesion would be not only to their personal advantage, but also eventually, if not immediately, contribute toward the advancement of the art in which presumably they are interested. . . .

The other question I asked was, if unity is accomplished, what safeguard is necessary to ensure that architecture will advance? The only safeguard is education. The greatest mistake, in my opinion, the Institute ever made was putting the cart before the horse five-and-twenty years ago, and establishing a scheme of examinations when education—outside such as could be obtained in architects' offices—was almost non-existent. We have advanced a little since then, but our methods are still chaotic and too much subject to individual caprice. A good deal still remains to

be done in the way of settling fundamentals before the education of architects can be said to rest on a sound and satisfactory basis. This, however, should not be difficult to arrange, if, as I suggested last year, the heads of architectural schools were to meet in conference, and the Board of Architectural Education consider the matter fully and seriously.

A course of training in a School of Architecture should, I submit, be compulsory for all students. At present it is only optional. I have already advocated this, and intend to urge it again when opportunity offers. It is useless to expect unity amongst architects so long as there is variance as regards the essentials of architectural education; and some students receive no training at all except what they obtain in an architect's office.

The great war in which we are engaged will, it is hoped, eventually widen the horizon of humanity. It has already effected many and wonderful changes. It has proved the value of and absolute necessity for unity amongst allied nations, and how lack of unity spells disaster. It has upset all preconceived notions as to scale, not only in military matters and finance, but in all other subjects. Solutions which before the war would have been regarded as erring on the side of excessive liberality are already condemned as utterly inadequate. Sociological and educational outlooks have entirely altered their boundaries. The principle that all difficulties should be met squarely, and settled, if possible, on broad, comprehensive, far-sighted and generous lines, is becoming more and more acknowledged. In that spirit we should approach our difficulties. I have ventured on some suggestions; I would welcome others bolder and more sweeping. We want to end our old controversies once and for all, in the same way as we are resolved to end this war by a peace that shall be permanent. Neither a great war nor our own smaller squabbles must be allowed to crop up again twenty years hence. An absolute millennium may be an impossibility; but if anything in the nature of a millennium can ever be reached, now is the time—following the all-round upheaval caused by a great Armageddon.

THE CHAIRMAN, PROF. W. R. LETHABY [F.]: I am in entire general sympathy with Professor Simpson's interesting Paper. The matter is of importance from the point of view of solidity, and also from the economical aspect. We must draw together with the aim of getting something done. I have long thought that our towns and our country cottages are not the best in the world, and I am not content with anything less than leading in the world. In these things, unless you aim at leading, you do not do much. We may not ultimately come out at the top of the world, but it is essential to aim at it. I take it that "architecture" should mean better towns, better cottages, better public-houses, better stations, better everything of that sort, and to get them we have all to work together.

MR. ARTHUR KEEN [F.] sent the following communication: Professor Simpson's proposals are far-reaching and in my judgment generally sound, but I do not think they must be accepted too literally. The mere bringing into the Institute of all who might wish or might be induced to enter it might result not in added strength but in a con-

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siderable dilution of its present strength. The whole thing must be looked at in the light of the standard of attainment and position that is required for membership; and while I feel that all possible, or at least reasonable, facilities for admission should be given they should be used with due safeguards to prevent the admission of those who are not sufficiently well qualified.

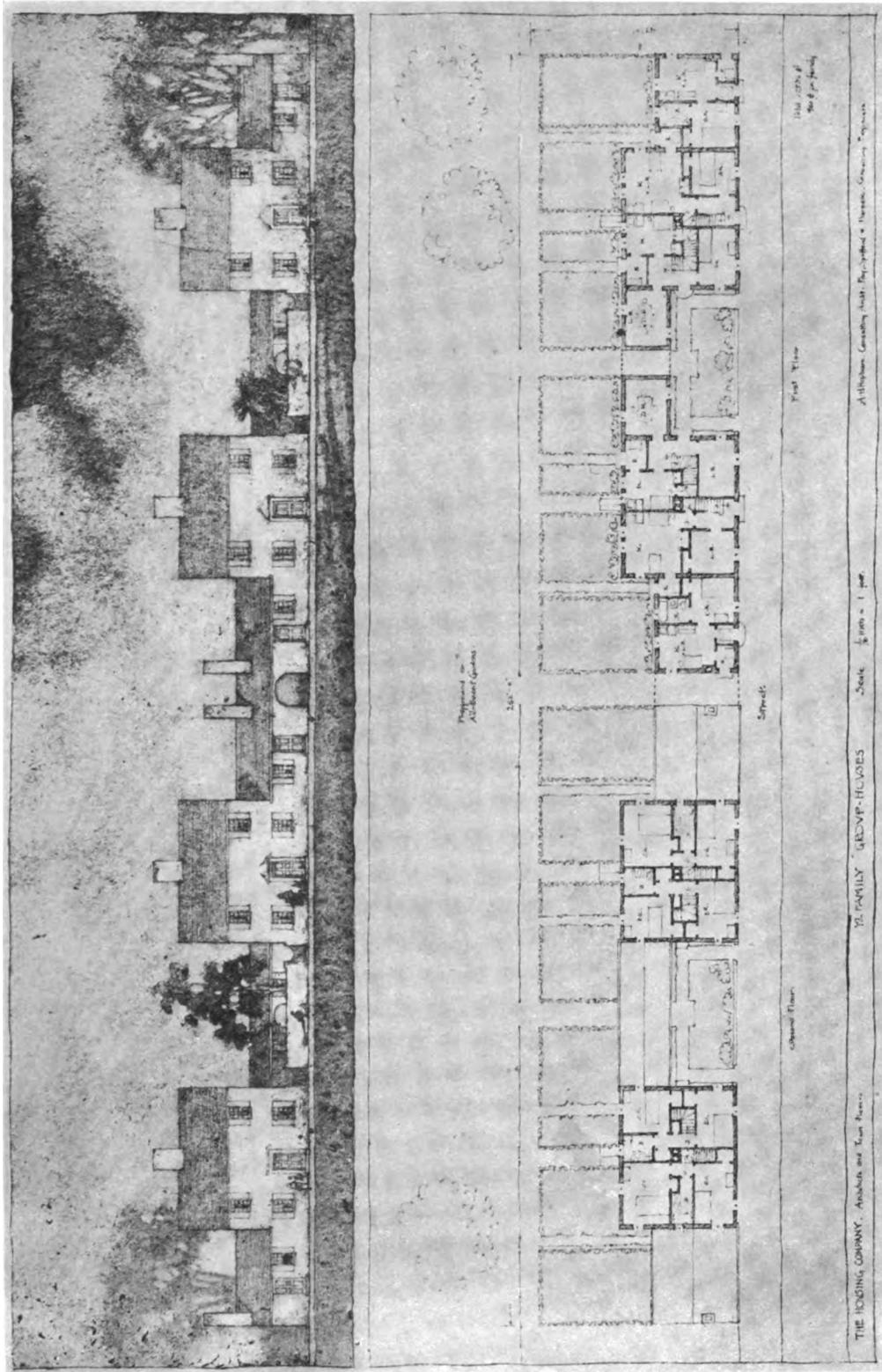
MR. A. R. JEMMETT [F.]: I would like to put this point of view forward: that, to my mind, the great trouble about unity is largely due to lack of unity of idea, to start with. You want a philosophic or theoretical idea of what an architect is, and of what our interests are, for which we can all strive, and then you can acquire practical unity. Unity of action is the outcome of unity of thought. At present I think our interests or positions are very diversified, the interests of some architects are very different and seem almost opposed to those of others. Some specialise on designing beautiful country houses and deal only with delightfully country people; but other architects in the provinces or the City of London have their time taken up with pettifogging details—surveying, party-walls, and the business aspect of it. You could go on and pick out half a dozen classes of architects, and you find that their interests do not coincide. Therefore, while we are at loggerheads on fundamental principles and ideas, we are bound to have difficulties in getting practical unity. My view is that we ought, first of all, to try to make up our minds what an architect is, what his proper duties are, where he is doing his own fundamental essential work, and where he is doing work which is as well or better done by other professions. Until we do that, and so obtain a more definite and complete idea of what an architect's best interests are and should be, I do not think we shall get much further forward. I hope the meeting will bear that point in mind. The absolute necessity of unity is so obvious that it is not necessary to enlarge upon it. But I think that in the future we shall get even more than the unity of the profession in England. After the war, of course, nobody knows what will happen, but we can safely say we shall not be where we were before. And the difference seems likely to be on the side of Internationalism. I can see a confederation of all the architects in the universe coming along. Mr. Sidney Webb talked to us about architecture as a public service of England. I would look upon architecture as human service, as a service for all humanity. And it is for us to enquire how we can best render that service. It will be for an authority in public administration, like Mr. Sidney Webb, to say where we are wanted. Before long we shall have to have these conferences between architects on an international scale to investigate and determine how architecture may be best placed at the service of humanity. But before we can start properly we must have our own clear ideas upon unity and what we consider architecture is—before, among architects of different nationalities, we can discuss architecture to any good purpose.

Mr. Wigglesworth has put forward the idea of two societies: one to look after architecture, the other to look after business interests. That was put forward two or three years ago, but was not very favourably received. It is a very good idea, however, for the interests of architects as private

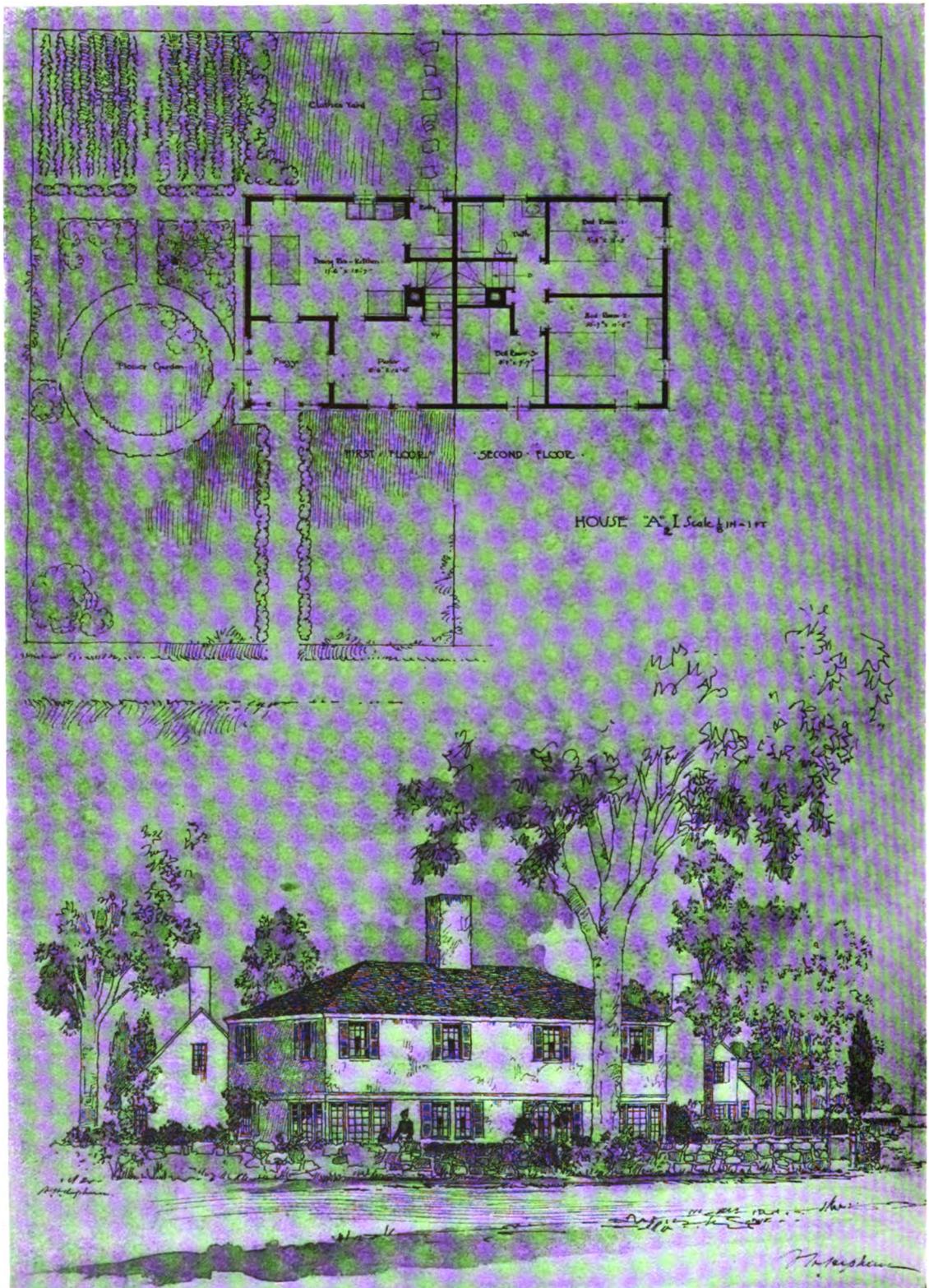
individuals very often conflict with the interests of architecture: there is no way out of it. If you follow a liberal art like architecture, follow it whole-heartedly, you often find you are doing so to the detriment of your pocket, your private interests. No society can look after both, and that is our difficulty here. We get cut into two sections. One man comes down full of generosity and wishes to do something for the good of architecture, another comes down to protect his pecuniary interests, and the moment one opens his mouth the other contradicts him, and they go on cancelling one another out. And we shall go on cancelling one another out in this Institute to the end of time. If you get an Architectural Society, as distinct from a Society of Architects, an Architectural Society composed of all the men in the country who are interested in architecture—architects and others—for improving architecture, you will be doing much good. And if you like to have a Trade Union or Guild for the protection of architects from the pecuniary point of view, very well: that is another kettle of fish. The two Societies will sometimes be in flat contradiction, but I think it is better to have flat contradiction between two societies than among the members of one society, because in the latter case we annul one another's efforts, and if the Institute takes no strong action in either direction. . . .

PROF. S. D. ADSHEAD [F.]: . . . We have heard a great deal about the welfare aspect of the profession and the architectural aspect. I would point out as a warning that we, as architects, in the eyes of the general public can carry this welfare or interest of the architect—his private interest, his pecuniary interest—a little too far if we are not careful. I am certain I am right in saying that our first interest must be architecture. The other will follow. It is putting the cart before the horse to look after the architect and let architecture take second place. I cannot emphasize that too much.

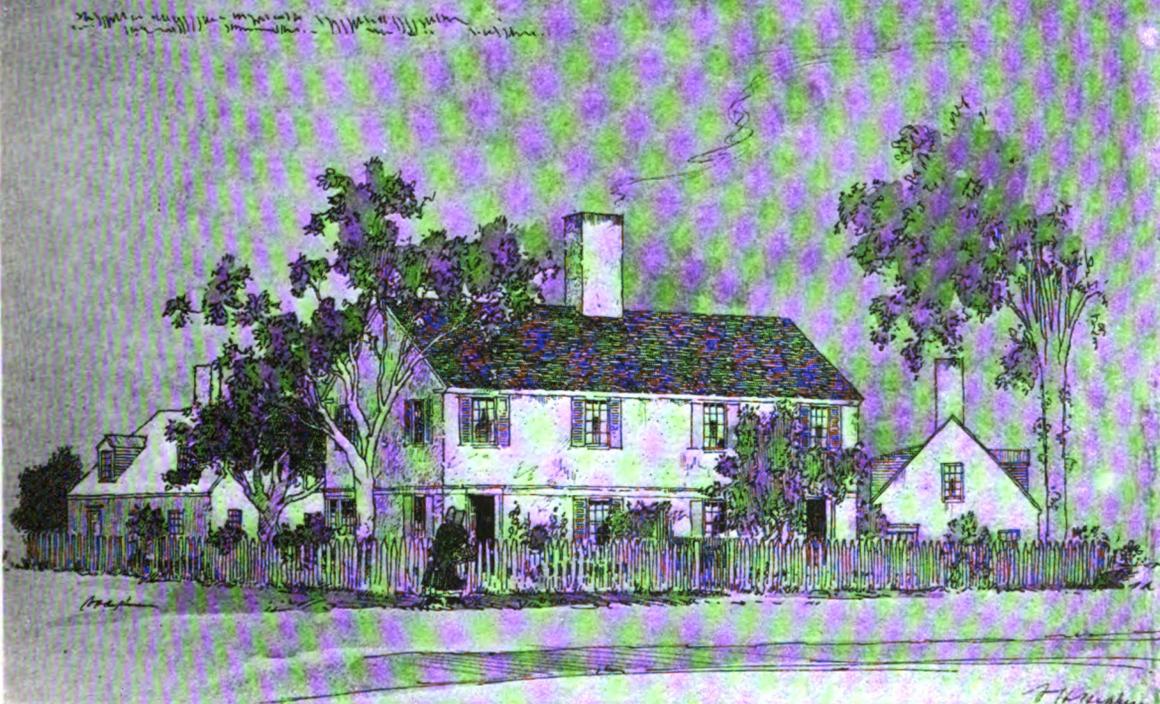
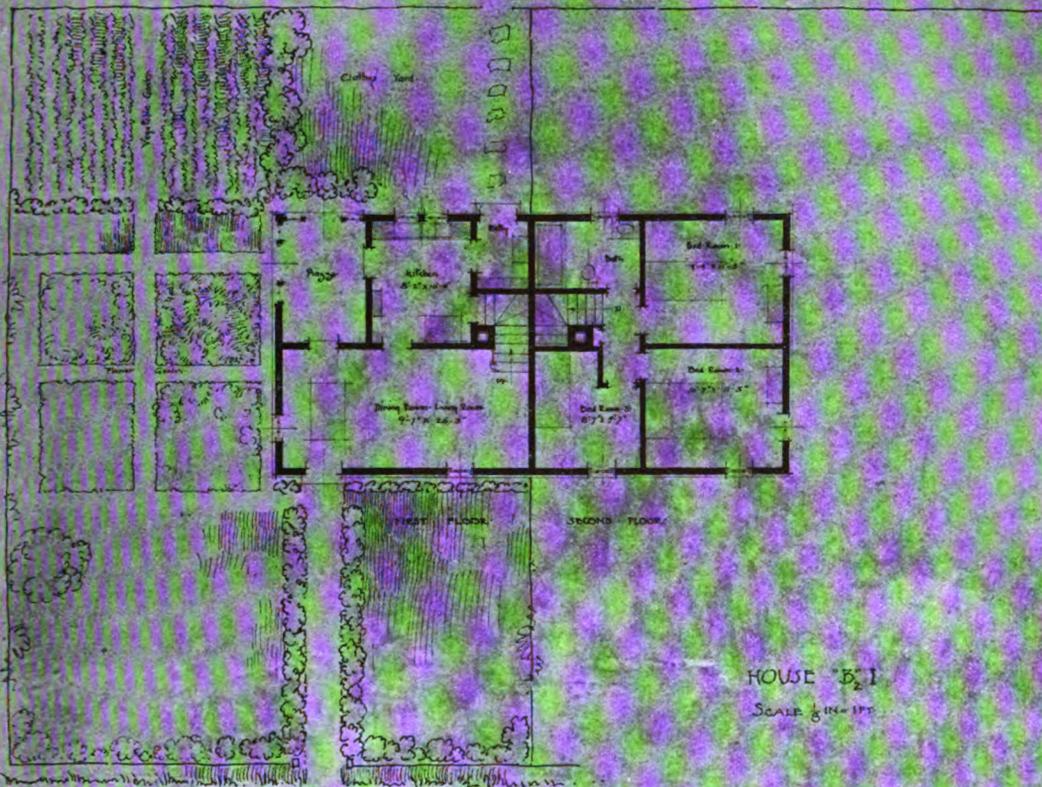
THE CHAIRMAN: . . . May I now follow on what Professor Adshead told us? I feel that he said something that was idealistic on one side, and yet which was good policy on the other. It is only by getting the public's consent and interest that we can exist. And it is only—though I hate to put it so—by fulfilling, in a high sense, a public function that we can hope at last, and in a large way, to get our remuneration. Too narrow a view of the architect's interest is always cutting away the foundation on which he stands. Our friend Mr. Butler, who spoke so ably, said at one point of his speech that architects did not go into the business for their health, but to earn their living. It is perfectly true; it is good, honest, common English sense, and it is awfully difficult to meet it, for it carries conviction. But yet it must not be said, because it is not wholly true. It would not be a defence in a court of law to say, "I did not do it for public service, I have got to earn my living." The soldier does not follow his vocation "to earn his living"—quite the reverse very often. The clergyman, it is supposed, does not perform his service to earn his living, although he does earn it incidentally. The doctor, too, did not take up his work "for his health": he took it up for other people's health. Architects, too, exist to fulfil a great public function, and that has to be recognized.



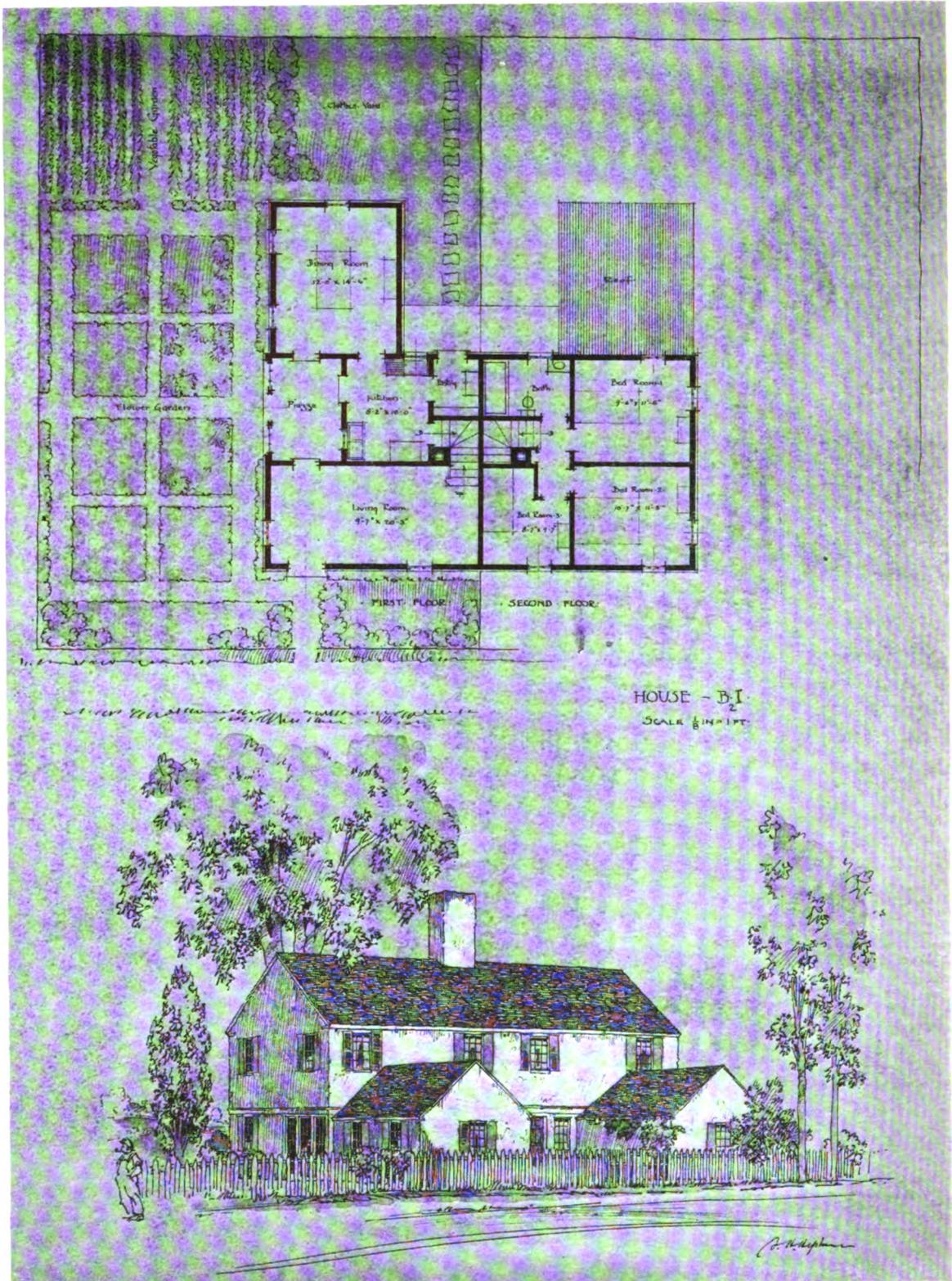
A TWELVE-FAMILY GROUP OF HOUSES
Some Ideas for American Small Houses
 Eight Sketches by A. H. Hepburn for the Housing Company, Boston
 (Pages 175-182)



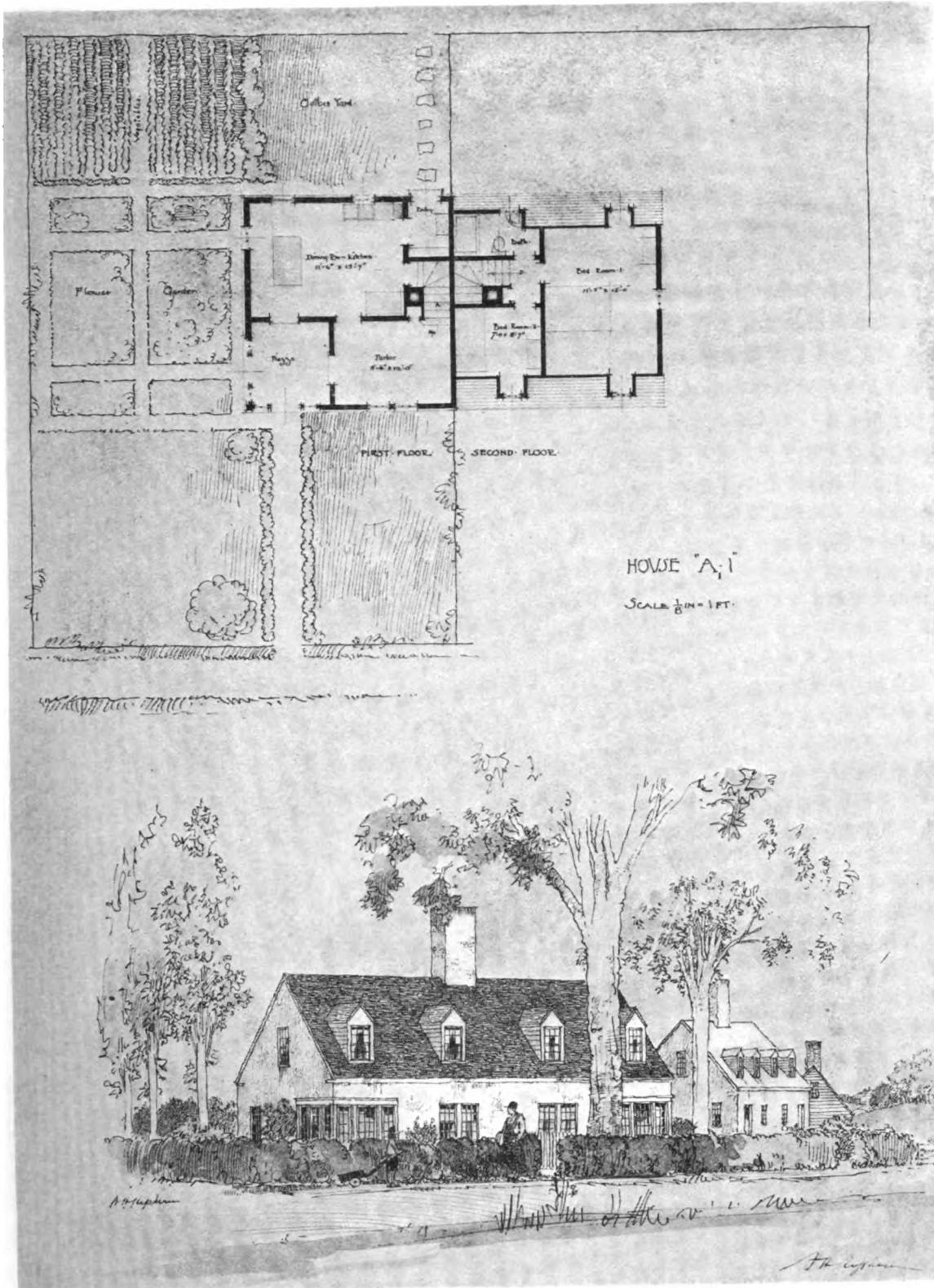
TWO-STORY SEMI-DETACHED HOUSES



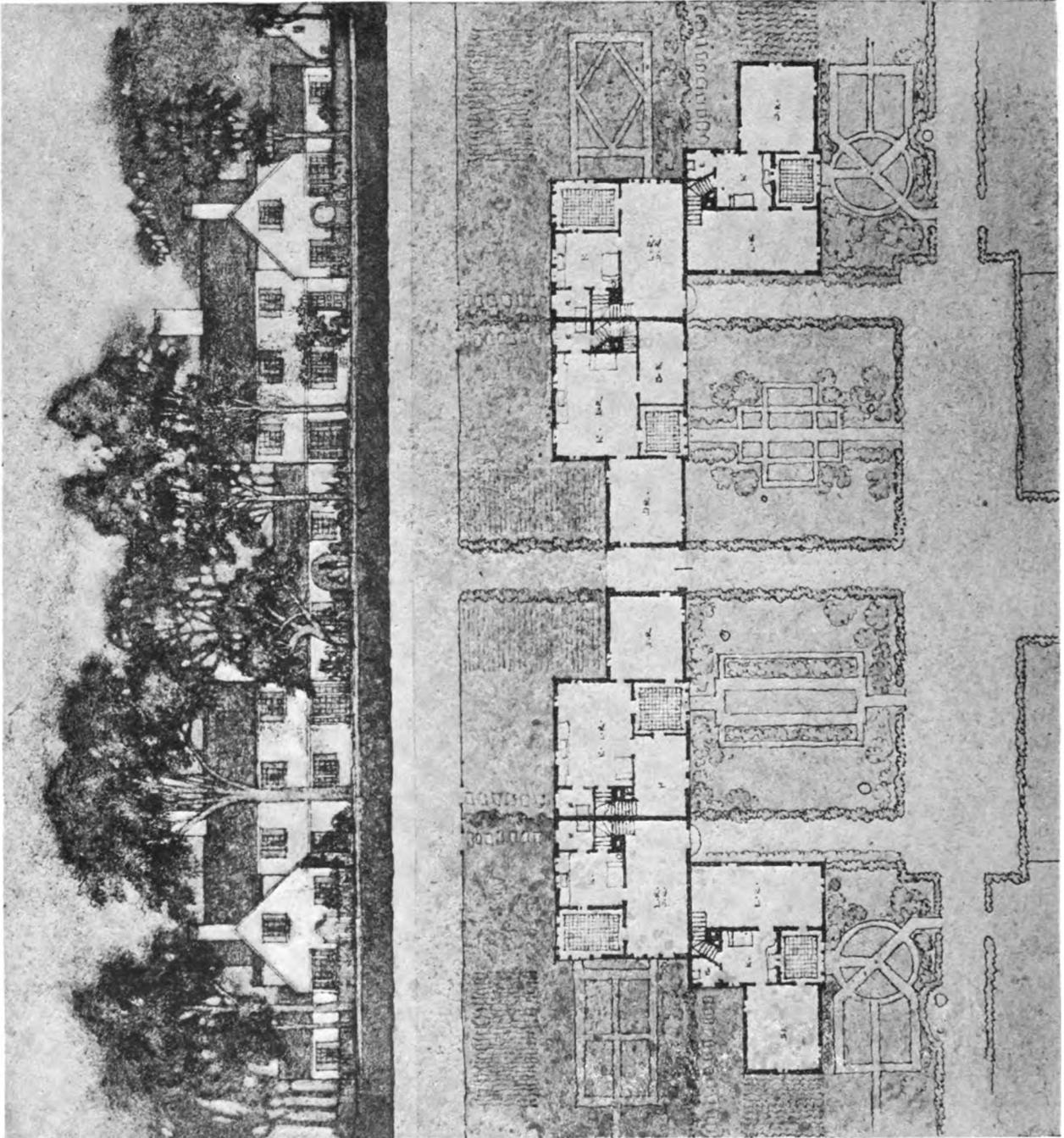
TWO-STORY SEMI-DETACHED HOUSES



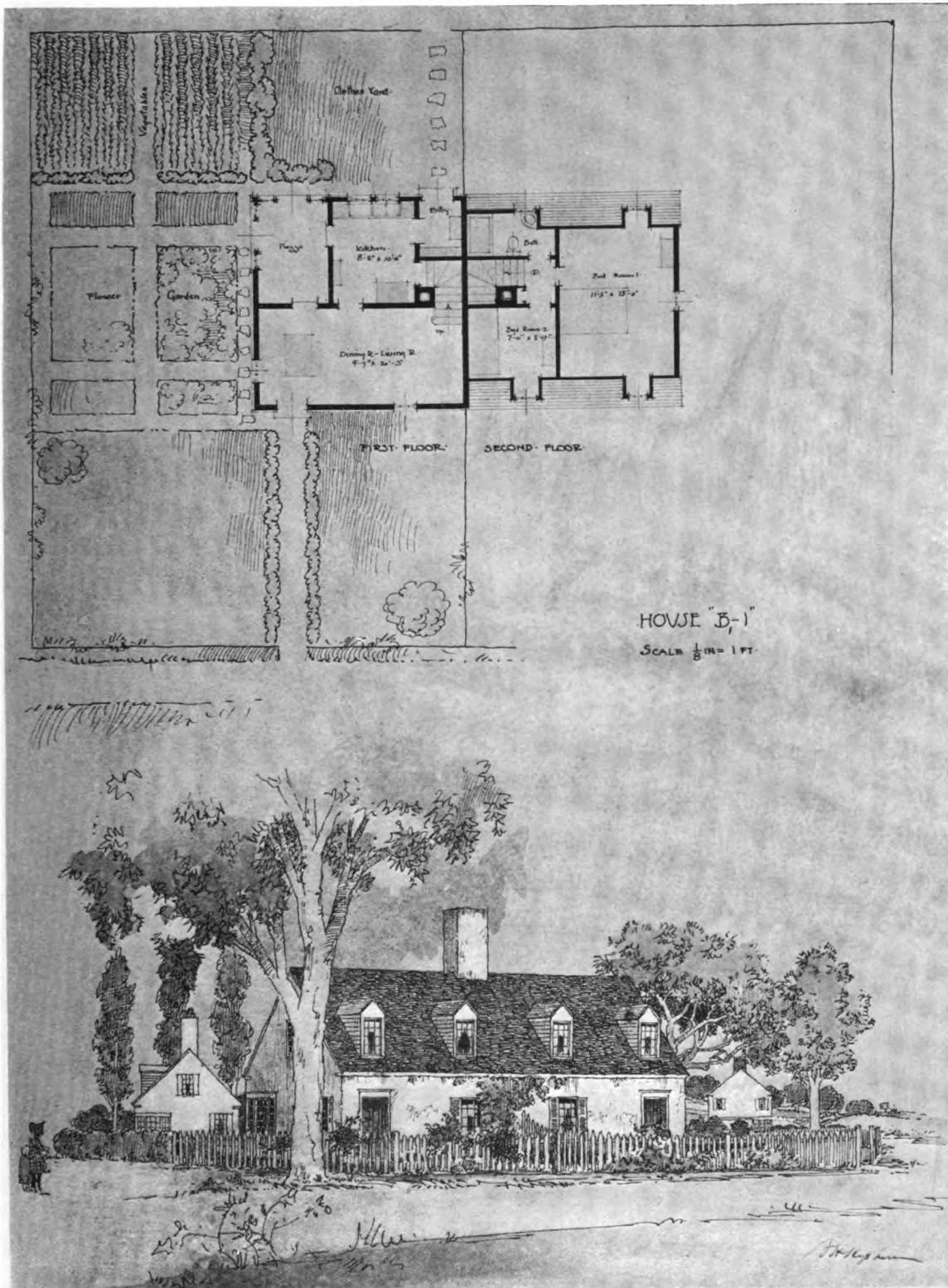
SEMI-DETACHED HOUSES, TWO STORIES WITH WINGS



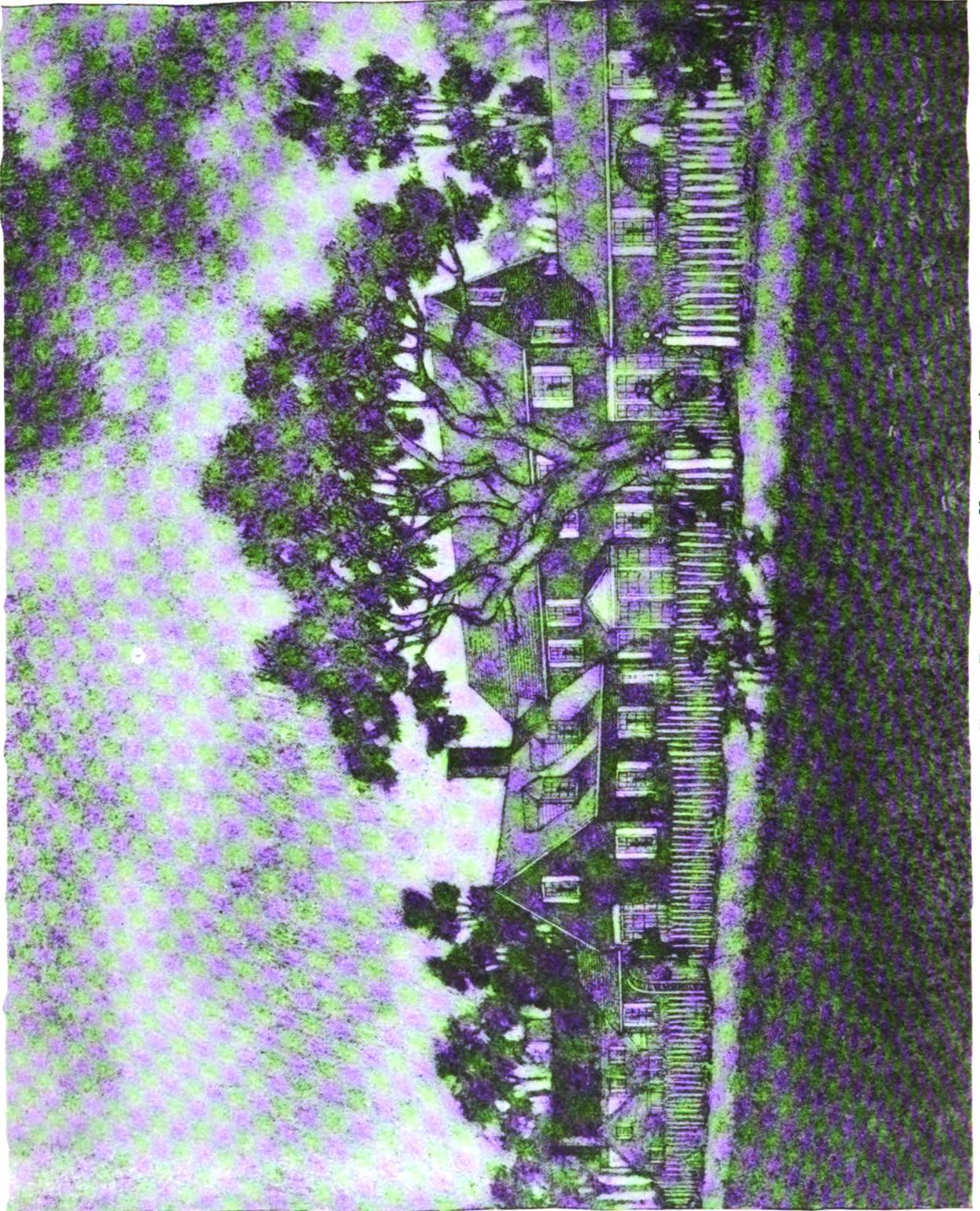
STORY-AND-A-HALF SEMI-DETACHED HOUSES



SIX-FAMILY GROUP OF HOUSES



STORY-AND-A-HALF SEMI-DETACHED HOUSES



HALF OF A TWELVE-FAMILY GROUP OF HOUSES (FLATS)

Co-partnership Housing in England*

By HERBERT S. SWAN

Executive Secretary, Zoning Committee, New York City

CO-PARTNERSHIP housing was inaugurated by the Ealing Tenants, Ltd., in a London suburb in 1901. Since then the number of co-partnership societies has greatly increased. Today there are probably sixty scattered throughout England, Scotland, and Wales. The big cities of Birmingham, Glasgow, Liverpool, and Manchester all have their co-partnership tenants' societies.

A co-partnership tenant society consists of a group of tenant members and outside investors who develop a tract of land with buildings, not in the interest of an absentee landlord, but in the interest of those who are to live in the houses.

The houses are not built for any particular class of people. An endeavor is made to provide different types of houses which will meet the wants, not only of the working class, but of a considerable range of persons.

In a co-partnership society the tenant does not become the owner of the house he lives in. In lieu of acquiring the deed to a particular house and lot, he pays a given amount of capital into the society. In other words, the members of the society collectively own all the real property in the community. As J. S. Nettlefold puts it, "No member can say, 'This house is mine.' They can all say, 'These houses are ours.'"

In a non-partnership society one must either buy a house or rent it. If one rents he is still, even after many years' payment of rent, only a tenant, and the house still belongs to the landlord. If one buys and is later compelled to move, he all too often leaves an unsalable home behind him. In a co-partnership society one can acquire the value of a home without curtailing his mobility, as his investment, if not always transferable without loss, will at least net him as much income as any other safe property.

Co-partnership in housing is an attempt to combine the advantages of both tenancy and

ownership of houses. The interests of tenant and investor are harmonized by an equitable use of the profit arising from increased values and the careful use of property.

Co-partnership Housing Distinguished from Garden Cities

Although all the co-partnership developments, so far as town-planning is concerned, follow the lines of a garden city, they are to be sharply distinguished from such communities as Bournville, Port Sunlight, and Letchworth.

Bournville is purely a philanthropic enterprise founded through the generosity of George Cadbury, cocoa manufacturer, and has as its object the amelioration of working-class conditions and the provision of improved dwellings, not only in and around Birmingham, but throughout Great Britain. The leases in Bournville are for a period of ninety-nine years.

Port Sunlight, on the other hand, is an industrial development worked out by Lever Bros., soap manufacturers, along what they call "prosperity sharing" lines, for the housing of their employees. Only persons employed by the company may lease houses. The houses are let, not at commercial rents, but for an amount just sufficient to cover their upkeep.

Letchworth, the first garden city, instead of being owned by the tenants collectively, is held by a private company with a limited dividend. Property is leased for periods of either 99 or 999 years.

Operation of a Co-partnership Society

The method adopted by a co-partnership society in developing its estate is as follows: It first secures suitable building land. This land is carefully planned. The number of houses per acre is strictly limited. Buildings are arranged to ensure not only healthful and cheerful houses but also pleasant surroundings. Substantial houses of a variety of types are built. These houses are let at ordinary rents. Dividends on capital are limited to 5 per cent. Any profits remaining after the payment of current expenses,

*This paper was prepared on behalf of the Committee on New Industrial Towns. Acknowledgments for material used are due to Mr. Thomas Adams, Ottawa, Canada; Mr. John Nolen, Cambridge, Mass.; Mr. Frederick L. Ackerman, New York City, and Mr. Frank Backus Williams, New York City. See further note at end of this article on the Committee on New Industrial Towns and its publications.

interest and amortization charges on mortgages and loans, and dividends on capital are divided among the co-partnership tenants in proportion to the rents paid.

Advantages of Co-partnership Housing

The advantages claimed for co-partnership housing to the tenant are as follows:

1. He gets a house at a rental which, if internal accommodations and external surroundings are compared with what is obtainable at most places, is less than he would have to pay elsewhere for the same accommodations.
2. He secures freedom from loss on his savings should circumstances require him to leave the neighborhood.
3. The capital for building his house is provided at a cheaper rate than it could be obtained on any other system that is commercially sound.
4. Should values go up, he gets the benefit, either by way of a dividend on his rent or by paying a rental which is below the market value.
5. He secures practically all surplus profit after the fixed charges have been met.
6. The benefit of the "unearned increment," if any, accrues to the tenants, and not to a ground landlord who has no interest either in the tenants or the neighborhood.
7. The tenants as a whole can gradually relieve themselves of dependence on outside capital altogether by accumulation of their own savings. By gradual process, therefore, it lies with the tenants to transfer the ownership from non-tenant shareholders who take the main risk to begin with, to tenant shareholders, who, it is hoped, may collectively become the ultimate owners.
8. He can invest at 5 per cent, in the society of which he is a tenant, any savings he finds it possible to make out of his earnings.
9. He gets his house, with a small garden attached, in a neighborhood where there is plenty of fresh air, and the house itself is one with some individuality in which a tenant can take a pride, instead of being an insignificant unit in an interminable row of jerry-built ugliness.
10. He secures a social atmosphere which awakens

new interests and creates a collective friendship unknown under the individual system of ownership.

The outside investor benefits by co-partnership housing no less than the tenant. Although capital does not pocket the profits in excess of 5 per cent, any surplus profit above that amount affords just that much more security for the continued payment of the regular dividends on stock or of interest on loans. It is, of course, to the interest of the tenant members, who receive the surplus profits, to make these profits as large as possible by taking care of the property and thus lessening the expenditure on repairs, by helping to find tenants for empty houses, and by punctual payment of rent. The capital invested by the tenants, moreover, furnishes a guarantee fund upon which the society can, if necessary, draw in order to pay arrears of rent. Loss by arrears of rent is practically impossible.

Co-partnership Tenants, Ltd.

The need for propaganda work and cooperation between different societies led to the formation in 1904 of the Co-partnership Tenants, Ltd., a central organization which some fifteen societies have now joined. In promoting the development of co-partnership societies, the Co-partnership Tenants, Ltd., provides expert advice as to the best methods in obtaining, laying out, and developing estates; assists in raising the necessary capital for its federated societies; and facilitates the pooling of orders where practicable, so that the benefits of wholesale cash dealing in building and other materials are secured. It also inspects all accounts and books

Name of Society	Date of Organization	Area (Acres)	Area of Open Places (Acres)	Number of Houses When Completed	Value of Land and Buildings Jan. 1, 1917	Estimated Cost of Estate When Completed
Ealing Tenants, Ltd., London	1901	62	13	700	\$1,281,500	\$1,500,000
Anchor Tenants, Ltd., Leicester	1907	48	4	350	169,625	750,000
Manchester Tenants, Ltd.	1908	11	2	136*	281,565	281,565
Fallings Park Garden Suburb Tenants, Ltd., Wolverhampton	1907	6	1	75*	98,500	100,000
Garden City Tenants, Ltd.	1905	39	6¼	323*	493,900	494,000
Derwentwater Tenants, Ltd.	1909	2¼	1¼	27*	33,775	37,500
Liverpool Garden Suburb Tenants, Ltd.	1910	58	8	600	700,000	1,100,000
Sevenoaks Tenants, Ltd.	1904	6	1¼	80*	120,175	120,675
Harborne Tenants, Ltd.	1907	53	3	500*	873,750	875,000
Stoke-on-Trent Tenants, Ltd.	1910	38	3	412	220,000	600,000
Hampstead Tenants, Ltd.	1907	471	47	5,650	{ 724,335 1,473,060 841,610 793,840 }	9,185,000
Second Hampstead Tenants, Ltd.	1909					
Hampstead Heath Extension Tenants, Ltd.	1912					
Oakwood Tenants, Ltd.	1913					
Rudheath Tenants, Ltd.	1916	10	1½	130	70,000	135,000
Fifteen societies		804¼	91¼	8,983	\$8,175,635	\$15,178,740

*Houses all built.

CO-PARTNERSHIP HOUSING IN ENGLAND

of the several associated societies, to ensure a reliable administration of the estates.

The rapidity with which co-partnership housing has grown is shown in the foregoing statistics of the societies federated with the central organization. The data for the societies not associated with Co-partnership Tenants, Ltd., is unfortunately not available.

By January 1, 1917, these fifteen societies had erected a total of 3,702 houses. The character of these developments is suggested to some extent by the number of houses rented at different weekly rents.

Weekly Rent	Number of Houses
Below \$1.50	643
From \$1.50 and below \$2.00	911
From \$2.00 and below \$2.50	1,011
From \$2.50 and below \$3.00	564
From \$3.00 and below \$3.75	236
From \$3.75 and below \$5.00	109
Over \$5.00	228
Total	3,702

Dividends on Rent

Some societies distribute the rent dividend among all the tenants. Other societies distribute it only among the tenant investors. In the latter case, the share of each tenant who is not an investor is carried to the reserve fund. The dividend on rent, like the dividend on capital, is sometimes limited. Thus, Avonmouth limits the amount of the rent dividend to 10 per cent of the rent paid. Permanent tenancy is in some instances encouraged by adjusting the dividend to the aggregate amount of rent paid by the tenants during the period that they have respectively been tenants.

Members in arrears with their subscriptions or instalments enjoy no bonuses. Their rent dividends are forfeited to the reserve fund.

The rent dividend, instead of being paid in cash to the tenant, is generally credited to his account until it equals either the minimum amount of his expected investment or the value of the dwelling he occupies. After a tenant has fulfilled all his obligations to the society as an investor, he receives his rent dividend in cash.

Legal Limitations

Co-partnership tenant societies are registered under the Industrial and Provident Societies Act, 1893, as "public utility societies." This act lays down certain broad fundamental principles that control the policy of all co-partnership societies. In the first place, it prohibits the payment of any interest or dividend in excess of 5 per cent per annum. In the second place, it prevents any individual, whether tenant or not, from holding shares worth more than \$1,000. This restriction, however, does not apply to outside societies. One co-partnership society may purchase securities issued by another co-partnership society. There is no limit on the amount of stock that an outside society may hold.

Subject to these two general conditions, each society finances its operations in its own manner. The necessary

capital is obtained in a variety of ways. Some societies raise all their funds through the sale of common stock (shares), the issuance of bonds (loan stock), and the flotation of mortgages. Other societies, in addition to issuing bonds and floating mortgages, sell both preferred (either co-partnership or tenants' investment stock) and common stock. Although there is a limit upon the amount of stock which an individual may own, there is no limit upon the amount which he may invest in bonds or mortgages.

Government Loans

A portion of the capital used in developing the co-partnership societies has been secured from the national government.

The first societies found that it required much effort and costly advertising to obtain the necessary capital. These expenses greatly increased the cost of the houses. The Housing and Town Planning Act of 1909, therefore, authorized the Public Works Loans Commissioners to grant loans to public utility societies for housing purposes up to two-thirds of the value of the houses and land, after the houses are built.

Even before the war put a stop to practically all private building, there was considerable agitation to have the per cent of extended government credit increased. As the repayment of the loan would commence in the first year, and as the houses, if properly constructed, would last much longer than the thirty or forty years for which the loans were made, it was claimed that the government's security would improve each year. The risk of loss in making loans to a number of societies scattered all over the country would moreover be less than if the loans were confined to a single town. While houses in a given town might depreciate in value, this would not be so likely to happen in many towns at the same time. The national advantage of having scattered throughout the country building estates laid out in accordance with the latest and best methods of development, and covered with houses that would set a high standard for other builders in the neighborhood, was also stressed, the claim being made that the general standard of building had frequently been raised in the vicinity of tracts developed by co-partnership societies.

The emergency created by the war seems to have been more potent than all these arguments. At any rate, shortly after the outbreak of the war in 1914, the amount of government credit that might be loaned to these societies was increased to 90 per cent.

Before the war, the government money was loaned at an interest rate of 3½ per cent if repaid in thirty years and at 3¾ per cent if repaid in forty years. Since the outbreak of the war, these rates have been increased to 4 and 4½ per cent respectively. The combined interest and sinking fund charge at present is 5.78 per cent if repaid in thirty years, 5.43 per cent if repaid in forty years.

Tenants' Investments

Although non-tenants as well as tenants may become investors in a co-partnership society, the aim is gradually to repay the capital invested from the outside so that the estate may become increasingly the property, if not the sole property, of the tenants. The rules governing the investments that must be made by the tenants to attain

this object are very precise. A few illustrations at this point may not be amiss.

At Avonmouth, for instance, each member of the society, tenant or non-tenant, must hold at least one share of common stock worth \$25. In addition to this, every intending tenant must, unless he makes arrangements to the contrary, apply for an amount of preferred (tenants' investment stock) equal to not less than one year's rent of the house he expects to occupy. An amount of preferred stock equal to at least one-sixth of the year's rent must be paid in full on the allotment of the stock and before the commencement of tenancy. Thereafter he must pay for the preferred stock allotted to him, and from time to time to be allotted to him, in such instalments as the management may stipulate when the allotment is made.

To begin with, the two original Hampstead societies obliged the tenant to buy stock. But this requirement was, however, changed in 1910. Since that date each tenant investor has been expected ultimately to purchase bonds (loan stock) to the amount of \$250, or two years' rent of the house occupied, whichever is the greater. The amount of bonds that a tenant must take up is subject to modification by the management, but no change can be retrospective.

The Oakwood Tenants permit the lessee to invest in either bonds or in preferred stock, as he may determine. If he invests in bonds, it must be for not less than \$250, or a sum equal to two years' rent, whichever is the greater. If he invests in preferred stock, it, too, must be equal to at least two years' rent, but on the payment of this amount he may be required from time to time to apply for additional preferred stock equal to one year's rent, until a sum equal to ten times the rent of the house he first occupied has been reached. If bonds are subscribed for, they must be paid for in full on allotment; if preferred stock, \$25 on allotment and \$15 a year, or 10 per cent of the yearly rent, whichever is the greater, in monthly instalments.

The Fallings Park Tenants expect every non-tenant member to subscribe for at least \$100 worth of stock; every tenant member for at least \$250 worth of stock.

This stock need not be subscribed for at once, nor does it have to be fully paid for at the time of allotment. The first \$5 worth, it is true, must be paid in cash, but \$15 a year, in equal monthly instalments, is all that is required in the way of payment for the first \$50 worth of stock taken. When this sum has been fully paid up, the annual amount demanded during the year in equal monthly instalments is reduced to \$7.50. Instalments may be paid in anticipation of their becoming due. Fines are imposed on arrears to secure prompt payment of instalments.

Proportion of Stock to Bonds

The proportion of stock issued to bonds has become a very practical question. As stock generally pays a dividend of 5 per cent, and bonds an interest rate varying from 4 per cent to 4½ per cent, it is obvious that the average carrying charge on capital will vary according to the relative amount of stock sold. If much stock is issued, the carrying charge will be comparatively high; if little stock is issued, comparatively low. The tenants, of course, gain by having the interest and dividend charges on capital kept down to the lowest possible figure: the smaller the

dividends on invested capital, the more they receive in the way of dividends on rent. One-quarter of 1 per cent more or less on capital may in some instances mean all the difference between no dividend at all or one of 10 per cent on rent. Every increase in the capital charges, no matter how slight, makes serious inroads upon the rent dividends.

The following statistics show the amount of capital raised from different sources by three of the co-partnership tenant societies:

The Oakwood Tenants, Ltd., had assets on December 31, 1916, valued at approximately \$860,000. Of this amount about \$105,000 was represented by common stock, \$36,000 by preferred stock, \$178,000 by bonds, and \$541,000 by mortgages, unsecured loans, reserve funds and other items.

The Hampstead Tenants, Ltd., had assets on December 31, 1916, valued at about \$760,000. Of this amount approximately \$133,000 was represented by common stock, \$202,000 by bonds, and \$425,000 by mortgages, unsecured loans, and the like.

The Second Hampstead Tenants, Ltd., had assets on December 31, 1916, with a book value in the neighborhood of \$1,515,000. Of this sum \$300,000 was represented by common stock, \$395,000 by bonds, and \$765,000 by mortgages.

The accompanying table shows how many persons held different amounts of the outstanding common stock, preferred stock, and bonds in these three societies at the beginning of 1917.

Number of Persons Owning Different Amounts

Size of Holding	1. COMMON STOCK		
	Hampstead Tenants, Ltd.	Second Hampstead Tenants, Ltd.	Oakwood Tenants, Ltd.
Under \$50	1	—	—
Over \$50 to \$125	43	27	—
Over \$125 to \$250	127	99	3
Over \$250 to \$500	29	19	2
Over \$500 to \$750	2	4	—
Over \$750 to \$1,000	9	8	4
Over \$1,000	1	1	1
Total	212	158	10
	2. PREFERRED STOCK		
Under \$50	—	—	4
Over \$50 to \$125	—	—	14
Over \$125 to \$250	—	—	110
Over \$250 to \$500	—	—	30
Over \$500 to \$750	—	—	4
Over \$750 to \$1,000	—	—	7
Over \$1,000	—	—	9
Total	—	—	178
	3. BONDS		
Under \$50	17	130	4
Over \$50 to \$125	44	172	14
Over \$125 to \$250	49	119	110
Over \$250 to \$500	32	50	30
Over \$500 to \$750	6	17	4
Over \$750 to \$1,000	8	20	7
Over \$1,000	13	19	9
Total	169	527	178

Payment on Instalment Plan

No matter in what the tenant is obliged to invest his money, whether it be common stock, preferred stock, or bonds, it is customary to allow him to pay it either in full or in instalments. Whichever method he chooses, the

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interest or dividend he receives is on the amount paid up. If he pays the full amount in cash, he receives his interest in cash; if he pays in instalments, the interest, instead of being paid to him in cash, is credited to him on his unpaid balance. The dividend on stock is 5 per cent, and the interest rate on bonds in sums of less than \$250 is usually 4 per cent; on bonds in sums of \$250 and upward, usually 4½ per cent. The increased interest rate on large amounts is to encourage speedy payment of the required minimum.

Retirement of Outside Capital

Provision for paying off the excess stock held by shareholders beyond a limit fixed by the society from time to time is made, in some instances, for the purpose of facilitating the retirement of outside capital. The charge has been made that the Co-partnership Tenants, Ltd., has attempted to subvert the co-partnership principle by contriving to get a preponderant voting power in its affiliated societies. Such control as it has was achieved through its financial operations. It borrows money by issuing stock to outside investors and investing the money so obtained in these societies. Its investors are not known to the tenants; their names and addresses are known only to the central organization. It is felt that there is little hope, therefore, that they will be able to see things from the tenants' point of view—they have no means of knowing the whole truth. As a consequence, they vote solidly for the policy of the central society, whatever that may be, so long as they are satisfied with its management of their investments.

These fears have apparently not been altogether without some ground. In the Oakwood Tenants, Ltd., for instance, the Co-partnership Tenants, Ltd., on January 1, 1917, owned \$100,000 of the \$105,750 worth of common stock issued. In the Second Hampstead society, on the same date, it owned \$255,550 worth of the \$299,940 worth of stock issued. To allay this criticism, the Co-partnership Tenants, Ltd., has agreed to transfer capital to the tenants in proportion to its own holdings in the society—about \$50 worth of stock to \$100 worth of bonds. Under this arrangement, every tenant will have the opportunity to become a partner by investing the same proportion of money in stock and bonds as the promoting partners.

Society Has First Lien on Tenants' Investments

The society generally has a first lien upon the investment of any member for debts due it by him. Any sum credited to a member may be set off toward the payment of such debts.

Repairs

All exterior or structural repairs are, as a rule, charged against the society. Interior repairs are, however, done by and at the expense of the tenant to the satisfaction of the management. When interior repairs have, in the opinion of the management, become necessary, it may order them to be done. If the repairs are not paid for on demand by the tenant, the society may deduct their cost from any sum credited to the tenant's investment account.

Ejectment of Tenant

If a tenant becomes an impossible neighbor, the management may give him notice to quit his house, repay the

amount of his investment, and end his relation to the society.

Transfer of Investments from One Tenant to Another

When a stockholder ceases to be a tenant, the society has the right to buy back his stock. In the event of the society being unwilling to exercise this privilege, the stockholder may transfer his stock, subject to the approval of the management, to any other member of the society. If the transferee is not a member, he must first be approved of as such by the management before the transfer can be registered. The society usually obligates itself to repay the whole sum credited to a member where it refuses to sanction its transfer. This obligation, however, does not apply to members so long as they remain tenants of the society.

Considerations Affecting Control of Society

In certain societies all the tenants are required to be shareholders; in others, they have to be bondholders; and in still others, they are obliged to be both shareholders and bondholders. In some cases, provision is made to admit as tenants persons who are neither shareholders nor bondholders, subject to the condition that they make a minimum deposit. The detailed requirements in this respect are conditioned by various considerations.

Sometimes it may not be desired to vest too large a degree of self-government in the hands of the tenants. In such a case the shareholders would probably control the management, and the tenants, instead of being encouraged to buy stock, would be forced to acquire bonds. In other words, the tenants would be persuaded to acquire a financial stake in the society without at the same time obtaining a voice, or at least a controlling voice, in its management.

The views of Henry Vivian are especially interesting on this point.

"Tenants' co-partnership or labor co-partnership," he says, "is not a fixed system; it is an attempt to embody into a working contract, expressed in rules, articles of association, or agreements, the idea of unity of interests. The terms of the partnership will vary without end under different circumstances. The adoption of co-partnership by any business and its workmen does not necessarily mean that the business will in the future hand the management of its affairs over to its workmen. In most cases, anyone with the slightest experience in business affairs knows that before very long there would be no business to manage. Nor does tenants' co-partnership necessarily mean that the business of estate development involves handing the management of estates over to the tenants. In the case of labor co-partnership or tenants' co-partnership it may mean the adoption of such a transfer of management to employees or tenants, as the case may be, but whether this is so or not cannot be settled by employees demanding the control of a business, or tenants demanding the control of an estate as a right, but by it being proved that such a development is wise. If, in the practice of co-partnership on a more or less limited scale, the employees or the tenants demonstrate that some extension of the principle is advantageous, then the chances

are it will be extended. It is experiment alone under a variety of forms of co-partnership contract, whether in tenancy or employment, which can determine whether there is any best form."

The society may be perfectly willing to let the tenants control its policy, but conditions may make it more desirable for the tenants to hold bonds than stock. The bonds generally rank for interest before the stock. In addition to this, they also, as a rule, have a prior claim on the assets of the society. There are, however, cases, as in the Avonmouth Garden Suburb, where the preferred stock in the liquidation of the society ranks *pari passu* with the bonds for both principal and interest.

Bondholders, it should be mentioned, are occasionally given a voice, though not as big a voice as the shareholders, in the selection of the management. Thus, at Avonmouth, every member has one vote for every complete \$25 share of common or preferred stock or for every complete \$250 bond held by him.

The experience at Ealing, for example, was that the tenants were very reluctant to take up the amount of fully paid stock required. To make it easier for the tenants to acquire stock, the instalment method of paying for it was inaugurated. Even this did not help. At one time more than half the tenants in the suburb were not investors, notwithstanding the entreaties of the society. To have pressed the point would have meant that the houses would have remained empty. It was then decided to alter the rules so as to enable the holders of bonds, which could be taken up in smaller instalments than stock, to participate like the stockholders in the dividends paid on rents. This policy has been most successful. Since its inauguration, practically every house let has been leased to a tenant who has subscribed for bonds.

Where his employment is of an uncertain character, a tenant may find it inadvisable to invest in either the society's stocks or bonds. Conditions may occur where the tenant, if he should be obliged to leave his house, could not find anyone to take over his investment, except at a financial loss. This difficulty has been remedied in some societies by accepting, in exceptional cases, a deposit of a certain sum from the tenant in lieu of obliging him to purchase stock or bonds. This deposit, like the stock and bonds, may be paid in full at one time or in instalments.

That the degree of management to be entrusted to the tenants must be ascertained in each case is the view of Henry Vivian, Chairman of the Co-partnership Tenants, Ltd.

"The problem that confronts us," says Mr. Vivian, "in working out the co-partnership tenancy idea on our estates is to insure that those who become partners shall supplement the efforts of the board and officials to promote the welfare of the enterprise and to add to its stability and security. This question has been specially under the consideration of the Board of the Co-partnership Tenants, Ltd., for some two or three years. The Board, as a result of its experience, has come definitely to the conclusion that the unrestricted admission to complete partnership of tenants who have only a weekly tenants' interest, coupled with a small contribution to capital, which, as it is paid out on the tenant leaving, only in effect amounts to a deposit, is not the most satisfactory way of securing the

coöperation of the tenants in promoting the welfare of the society.

"Under such a plan we admit to partnership those with a minimum of experience, sense of responsibility, and capital at stake, with no assurance that it is even their intention to make a permanent home for themselves on the estate. Human nature being what it is, many of these partners are sure to take a purely personal view of questions affecting the estate's welfare, and if their private wishes are not satisfied by our officials, rules and tenancy agreements notwithstanding, they act regardless of any injury their conduct may inflict."

Mr. Vivian suggests limiting the right to become full members of a society in the future to those who have been tenants for a period of three years and who hold a minimum amount of common stock. At the same time, Mr. Vivian would withdraw the right of members to have their investments returned to them when they cease being tenants. These provisions would oblige those received into full partnership, not only to demonstrate their intention of making their home on the estate by acquiring a certain length of residence, but also definitely to risk something on the success of the venture. They would not be able to rid themselves of all responsibility by giving a week's notice and clearing out.

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Committee on New Industrial Towns

This Committee was organized in 1916 for the study of methods whereby the unearned increments of land value which are created in various localities by the influx of new populations following the establishment of new industries may be anticipated, conserved and converted into extra annual revenue for the community.

Lawson Purdy, Chairman; Ex-Chairman Board of Taxes and Assessments, New York City.
Frederick L. Ackerman, Architect, New York City.
Alexander M. Bing, Real Estate, New York City; Secretary Committee on Housing of the Shipping Board.
Robert Murray Haig, Assistant Professor of Economics, Columbia University; Investigator of Taxation in Vancouver, etc., for Mayor's Committee on Taxation.
Robert D. Kohn, Architect, New York City.
Robert E. Simon, Real Estate, New York City.

Graham R. Taylor, Associate Editor of *The Survey*; author "Satellite Cities," a study of new industrial towns.
Herbert S. Swan, Investigator for Mayor's Commission on New Sources of City Revenue and for Committee on City Plan, New York City; Secretary Zoning Committee.
C. H. Whitaker, Editor, *Journal American Institute of Architects*, Washington, D. C.
Richard S. Childs, Secretary; General Manager, The Bon Ami Co., 381 Fourth Ave., New York City.

Publications

To be had on application to the Secretary of the Committee on New Industrial Towns.

A Memorandum to the U. S. Steel Corporation. A plan for the Conservation of Future Increments of Land Values at Ojibway and for Conversion of the Same into Additional Revenues for Community Purposes. 20 pp. Free.
The New Garden Cities of England. An account of British war housing for munitions workers. Reprinted from *The Outlook*, March 6, 1918. 4 pp.; illus. Free.
How Shall the Government Dispose of Its Industrial Housing? Reprinted from the *New Republic*, March 30, 1918. 8 pp. Free.
The Unearned Increment in Gary. By Robert Murray Haig, Ph.D. Reprinted from *Political Science Quarterly*, March, 1917. 16 pp. Free.
The Housing Problem in War and in Peace. A symposium published by *Journal of American Institute of Architects*. 120 pp.; 65 pp. illustrations. \$2.25 postpaid.
A Self-Ownning Town. A Report to Mr. F. P. Palen, Vice-President Newport News Shipbuilding and Dry Dock Company, regarding "A Co-Partnership Scheme for Hilton."

The Proposed Standard Registration Law

It is impossible to publish in this issue the proposed standard registration law, submitted to the convention by the Committee on Registration, but copies are available on application to the Executive Secretary at The Octagon. Those members and delegates who attended the convention at Philadelphia, and who are thus familiar with the proposed standard, are invited to send

their criticisms to Mr. William P. Bannister, Chairman of the Committee, at 69 Wall Street, New York City. Others who are interested in the question are requested to write the Executive Secretary for a copy of the law in order that they, too, may send their criticisms to Mr. Bannister, on or before May 20 next, if possible.

Fifty-First Annual Convention

THE fifty-first annual convention of the Institute was held at Philadelphia on April 24, 25, and 26. This is the first convention to be held at the new date, which was changed by the fiftieth convention, at Minneapolis, from the month of December to a month in spring. In keeping with custom, the meeting-place would have been Washington this year, but due to the war congestion in that

city, Philadelphia was selected by the Board of Directors. It is impossible to give a complete report in this issue, owing to the late days in the month on which the convention was held, but this preliminary report will be completed in the next issue. The convention was called to order by President John Lawrence Mauran, who then addressed it as follows:

Address of President John Lawrence Mauran

In these days of stress and patriotic endeavor, when one of the principal activities of a government at war is *building*, why are the architects idle? That is the insistent question on the lips of every member of our profession and of the intelligent citizens who stand amazed in the face of such an anomalous situation.

Heretofore our traditions with respect to the President's annual address have been undisturbed by world convulsions, and it has always been kept within the bounds of an academic dissertation. At the last three conventions, the horror of this war, which had as yet left us unscathed, lent its first imprint to the traditional address; but with our awakening to war's actualities—to its exigencies—to its inexorable incorporation of all the resources of the peaceful arts and forces into one colossal machine which shall carry on to victory, it seems to me but logical that my address at this fifty-first convention should deal with the stern reality of things as they are, and not as we would have them.

First, let us review briefly the activities of the Institute and of its officers in those early days when we fondly dreamed that it was but a question of a short time when to us would be allotted that part in the great machine for which our training especially fits us. With the very threat of war in the air, we surveyed our assets, and immediately upon its declaration, we tendered them freely and proudly in the conviction that they were priceless. Although I have endeavored to satisfy the natural craving for information on the war work of the Institute by sending bulletins to the membership, it will be helpful to consider again some of the steps taken so bravely, which have led us so short a distance on our way, in order to see the complete picture, comprehend the nature and strength of the barriers reared against us, and to discover, if possible, which way lies a hope that the potentialities of our eager, restless, constructive forces may be utilized.

Our pre-war activity was the formation of a Preparedness Committee, whose duty it was to ascertain, through careful study, the nature of the service our profession was best qualified to render in the event of war. As soon as the die was cast, a full tender of our services was made to the President in a letter which included convincing excerpts from the report of the Preparedness Committee. Hardly

had the formal acknowledgment of our patriotic offer been received, when I was asked by a great number of architects throughout the country to present to the war-making departments, and to the Red Cross, their services without charge, and the services of their office forces at actual cost. You can conceive of my satisfaction on receiving from the Navy Department an almost immediate acceptance for work amounting to something over three million dollars.

No sooner were negotiations under way than the Council of National Defense summoned me to Washington, merely to inform me that the Committee on Emergency Construction had made a report to the General Munitions Board adverse to the acceptance by the Government of gratuitous service. I was told that the Committee believed that if the war was to continue a matter of a few weeks or a few months, our splendid offer would be gratefully accepted, but in view of the belief that, with protracted war conditions, the architects, as well as the contractors and engineers who had made individual offers of free service, would find themselves without clients other than the Government—which would of necessity have to tax these patriotic citizens, serving without remuneration, for the conduct of the war—the Committee recommended that in view of this economic fallacy we withdraw our offer. I may say here that, through all the negotiations looking to the employment of the architects, this request has been duly recognized, although we have been ready at all times to adhere to the original offer.

Shortly thereafter I received the startling information that the plans for the cantonments, which had been rushed to completion by the War Department, were shockingly inadequate in the provision of reasonable living conditions in the barracks buildings. On the following day I went to Washington and took this matter up with the Committee on Emergency Construction and the Chairman of the General Munitions Board, with the result that an Honorary Member of the Institute was appointed on the Emergency Construction Committee, and, through a conference of leading architects familiar with housing, hastily summoned to Washington, the plans since used in cantonment work were developed. In passing, it is worth recording that in the estimation of a Government official the changes

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effected have saved some twenty million dollars in the cost of those cantonments, and Heaven alone knows how many lives.

Immediately following the declaration of war, one of our members who had served the French Government in the building of hospitals, had volunteered for a similar service to the Medical Department, and while our united efforts failed to secure his service in the designing of the hospitals in this country, it is gratifying to know that those for over-seas were designed under his direction, with the collaboration of another member of the Institute.

In the meantime, the major portion of the building program of the Navy Department had to be abandoned because Congress failed to appropriate money to provide the much-needed hospital extensions, warehouses, and other buildings which we were prepared to handle for them, but very important work was done at the Navy Yard in Philadelphia and the Navy Yard in Brooklyn, under the plan adopted of allotting these enterprises to Institute committees rather than to individual offices, in order to make the service rendered that of the Institute rather than that of the private architect. How great the service of our profession might have been is indicated by the splendid results achieved in both these cases, in testimony whereof, the Officer in Charge has written with enthusiasm of the perfection of the drawings and specifications prepared in record time.

In the late summer, inquiries began to come to me from various quarters, including the Shipping Board, as to how the advisory service of architects could be secured, and from the Signal Corps as to whether we could furnish three hundred candidates for lieutenantcies. Both these services were rendered with a promptness and completeness that has called forth the admiration of those officials who have come in contact with the Institute's war service. In approximately a week, we had filled the Signal Corps' quota of three hundred, through the immediate activity of Chapter officers who coöperated with the same efficiency that they displayed in responding to the confidential request for that data concerning responsible contractors throughout the country which has proven so invaluable to the Council of National Defense and the Cantonment Division.

As the British and French Commissions had both warned our Government against committing the error of sending technically trained men to the trenches, as summarized in the British Commissioner's statement:—"We should indeed be fortunate if today we had in technical service one-tenth of the architects who lie buried in foreign soil"—we have maintained, from the declaration of war, a card catalogue enrollment of all architects and draughtsmen, whether members of the Institute or not, who desired technical service, and since it was early apparent that any attempt to exempt our profession *for* such technical service might be misunderstood and interpreted as an effort to exempt *from* service, this enrollment was utilized to furnish all men of draft age with a Certificate of Enrollment for Technical Service and a personal letter from the President of the Institute to the officer in command, requesting assignment to service in technical fields. Whatever may be the measure of our success—and the letters I have received would indicate that it is by no means inconsiderable—no effort has been spared to assist

the Government and to place our men where they can do the most good.

The Institute has been a guiding force in the organization of the Professional Classes War Relief, modeled on lines similar to the British organization of like name, which has performed in that country such splendid service.

Major Evarts Tracy was the Chairman of our Preparedness Committee, and with him your officers had been laboring with the War Department to secure an early organization of a Camouflage Division, but our constant prodding produced uniform replies which may be summarized by the words in the final communication: "Thanking you again for your patriotic offer, I beg to inform you that the American Army will do no camouflage work, as the French Army will perform that service for us." But by the irony of fate, the same mail brought me a letter from Major Tracy beginning: "Three rousing cheers, the Institute is on the map, for I've just been appointed Chief of the Camouflage Division of the U. S. A." This trick was turned by a cablegram from General Pershing requesting the organization of an American camouflage unit. If there are any more Pershings, let us hope they will soon be discovered.

The Division he organized is now in France; the work in this country is left in the able hands of Capt. Aymar Embury II, while our intrepid Major is in charge of this new branch of war in the French college for the instruction of officers.

Typical of the attitude of a Government unused to the employment of highly trained specialists, has been the almost tragic delay in recognizing the need for houses as a prerequisite to the production of ships and munitions. In this connection, the service of the Editor of the Journal has been more than notable. His pen and personality have been dynamic forces in getting the unrelated machinery into any sort of action, while his foresight in arranging Mr. Ackerman's visit to England made the Journal the leader and the authority on this momentous question.

The Journal has likewise performed a notable war service in its Structural Service Department, so ably and painstakingly conducted by Mr. D. Knickerbacker Boyd, the practical value of which is demonstrated by the use which Government officials are now making of it in connection with war construction work.

In these days, when the normal progress of private work has been rudely arrested by the sudden rise in cost and shortage of material, labor, and transportation, it seemed a duty to investigate to see if there is not some middle ground between "business as usual" and the equally untenable theory of entire cessation. A discussion of the question will later occupy the attention of the convention.

This record would not be complete without an acknowledgment of the sustained interest and active coöperation of Major—now Colonel—Starrett, a member of the New York Chapter and Chairman of the Emergency Construction Committee of the Council of National Defense, for he has been, and still is, the one outstanding official who has sought every means to secure the recognition of the profession in those fields where he feels, with us, we ought to be in active service. It was on his invitation that an Advisory Committee of Architects was invited to Washington to confer and report to his Committee on a

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construction policy for the Government, which was endeavoring to carry out a colossal building program without any coordination of departmental effort.

Major Starrett labored untiringly with your officers to prepare the way for the rendering of those services we all confidently expected would be delegated to the architect as the one best qualified to render them; but it always seemed as if the officials in the war-making departments were too busy with the details of rapidly moving affairs to discuss—let alone reorganize—systems by which this vast amount of detail could be lightened and the work be done by those best fitted to do it. Unhappily, no bureau of public works, such as we have advocated for years, was in existence to handle the sudden expansion of construction work by distributing it among the countless available channels; and so today we find overexpanded governmental agencies far behind with their schedules of building, and, with a few brilliant exceptions, the architect with little or nothing to do, and his priceless organization badly crippled by the inroads of military and civil employment on Government work.

Now a survey in retrospect reveals the underlying forces which have rendered our efforts as unavailing as those of the English and French, for our situation differs not at all from that covered by Professor Simpson's statement to the Royal Institute of British Architects, last December, in his reference to the fact that, "unfortunately for the country and ourselves, the profession was completely ignored at the beginning of the war."

The all-explaining truth is that West Point and Annapolis have no course in architecture, but they have courses in engineering, and the training thus acquired has created a tradition which seems to blind the army engineer to the existence of another profession, equally or better qualified to plan and design. He has always made a practice of designing and of performing all other usual architectural service in those additions and extensions to barracks, training stations, and army appendages which are often an offense to the eye of one trained in the intelligent and economic development of purely architectural problems. It is unfortunate, but perhaps natural, with army and navy engineers at the seat of war activities in Washington, that the attempt was made to expand their modest draughting-rooms into colossal offices by giving additional engineers commissions in the Officers' Reserve Corps, and by hiring draughtsmen away from our organizations which, in the interest of the nation, should have been preserved. And in these vast and newly formed aggregations of unrelated cogs, there was not one master mind trained by successful architectural experience to correlate these cogs into an efficient machine such as could carry out plans conceived with that breadth of imagination which is the peculiarly essential characteristic of the successful architect; not one master mind capable of grasping the opportunity of organizing an efficient army of architects already encamped throughout the country ready to tackle the national job in its local application and under the command of its central authority in Washington.

And so it was hardly the massed attack of the civilian engineers upon Washington officials which kept the architect out of his own, but rather the thoroughly entrenched position of the army engineer who drew these reinforce-

ments from civilian ranks. By way of illustration I could tell you countless stories, typical of the closed mind of certain army engineers, so far as architecture is concerned, but one or two will suffice.

Not long ago a very well-known architect from the Middle West appealed to a very good friend of his—a colonel in the Cantonment Division—to give him an opportunity to serve. The colonel, turning to one of his aids, asked if he thought Mr. Architect's services could be utilized, whereupon the young swivel-chair warrior replied, in a superior manner, that he feared there was no opening, since their sole need was for men familiar with building construction. The reply of our friend, the architect, was couched in no parliamentary language, and while it would do your hearts good to hear it, those portions which gave it real moral force are unfit for publication.

Again, an architect who had been forewarned of the Division's attitude toward the profession, made application as a constructing engineer, and was promptly accepted, and has since performed valuable service of a purely architectural character.

And, lastly, may I quote the reply of an officer in charge of construction work to my reiterated question as to why our services, so freely tendered, had never been utilized by his Division; I could hardly believe my ears when he said: "Why, for the very reason that as yet we have had no architectural problems to contend with."

But, looking backward over this year of rather discouraging experiences, it seems impossible now to avoid the conclusion that our efforts were far from being in vain. In administrative circles, at least, the architect is finding a steadily increasing appreciation of his services, while there is also a decided tendency to utilize private organizations in many lines of work. We must remember, however, that no government in the world is so highly organized as immediately to utilize the services of all its professions, and it is not unlikely, when the facts are all known, that we shall find that the United States was quicker to utilize the services of architects in war than were the nations of Europe.

Many ascribe our failure to receive early recognition to the unfortunate lack of cordial relations with Congress and official Washington; to a lack of understanding of the functions of an architect, and even a lack of "appreciation" of the profession which they conceive to be its earned due, which some as yet undiscovered magic needle of publicity might inject into the sluggish circulation in the veins and arteries of the body politic.

To my mind, based on an intimate view of the constantly shifting picture at the National Capital, both theories of cause and cure are based on the error of superficial appearances; true indeed it is that Congress and official Washington do not conceive that there is a natural and well-earned right of our profession to "appreciation"—true, it is, indeed, that these same people whose position clothes them with a subtle something of apperception not possessed by the ordinary mortal, have little, if any, conception of the "functions" of an architect, but have we ever stopped till now to ask ourselves why?

Stop now and think, who are these awe-inspiring senators and representatives—these cabinet officers and bureau chiefs? Why, forsooth, they are the next-door neighbors,

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the fellow townsmen or members of the American Institute of Architects from one end of this broad land to the other.

If, in the aggregate at Washington, these officials lack "appreciation" and fail to understand aright our "functions," these qualities have not been instilled into the individual (which goes to make up the aggregate) when they lived "back home." If this be true, is it not possible that the fault lies with *us* as individual architects, rather than with the professional body of which we are component parts—and if we have thus failed, should we not seek the sources of failure?

Have we stood shoulder to shoulder with the budding politician in civic activities, showing that executive, constructive grasp of civic problems which is the heritage of every architect worthy of the name; or have we held aloof only to be drawn into some "City Beautiful" movement, born but to die, because we do not insist that our talents are dedicated to the "City Practical"—for no city is practical wherein development does not unite both beauty and utility—and in our professional practice with these officials in their capacity of private citizen and fellow townsman, have we established, through efficient and capable professional *service* rendered, that deep-seated conviction of the administrative ability of an architect, or has the congressional conception of an architect as a dreamer and long-haired creator of useless but expensive dewdaddles come to the Capital only from the supervising architect's office?

No lawyer ever became famous in his profession through forensic brilliancy which bore no fruits of cases won.

No doctor ever won eminence through an "appreciation" of his profession which was not founded on lives saved, in his "service" to mankind.

A modernized hybrid proverb might be worded: "Deliver the goods and they shall return to you after many days."

And if I ask you, as honorable citizens, what price you are willing to pay to avoid such lack of cordiality as may exist between the Institute officially and a few officials and congressmen with whom we have locked horns in support of our duty as we saw it, I know your answer in advance.

Rather than disturb the slowly growing tolerance of Government officials toward the Institute, would you have seen your officers stand supinely by while the beauty of our beloved Capital was marred by that unsightly powerhouse invading its dedicated park area?

Would you, for the sake of that same "commercial peace," have had your officers stay their vigorous protest against the breaking of the Government's faith toward the profession in abrogating its contract with the winner of the competition for the Department of Justice Building? Would you have had the Journal refrain from attacking and defeating the public-building bill, merely because in thus revealing the story of the great national waste and blundering involved in a traditional national policy of treating the people's public buildings as a part of the partisan political machine, we might incur the enmity of a few congressmen? No, ten thousand times, no! And if I could believe you counted these battles for the right as errors of judgment in policy, then would I glory indeed in being a party to such errors.

No, my friends, the common loss of the Government

and our profession is attributable to the combination of unfortunate conditions which I have outlined to you, and to accentuate the handicap, the one post of Supervising Architect of the Treasury, which the law required shall be filled by a trained architect, has not been so filled for a number of years.

That the strenuous efforts of your officers and the host of Institute members impatient to serve found a strong barrier of misunderstanding to break down is illustrated by the attitude of one cabinet officer who languidly replied to my assertion that architects were eager and willing to serve in *any* way, so long as they might thus show their patriotism: "Oh! yes, I've heard a lot about the hordes of architects who are pestering everyone with their offers of free service and their complaints that their professional value was not being recognized, and I'm getting a bit weary with it." So patent was the inference that I was stung into the hot retort which shattered his complacency: "Mr. Secretary, is it fair for you and the host of other Government officials who are firmly entrenched in the satisfaction of serving our country in its hour of need, to impute unworthy motives to a profession which has been consistently denied that God-given privilege, but whose every act and self-sacrificing offer of service betokens a depth of patriotic feeling which entitles them to that same satisfaction that you enjoy?" In an instant his whole attitude changed, and he replied: "Mr. Mauran, I never thought of it in just that way; now tell me how I can be of assistance."

In closing, I wish to dwell for a moment on the admirable devotion of the chairmen of the hard-working Institute committees; of the Treasurer in his arduous and not always pleasant task, and of the Secretary—and here may I particularize for your own enlightenment. In addition to a voluminous, carefully considered correspondence, your Secretary has compared, *word for word*, every submitted draft of Chapter Constitution and By-law—not once only, but in some cases several times, in the conscientious performance of the duty entrusted to him.

And so, in closing, I can say with full conviction: Whatever may be the measure of success in advancing the best interests of our country and of our beloved profession, labor toward that end has been given lavishly and without hope of reward other than the satisfaction of having done one's best in a cause to which one's devoted interest has been dedicated.

Government Relations Report of the Board

The main topic for discussion at the fiftieth convention last year, or rather year before last, to be exact, was "Government Architecture." The report of the Board referred to the title as being inadequate and possibly misleading, and said "It is rather the attitude of the people of the country and of their representatives in Congress, toward every question with which the arts enter, and toward the Government's policy, or rather lack of policy, in the construction of public works."

Prior to the last convention the Institute had been active in this regard, principally in endeavoring to bring about a revolution in the Government's public building policy

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and in advocating the institution of a bureau of public works.

The importance of this general subject has been forced upon your Directors with increasing intensity during the past year, the vast Government building programs required by the war serving to bring into view new facets of this many-sided problem. Also, a new point of view toward it was required of the profession, and the Institute, through its President, was not slow in showing its appreciation of this fact and in taking appropriate action. The Institute promptly laid its individual and collective services at the disposal of the Government, which, barring the few instances which stand out as significant exceptions, politely but very clearly intimated that it had no need for such services.

We were recently told, in so many words, that the Cantonment Division had had no architectural problems. They had merely built a dozen or more cantonments, each being a city of 30,000 to 40,000 inhabitants. The difficulty in such a circumstance is to know whether to laugh or cry.

It is the pondering of the state of mind that made such a declaration possible that has led to the selection of the "Architect's Service" as the main topic for discussion at this convention, for at the root of all the difficulties that your officers have encountered in their attempts, both to aid the Government by furnishing expert service, and to aid the legitimate interests of the profession by striving for its rightful recognition and use, is the monumental lack of understanding by those in power of the main function of an architect in the practice of his profession.

Let us hope that in the discussions of this convention some inspired soul may utter the pregnant words that shall be able to bring a clear vision to the astigmatic politician as well as to the myopic army engineer.

There is no need here to repeat at length the steps taken by the Institute. Your President has already reported on them in the December Journal and in his opening address today, and more will develop in the later sessions of the convention.

Registration Laws Report of the Board

Fourteen states have passed laws for the regulation of the practice of architecture, four having done so since the last convention, and there are others having similar laws in preparation. At the fiftieth convention it was

Resolved, "That the regulation by law of the practice of architecture is neither advocated nor opposed by the Institute, which believes that the desirability of such legislation is a matter for each state to determine for itself."

While the Board still holds to the second part of this resolution and does not believe that the Institute should at this time actively advocate the passage of a registration law in every state, it is in agreement with the present Committee in feeling that the Institute should without further delay adopt a standard form of registration law to serve as a model for future legislation, and to determine a standard of academic training and practical accomplishment, which should be required of those admitted to practice under the title of architect.

The Committee presents for the consideration of the convention a first draft of a model law, and feeling the importance of the subject, the Board has set aside an evening session for its discussion. The determination of minimum requirements for educational and practical proficiency will be far more difficult than the drafting of a good model registration law. It is a fit subject for the joint labors of the Committees on Education and Registration and it is the hope of the Board that the next convention may have for consideration not only a definite set of values but a practicable method for testing them.

NOTE.—At the evening meeting, when the subject of registration was discussed at length, the convention unanimously voted that the Institute should prepare a standard registration law as a model.

Advertising Report of the Board

On the subject of advertising, the waves have been beating higher and higher in recent months, and the Institute has been bombarded with private and public admonitions to wake up and take cognizance of the rising storm.

It is, perhaps, only fair to intimate here that the Institute has been very much alive to the importance of careful consideration of this matter. In January, 1917, the Board discussed the question of advertising and the obvious difficulty of drawing a clearly defined line between legitimate publicity and improper advertising.

This discussion has, of course, prevailed heretofore in the gradual development of the present Canon No. 4 from earlier qualified forms to its present direct statement, which simply says it is unprofessional to advertise.

In order to survey this vexing question once again, a Committee was appointed which presented a report to the Board at its September meeting, and this report in substantially its original form is presented to the convention for consideration.

The substance of this report is that advertising to excess is a question of bad taste, that it is practically impossible to define and control matters of taste by legislation, and that it is better, therefore, to remove advertising from the list of punishable offenses and revise the Canons of Ethics accordingly. The Board refers this report to this convention without recommendations.

Report of the Special Committee

At the January 19, 1918, meeting of the Board of Directors, the Committee on Advertising was instructed to prepare its report for the Convention in 1918. This report, which was originally prepared for the Board, and submitted at the September 19, 1917, meeting of that body, is here presented in accordance with those instructions:

Appointment and Instruction

At the Board meeting held January 18-19, 1917, at Washington, this Special Committee was appointed and instructed: "To consider and report to the Board upon a definition of advertising, with recommendations as to the attitude the Institute should take."

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History

The following items of recent Institute history seem to have sufficient bearing on the purposes of this Committee to justify their rehearsal here:

At the Convention of 1915, Mr. Howard asked the question: "What is the advertising referred to in the Canon?" and made the motion, which was carried, "to have the Board go into the subject and give a more or less explicit definition of what is desirable publicity, and what undesirable advertising, as noted in the Canons of Ethics." At the same Convention, however, a motion to eliminate advertising from the Canons of Ethics failed to carry. In the Board's report at that Convention, there was promulgated the principle that "advertising is publicity for which the recipient pays," and in the same report it is shown that there had been raised the question as to whether the Institute should place advertising in the same category with false or malicious injury to a fellow, competition on the basis of professional charges, accepting commissions from contractors, and the other more heinous sins, which are declared to be unprofessional and as such to render the person who commits them subject to discipline.

The report further rehearsed "that advertising tends to lower the dignity of the profession and should be condemned," but, it continues, "it is generally an exhibition of bad taste rather than bad morals."

No recommendation in this connection appears to have been then made other than the suggestion that if there is any widespread feeling that a change in Institute policy is desirable, it be made known to the Board during the coming year.

It is worthy of note that advertising seems to have been lost sight of in the Convention of 1912, as no important reference to the subject appears in the Proceedings of that gathering. During 1916, however, the Georgia Chapter's request for a definition of advertising brought out the ruling—coincided in by both disciplinary Committees and the Board—that "the insertion of a card in a newspaper constitutes advertising," an opinion not concurred in by the Georgia Chapter. It also appears that during 1916 a *prima facie* case of advertising in a periodical was found against a member and submitted to the Judiciary Committee by the Committee on Practice.

At the Board meeting held in January, 1917, Mr. La Farge asked for more information regarding the Board's attitude on advertising, because, he said, in considering an advertising case before the Judiciary Committee, diametrically opposite conclusions had been reached by some of the Committee members.

The minutes of the Atlanta meeting show renewed interest in the subject, while in a notable case recently brought before the Board from the Pacific Coast, we have had an example of the baneful possibilities under our present canon that is as interesting as it is timely.

Investigation

Letters were addressed to the various professional societies of national scope, asking the status of advertising in the several professions represented and the attitude of these associations on the subject. A fairly good idea was thus obtained of the collateral aspect of the subject at the present time.

Questionnaire

A questionnaire covering in detail the forms in which the advertising problem is usually met was presented to the officers and directors of the Institute, and from the twelve replies thereto the Committee has been able to form a very fair composite of the attitude of the present Institute administration on the subject.

As a first step toward its consideration of the advertising problem and the conclusions it draws, the Committee suggests that "Advertising," meaning such advertising as may be rightly called unprofessional and as such disapproved, be defined as "self-laudatory publicity procured by the person advertised, or with his consent," thus leaving the way open to the use of all forms of publicity that can not be so defined.

From the replies received from the several professional societies, we gather that in no other case has ordinary advertising been exalted to the rank of a punishable offense. The following is an extract from the Canons of Ethics of the American Bar Association:

"The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not *per se* improper." The same authority calls it unprofessional to solicit business by circulars or advertisements or personal communications or interviews—not warranted by personal relations, or to procure business through touters of any kind, such as allied real estate firms. The canon ends by saying "that such self-laudation defies the traditions and lowers the tone of this high calling, and is intolerable." It appears to be a fact that the publishing of simple business cards is not at all unusual among lawyers—particularly in the smaller cities.

The principles of medical ethics are quite frankly copied from the canons of the Bar Association, their ruling on publishing business cards being exactly the same. We find, too, that the custom in this regard follows quite closely that of the lawyers—the practice being very general, particularly in the smaller communities.

In a special circular on ethics published by the American Medical Association appears this pronouncement: "The refraining from or the employment of advertising is the clearly defined difference between a reputable physician and a quack."

For the American Society of Civil Engineers, their Secretary writes that they are much interested in the matter of advertising, and anxious to know what the Institute may accomplish toward the solution of its problems. Their Code of Ethics reads "to advertise in self-laudatory language, or in any other manner derogatory to the dignity of the profession, shall be considered unprofessional."

In the Code of Principles of Professional Conduct of the American Institute of Electrical Engineers, the subject of advertising is not mentioned.

The Code of Ethics adopted by the most recent of these organizations, the American Institute of Consulting Engineers, seems to have been largely copied from our own, with the canon on advertising significantly left out. Under the heading "Ethical Questions and Answers Thereto," advertising is discussed as follows:

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"Question:"

"In what ways and to what extent is it considered proper for engineers to publicly advertise their professional business?"

"Answer:"

"It is generally accepted in the profession that advertising by engineers should be restricted to modest, brief and dignified forms, such as announcements and professional cards in the public press. Professional cards may give the name and address of the person or firm, the branch of engineering and the specialties in which he practices, and the names of the professional societies to which he belongs.

"Laudatory notices, articles, or accounts of professional work in the secular press should not be inspired or encouraged by the engineer.

"Approved March 6, 1916."

For the American Society of Mechanical Engineers, Calvin W. Rice, their General Secretary, writes as follows:

July 24, 1917.

MR. THOMAS R. KIMBALL, F. A. I. A., Architect,
World-Herald Building, Omaha, Nebraska.

My Dear Sir:—In response to your favor of the 18th, I will cheerfully make answer to your inquiry by trying to give a consensus of opinion of this Society with respect to the ethics of advertising by professional engineers.

We have been through the procedure of a referendum of the entire membership as to the question of whether or no we should take advertising in our monthly Journal, and have overwhelmingly decided in favor of advertising, the vote being about eight to one out of three thousand votes cast.

Inasmuch as the votes received were from less than one-half the membership, it is fair to presume that those who did not reply were either in favor of, or, at least, indifferent. With the urging that we made, I cannot conceive of anyone unfavorable to advertising failing to register his protest.

Having made a study of the attitude of professional bodies, both of this country and of abroad, and of the opinions of the members of this Society, I will undertake to say that in America it is entirely proper and in "good form for the professional engineer (or the architect) to advertise in 'newspaper' or 'magazine,' 'both paid and unpaid,' through 'signs on buildings in course of construction,' and through 'circularization in its various forms.'"

In other words, in my opinion, in which I think the majority of professional men would concur, all of the forms of advertising which you enumerate are proper and compatible with dignity.

We have never undertaken the formation of printed regulations with respect to advertising, but I would cordially join with the American Institute of Architects in the preparation of a joint report on such a subject, and recommend that you take the initiative.

If the above does not completely answer your inquiries, do not hesitate to ask again, as I wish to definitely and unequivocally favor proper, dignified advertising, and believe it is truly American enterprise.

Very truly yours,
CALVIN W. RICE, *Secretary.*

The answers to the twenty-five questions covered by Mr. Howard's Questionnaire show that most of us view most of the cases alike, but from the very general and careful way in which the answers are qualified it is clear that we all recognize both the importance of governing conditions and the hair-splitting shades of difference on which our positions hinge. In a few cases, even with us, diametrically opposite views are held on apparently simple phases of the problem

In searching for a recommendation that shall be sufficiently representative to carry with it the majority favor of our members, that shall be abreast with the best public feeling on the subject, and that shall in practice be reasonably sure to result in justice in all cases, your Committee concludes that with the present canon in force we hold practically every form of publicity with which we are familiar to be "advertising," and as such unprofessional and to be forbidden, exactly as we now forbid "an advertisement in a periodical" or "a card in a newspaper."

With this, to us, wholly unfortunate canon repealed, your Committee stands flatly for no punishment for those who would advertise, other than the punishment which will unavoidably result from the practice itself.

Before advancing suggestions for the Institute's attitude on advertising, we plead for the repeal of the present canon, the baneful influence of which is, we think, reflected in our own limited membership, in the modesty of our material success, and surely so in our failure to be understood or appreciated by the public. If for no other reason, we should abolish this canon for the sake of our other canons. As we seem to require protection against ignorance and vice within the Institute, and as our Canons of Ethics are intended to provide that protection, they should not be lessened in effectiveness by having one of their number directed against this error in bringing up this offense against good taste, thereby classing it with such evident vices as undermining a fellow member's character or stealing away his means of livelihood. This was clearly seen by the Board of Directors and pointed out in its report to the 49th Convention, but as before noted, that same Convention voted to retain the canon, and so to continue the condition which the Board's report has so clearly shown to be both unjust and ill-advised.

To drop from the Canons of Ethics all reference to advertising, and reword the Circular of Advice to cover disapproval of all self-laudatory forms of publicity procured by or with the consent of the person seeking it, would be, we think, to place the Institute in the attitude of regarding advertising by architects as an unfortunate manifestation of bad bringing up or of warped understanding—the evidence of stupidity rather than of vice, a position that would not prevent us from using, against objectionable advertising, ridicule, which is the weapon that we are told has effectively cured all advertising trouble in the American Bar Association. Such an attitude enables the Institute to point out the proper course and to explain why, to discourage all forms of advertising that may be considered in bad taste and so detrimental to the profession, and at the same time to permit all those other forms of publicity that are not objectionable, thus clearing the way for an

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immense amount of educational and otherwise useful publicity that, feeling the cramp of doubtful propriety, has heretofore been withheld, though frankly desired by many who are not now members because of our canon and because of conscientious scruples with which it conflicts.

From the rulings governing other so-called professions and their apparent practices, may we not conclude that our own position on advertising is at least the most inelastic, if not the narrowest, of them all? And may we not fairly ascribe to this fact at least a part of the explanation which must account for the relatively bad showing in the proportion our membership bears to the profession at large, and possibly for the present average of Institute intelligence compared to what it might be if our doors were more widely opened, and our angle of vision somewhat extended?

In the analysis of the "composite" of the attitude of our present administration (shown by replies to the Questionnaire), it seems unavoidable to conclude that the whole subject lacks the clear-cut outlines that should be manifest in what is the basis of a law carrying with it a far from intangible penalty. We wonder if we may be forgiven for seeming to read between the lines of this composite answer an apparent desire to avoid the appearance of evil—the look of advertising—rather than its publicity. Are there any among us unwilling to acknowledge that the advertising question is but one of degree, and that the practice of architecture owes its very existence to publicity? In the interest of progress may it not be high time to recognize openly that the place for one's light is on a candlestick rather than under a bushel?

To the makers of this report it would seem possible to support the plea for the repeal of Institute Canon No. 4:

By the injustice that has so far characterized its enforcement, or rather lack of enforcement. An unenforceable law is a bad law. Better no law than one that reaches only a part of the offenders and at that not the worst part.

By the tendency it has to suppress and restrict legitimate and desirable publicity. Better no rules than those that cost too much.

By its unfortunate limiting effect on Institute membership.

By its prejudicial effect in the eyes of the press. We as a profession need the partnership of the press and should have it even if we must make some concessions to gain it.

By the public's—not altogether unreasonable—claim that it sustains a loss in our failure to add our bit to general education through the medium of advertising.

By the fact that men of education stand openly on both sides of the question.

Perhaps not the least impelling of the motives that prompt the suggestions in this report is dread of what seems to be the one possible alternative. We can not advise embarking on any effort to legislate in the matter of anything so capricious as taste—with the cumbrous machinery that would be imperative—we have committees enough without having to create one on ethics. Is there any valid reason why, in this age of democratic endeavor, the American Institute of Architects should cling to this or any other relic of that time when the professional idea owed its existence to the mental entanglements with which it was surrounded? Is it not time that we consider carefully not only the loss of the canon on advertising but of how

many more of the old worn-out rules, undemocratic distinctions, and un-American assumptions we can get rid of? Why not the honor plan in place of these cramping restrictions? It has been found to work where the moral tone is even lower than that it is supposed to be among architects. Moreover, it would seem that the less we owe apparent cleanliness to fear of punishment, the less would we in truth deserve the punishment. In our recommendation to abolish the ban against advertising, we see nothing but gain in the possible consequences.

Advertising too generally, prompted by honest if stupid reasoning, would be the worst to be anticipated from the loss of the canon. A result not without advantages, however, for in the more general use of the harmless sort, the vicious sort would lose its effectiveness, due to the comparative isolation it now enjoys because of the sweeping restrictions of our canon or in the language of a well-known attorney—"While advertising is called unprofessional, it is thereby made useful to quacks, when if possible to all it would become at once useless to all."

Let us abolish Canon No. 4, and let us reword the Circular of Advice to show the difference between the good and bad in advertising, and to question its usefulness, not failing to point the finger of ridicule at the kind we resent. Let us do this—if for no other reason—to make it clear that in this day of democratic upheaval, our Institute is not unmindful of the writing on the wall.

To this end, your Committee on Advertising would welcome action by this Convention abolishing present Institute Canon No. 4, and giving instructions to the Board of Directors to have the reference to advertising in the Circular of Advice reworded accordingly.

JOHN GALEN HOWARD,
THOMAS R. KIMBALL, *Chairman*.

NOTE.—By resolution of the convention, Article 4 of the Canons of Ethics, which was to the effect that "It is unprofessional to advertise" was stricken from the Canons. The convention also authorized a rewording of the Circular of Advice to bring it into harmony with the Canons as they now stand.

Signing of Buildings

Report of the Board

Closely related to the report on advertising, and inevitably bound up with any discussion of it, is the request made by the Illinois Society of Architects, and later reinforced by several Chapters of the Institute, relative to "signing of buildings" in course of construction, embodied in the following resolution:

"Resolved, That the Board of Directors of the Illinois Society of Architects request the Board of Directors of the American Institute of Architects to consider and report at the next convention of the Institute upon the advisability of amending Section 13 of 'A Circular of Advice Relative to Principles of Professional Practice' regarding 'signing buildings,' so as to provide that it is recommended that every member of the Institute display upon every building under construction his name and rank in the Institute, with the further suggestion that a committee be

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appointed to recommend the form of sign to be used by all members of the Institute."

The Board does not deem it necessary or desirable to comment at length on this suggestion, believing it is better for the pros and cons to be developed from the floor of the convention, and so refers it to the convention without recommendation.

NOTE.—This question, after discussion, was referred to the Board.

Professional Treatises Report of the Board

Another closely related matter is that involved in the addition to Section 9 of the same "Circular of Advice," which the Board of Directors at its meeting in January, 1918, voted to present to this convention for consideration. Section 9 is entitled "On accepting commissions or favors," and now reads "The architect should not receive any commissions or any substantial service from a contractor or from any interested person other than his client." The addition the Board suggests is as follows:

"The issuance by an architect of a professional treatise or a monograph of his work, in the form of a book or pamphlet, which is supported by advertisements, whether privately printed or published through regular channels, tends to lower the dignity and standing of the profession and is to be condemned."

The Board believes there is no sound argument to the contrary and advises such amendment of the Circular.

NOTE.—The convention adopted the suggestion of the Board.

Officers Elected

President Thomas R. Kimball, Omaha, Neb.
First Vice-Pres. . Charles A. Favrot, New Orleans, La.
Second Vice-Pres. . George S. Mills, Toledo, Ohio
Secretary William Stanley Parker, Boston, Mass.
Treasurer D. Everett Waid, New York City
Directors to serve for three years:
Edward W. Donn, Jr., Washington, D. C.
Robert D. Kohn, New York City
Richard Schmidt, Chicago, Ill.
Director to serve for one year:
Ellis F. Lawrence, Portland, Ore.

Fellows Elected

James E. Allison, Los Angeles, Calif.
Louis Ayres, New York City
Charles Butler, New York City
E. E. Dougherty, Atlanta, Ga.
A. C. Eschweiler, Milwaukee, Wis.
Albert Kahn, Detroit, Mich.
John P. B. Sinkler, Philadelphia, Pa.
William L. Steele, Sioux City, Iowa

The Journal Report of the Board

Since comment upon the admirable Journal would involve a paraphrasing of the report of the Committee on Institute Publications, the Board feels it cannot do better than quote verbatim its vital portions, with its unqualified endorsement:

"While the accomplishments of the last five years are in themselves sufficient testimony to the far-seeing wisdom which led the Institute to establish the Journal, the Committee desires to record its opinion that the work of the Journal on the housing question is not only the most important of all the Journal's activities, but is one to which the profession may subscribe with the heartiest pleasure. Quite aside from the value of the Journal's work as a patriotic service of the highest character, and of the fact that largely through its instrumentality the Government is now committed to the task of meeting the housing shortage which has so seriously delayed our war production, the Journal has aroused an interest, as keen as it is widespread, all over the country, in the great and important question which has finally been given the title of "Housing." As a result, the whole country has been aroused to a critical examination of those social and economic factors upon which any architectural solution of the problem is wholly dependent. In this work, the Journal stands conspicuously at the head as the responsible organ of the Institute, and the services thus rendered to the profession are not lightly to be measured.

The Board feels that the increasing usefulness of the Journal, and especially its work of the past year, is so commendable, that it here wishes to record its tribute of appreciation.

Conclusion

It would be regrettable if, from the few items of convention action which are here printed, one should gather the idea that the unusual character of this meeting in any way robbed it of interest. On the contrary, the representation by Chapters, we believe, was as complete as any which a convention has enjoyed, while the arrangements of the Philadelphia Chapter for the entertainment of delegates were as varied in their interests as the city is historic. There was a tour of the old houses, ending with dinner at the several country clubs or at the homes of the members of the Chapter; a visit to Independence Hall and the old State House; a journey to the home of Mr. Widener where is hung his fine collection of paintings; and for the Saturday following the convention, a visit to Hog Island.

The convention was concluded with a dinner at the Germantown Cricket Club. An additional report will appear in the next Journal.

Book Reviews

Over the Drawing Board: a Draughtsman's Handbook. By BEN J. LUBSCHER. *The Journal of The American Institute of Architects*, Washington, D. C. \$2.

Somewhere somebody said, referring to "A Child's Garden of Verses," that it was written from the level of the nursery fender. Most of us, as we progress beyond the creeping age, forget the appearance of the undersides of sofas, chairs and tables once so familiar; forget the little things, the old aspects, that made up the world of our infancy. Mr. Lubscher has remembered the little things and this is one of the chief virtues of his book; the old hand is apt to take so much for granted; he forgets he once knew so pathetically little, that everything once was new to him, each step an adventure in a voyage of delightful discovery. Sometimes the composite odor of tracing cloth and india ink on a summer day will waft him back to that hot day in July when, beginning his journey, his nostrils were first assailed by that engaging smell; but usually he feels as though he always had known all about it all. It will pay him to have this book in the office to run through and refresh his memory. It is clearly and concisely written; here and there in the desire for compact statement it falls short of complete lucidity; here and there one would wish for a fuller description; here and there it smacks of the textbook for the amateur, and then immediately one remembers the fender and the undersides of things and forgives. It does not contain all the tricks; as, for example, the stretching of tracing cloth is not described in the chapter devoted to that material. The difference between the color palette proper to water-color sketches and that for formal rendering is not noted, nor are hints given as to those colors which will depose or settle and those which

will not. Some of us might take issue with the palette Mr. Lubscher suggests; Prussian blue makes some of us shriek with pain, but, then, some would die with it clasped to their bosoms. But the book is an extremely useful compilation of many of the methods in use; some of them have been made familiar in articles by various authors in the architectural periodicals, but such articles are not always available and it is well to have the information in book form. And it should be in the hands of all the students and junior draughtsmen.

H. VAN BUREN MAGONIGLE

The Italian Orders of Architecture. Letterpress and 32 pages. Charles Gourlay, Royal Technical College, Glasgow. Longmans, Green & Co., New York. \$2 net.

Another book on the Orders! Taken altogether its publication is justifiable. The plates are well drawn and reproduced and the whole volume is well gotten up. The examples chosen are useful ones and in the plates the reader may find reminiscences of Vitruvius, Vignola, and Palladio, of Sir William Chambers, Gibbs, Langley, Mauch, Spiers, and our own Professor Ware.

The book, especially in its letterpress, impresses one as being too compressed, as trying to cover too many things rather superficially, and consequently is apt to fall short in explicitness and lucidity as a textbook. Withal, however, it is a valuable work of reference offering many good hints to the student, and a unique edition of the primer of architectural design, for never before, in so far as the writer's knowledge goes, has a decently compiled and printed "Vignola" been offered at so modest a price.—B. J. L.

Obituary

William Albert Wood

Elected to the Institute, February 15, 1918
Died at Philadelphia, April 10, 1918

Henry Janeway Hardenbergh

Elected to the Institute in 1867; to Fellowship, 1877
Died at New York City, March 13, 1918

Mr. Hardenbergh's long connection with architecture spans an age of building development than which none was ever so bewildering in the rapidity with which our communities were transformed, not wholly for their good, as we have now discovered. The Dakota apartment house built by Mr. Hardenbergh, in 1884, was then the most notable building of its kind in the United States, and it still lives where many that followed have already passed into oblivion. Mr. Hardenbergh, in his later work, became widely known as the designer of such famous hotels

as the Waldorf-Astoria, the Plaza, the Martinique, in New York City; the Copley-Plaza, in Boston; and the New Willard, in Washington. He was born at New Brunswick, N. J., February 6, 1847, and studied architecture under Detlef Lienau in New York City, from 1865 to 1870, since which time he was in active practice.

James Edward Ware

Elected to the Institute in 1882; to Fellowship, 1889
Died at New York City, April 14, 1918

James Edward Ware, who practised architecture for nearly half a century in New York City, was born there on July 16, 1846, the son of John P. and Eliza (Alvord) Ware. He was graduated from the College of the City of New York in 1864, and began practice in 1870. He was one of the pioneers in designing the modern type of fireproof warehouse—the buildings of the Manhattan

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Storage & Warehouse Co. being notable examples of his work—and also in the designing of improved city dwellings for workers. He was one of the prize-winners in the competition held by the Association for Improving the Condition of the Poor in an effort to better living conditions in the congested districts, and it was from his plans that some of the earliest model tenements were constructed. Other examples of his work are the Twelfth Regiment Armory and the Madison Avenue Presbyterian Church. In later years, his sons, Franklin B. Ware, former State Architect, and Arthur Ware were associated with him.

Mr. Ware was for many years a trustee of the Manhattan Savings Institution, treasurer of the Industrial Christian Alliance, and a member of the Architectural League of New York. He was a member of Company B, Seventh Regiment, N. G. N. Y., for twenty-three years, and was one of the members of the regiment who acted as a guard of honor when the body of President Lincoln lay in state in the City Hall. In 1872 he married Edith Cordelain Backus. He is survived by his wife, three sons, Franklin B., Arthur, and Foster Ware, and three daughters, Mrs. Egbert S. Hurd, Mrs. George Sykes, and Miss E. Gladys Ware.

George Alexander Wright

Elected to the Institute in 1916

Died, San Francisco, California, March 2, 1918

Mr. Wright was born in Portsmouth, England, in 1852, and received his architectural training with Alfred A. Hudson, architect, Southsea, England, and from 1880 to 1885 with Thomas Hellyer, architect, of Ryde, Isle of Wight. He then assumed practice as architect and surveyor at Southsea and Wimbledon until 1889.

He was a licentiate member of the Royal Institute of British Architects, and a member of the Quantity Surveyors' Association of London. He had been a member of the Junior Conservative Club, a retired Captain of the Fourth V. B. East Surrey Regiment (now the 23d London Regiment) and formerly held commissioned rank in the Royal Engineers.

When King Edward VII made his Indian tour (as Prince of Wales) in 1875-6, Captain Wright was selected to accompany the Royal party in a secretarial capacity, and one of his cherished possessions was a silver medallion commemorating that tour, which King Edward himself presented to him.

In 1890 he left England and, after some years of practice in San Francisco, he formed a partnership with Willis Polk; then later L. C. Mullgardt became associated with them. Early in 1906 the partnership was dissolved, and at this period came the great fire which brought disaster

to the city, also great opportunities to the architect. The firm of Wright, Rushforth & Cahill was then formed and continued until 1913, since which time it has been Wright & Rushforth.

It may be said, in reviewing Mr. Wright's achievements, that his specialty was construction rather than designing, and in that he was unsurpassed. His grasp of the contents of plans preparatory to specifying and rendering estimates was most remarkable.

He was the architect of the manufacturing plant of W. P. Fuller & Co., at south San Francisco, and superintended the erection of the Hayward Building (now Kohl Building). He also participated in the designing and erection of numerous buildings in and around San Francisco, one of the most recent being the Hotel Whitcomb, one of several buildings erected for the Whitcomb Estate.

He was a hard worker, energetic and progressive, ever desirous of elevating the ethical standards of his profession. He was for twenty years or more tireless in his efforts to bring about a betterment of the existing conditions in estimating and contracting. He was the pioneer in this country for the adoption of the "Quantity System" and the author of several publications on the subject, also the book "Wright on Building Arbitrations."

In 1914, touring the eastern states, lecturing upon this subject before the General Contractors' and Architectural Associations, he did much to awaken the interest of these bodies to the necessity of establishing a standard quantity system, and it is largely through this and his publications on the subject that it is now being used in some municipal and government work in eastern cities.

The General Contractors' Association of San Francisco, in recognition of his voluntary endeavors to bring about these results, elected him to be their first "honorary member."

Those who knew Mr. Wright intimately recognized his sterling qualities, his genial, kindly nature. He advocated always a "square deal" between owner and contractor, and would never allow himself to be the recipient of any favor which might place him under obligation to the disadvantage of his client.

The last few months of his life were devoted to a philanthropic effort to provide a convalescent home and housing accommodations (for returning invalided soldiers and sailors of British birth, now serving with either the American or British forces), to be called the Victoria Memorial; and for this object he and Mrs. Wright deeded to a Board of Trustees, on January 29, 1918, about forty acres of beautiful wooded land in Napa Valley, and it was while at the point of perfecting the organization of the governing body that his life was suddenly brought to a close.

GEORGE RUSHFORTH.

Structural Service Department

D. KNICKERBACKER BOYD, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE	CONTRACTS AND SPECIFICATIONS	FIRE PREVENTION
WILLIAM B. ITTNER, <i>Chairman</i> . . . St. Louis	FRANK MILES DAY, <i>Chairman</i> . . . Philadelphia	ROBERT D. KOHN, <i>Chairman</i> . . . New York
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E. D. LITCHFIELD New York	JOS. EVANS SPERRY Baltimore	LYMAN A. FORD New York
MATERIALS AND METHODS	GOLDWIN GOLDSMITH Lawrence, Kan.	QUANTITY SYSTEM
*THOMAS NOLAN, <i>Chairman</i> . . . Univ. of Pa.	JULIUS FRANKE New York	SULLIVAN W. JONES, <i>Chairman</i> , Washington, D. C.

*(Each Chapter has a corresponding member who is chairman of the Chapter Subcommittee.)

CONTENTS

TIMBER, LUMBER, WOOD CONSTRUCTION, AND FINISH

The Index below will sufficiently explain the sequence whereby wood is considered, first as standing timber, and taken up by progressive stages from its management and utilization under governmental direction through its manufacture, treatment, use, and finish in building construction.

The description of wood and its utilization completes the shell of the composite building with which this Department is concerned and provides for much of the interior finish. Fittings, furniture and movable features, whether of wood or metal, will be treated in later issues.

The next Serial, No. 5, will deal entirely with the subject of Fire Prevention and Protection, as applicable to all forms of construction, and from then on several issues will deal with separate features of mechanical equipment.

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SERIAL NO. 4, APRIL, 1918

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Governmental Activities, Associations, and Other Bodies 4A

United States Department of Agriculture, Forest Service. 4A1

Forester, Henry S. Graves, 928 F Street, Washington, D. C. Forest Products Laboratory, Madison, Wis.

Publications: (Listed under each appropriate subdivision.)

- (a) Department of Agriculture Yearbook.
- (b) Annual Report of the Forester.
- (c) Professional Papers. Published as Bulletins of the Department.
- (d) Farmers' Bulletins (also contributed by other divisions of the Department of Agriculture).
- (e) Contributions to the *Journal of Agricultural Research*. For sale only by the Superintendent of Documents, Government Printing Office, Washington, and to be found in libraries of agricultural colleges, universities, technical schools, and other institutions.

- (f) Yearbook Separates.
- (g) Reports. Contributions from the Forest Service.
- (h) Miscellaneous publications.
 - Of the above (b), (c), (d) and (f) are in stock, to a limited number, single copies of which will be distributed free upon request to the Division of Publications, Department of Agriculture, Washington, D. C. The Yearbook can be obtained free only through Congressmen. Copies are sold by the Superintendent of Documents.
- (j) Much of the information obtained through the researches of the Service is published in various trade and technical journals. Lists of such articles, a great many of which are included under 4B1h, may be had from the Forest Service, Washington, D. C., or the Director, Forest Products Laboratory, Madison, Wis.
- (k) The Department of Agriculture issues monthly a list of all new publications of the Department. This list may be had upon application to the Division of Publications, Department of Agriculture, Washington, D. C. Lists of those publications of

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the Forest Service which are still in print, but are no longer for free distribution, may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C. (Price-list 43 is kept up to date by periodical revision.)

- (l) In addition to the above series, there were formerly published a series of *Forest Service Bulletins* and a series of *Forest Service Circulars*, some of which are still in print, and are available for free distribution; others obtainable only through the Superintendent of Documents.
- (m) Many publications, now out of print, are not listed by the Superintendent of Documents and may be seen only in public or technical libraries. These are contained in a mimeographed list of all publications obtainable from the Forest Service.

Purposes:

The work of the Forest Service consists of the administration and protection of the National Forests, the development and utilization of their resources, and research into technical problems connected with forestry; also the discovery and dissemination of knowledge concerning the best uses of forest products.

From the descriptive matter furnished by the Forest Service for publication in the *Structural Service Book*, Vol. I, and again reviewed this year by Mr. H. S. Betts, the following is quoted:

Statistical studies covering the manufacturing of lumber, markets, and uses, are made by the Office of Industrial Investigations at Washington, D. C., and studies relating to the properties of wood, its protection against fire and decay, and its proper use in construction of all kinds are made at the Forest Products Laboratory, Madison, Wis.

Investigations at the laboratory have resulted in the design of a kiln in which it has been possible to overcome many of the difficulties met with in common practice. The kiln has been patented and dedicated to the public.

It is the policy of the Forest Service to undertake any investigative work pertaining to the use of forest products, provided the problem is of general interest, and it seeks at all times to secure the cooperation of the various associations affected.

The National Lumber Manufacturers Association. 4A2

Acting Secretary: John Lind, 11 South La Salle St., Chicago, Ill.

Publications: (listed under each appropriate subdivision.)

(a) *Rural Architecture*, (b) *Engineering Bulletins*, (c) *Better Buildings*, (d) *Technical Letters*, (e) *Miscellaneous Publications*. (f) Arrangements have been made with the publisher, the Radford Architectural Company, Chicago, for a special handbook edition of the 400-page volume entitled "*Lumber and Its Uses*" which, on behalf of the National Lumber Manufacturers Association, will be supplied by the publisher at \$2 per copy. (Revised Edition now on the press.) This volume deals in a broad way with the properties and commercial uses of all the principal American woods. Any of these, with the exception of (f) will be furnished without charge to qualified inquirers.

Purposes:

Is a federation of the principal associations of lumber manufacturers throughout the United States, whose purposes, as set forth in its charter, are to

"Gather and disseminate information upon the production and shipments of lumber, market conditions, and the supply of forest products; to make technical and other investigations of the properties and uses of woods; to promote uniformity and efficiency in the methods of manufacturing and distributing lumber and allied products . . . and to promote the use of forest products by all lawful means."

The organizations affiliated with the National Lumber Manufacturers Association, and the kinds of timber chiefly handled by them are indicated in the list given under 4A3.

The National Lumber Manufacturers Association maintains an engineering bureau, the services of which are freely available for advice and suggestions as to the use of wood for all structural purposes.

This has been established as a clearing-house of authoritative information on wood for all of its numerous great adaptabilities.

It aims to cooperate with architects, engineers, builders, and others by furnishing upon the basis of the best engineering and architectural practice in wood construction all latest available data, and assisting them and the lumber-consuming public in receiving the greatest economic benefit from the proper application of wood.

Other Lumber and Allied Associations. 4A3

Among such there are (not including those interested in other than structural products) the following, those marked * being affiliated with the National Lumber Manufacturers Association. Immediately after the name of each follows the kinds of lumber chiefly handled.

- (a) **West Coast Lumbermen's Association*, Seattle, Wash.
**Douglas Fir, Western Red Cedar, Spruce, Hemlock*.
(b) **Georgia-Florida Sawmill Association*, Jacksonville, Fla.
**Southern Yellow Pine*.

- (c) **The Hardwood Manufacturers' Association of the United States*, Cincinnati, Ohio.
**Ash, Basswood, Beech, Buckeye, Butternut, Cherry, Chestnut, Cottonwood, Elm, Gum, Hickory, Maple, Oak, Walnut, Poplar, Sycamore, Tupelo*.
(d) **Michigan Hardwood Manufacturers' Association*, Cadillac, Mich.
**Ash, Basswood, Beech, Birch, Elm, Maple, Hemlock*.
(e) **Northern Hemlock and Hardwood Manufacturers' Association*, Oshkosh, Wis.
**Hemlock, Ash, Basswood, Birch, Elm, Maple, White Cedar, Tamarack*.
(f) **California Redwood Association*, San Francisco, Cal.
**Redwood*.
(g) **The Southern Cypress Manufacturers' Association*, New Orleans.
**Cypress, Tupelo*.
(h) **California White and Sugar Pine Association*, San Francisco, Calif.
**Sugar Pine, California White Pine*.
(j) **North Carolina Pine Association*, Norfolk, Va.
**North Carolina Pine*.
(k) **Northern Pine Manufacturers' Association*, Minneapolis, Minn.
**White Pine, Norway Pine, Spruce, Tamarack*.
(l) **Southern Pine Association*, New Orleans, La.
**Southern Yellow Pine*.
(m) **Western Pine Manufacturers' Association*, Portland, Ore.
**Western Pine, Idaho White Pine, Fir, Larch*.
(n) **Western Forestry and Conservation Association*, Portland, Ore.
(o) **Arkansas Soft Pine Bureau*, Little Rock, Ark.
(p) **White Pine Bureau*, St. Paul, Minn.
(q) **National Hardwood Lumber Association*, Chicago, Ill.
(r) **American Hardwood Manufacturers' Association*, Memphis, Tenn. (This comprises the former Gum Lumber and American Oak Manufacturers' Associations, now combined.)
(s) **Eastern Lumbermen's Association*, Bangor, Maine.
(t) **Hardwood Dimension Manufacturers' Association*, Arlington, Ky.
(u) **Hemlock Manufacturers' Promotion Bureau*, Oshkosh, Wis.
(v) **Mountain Lumber Manufacturers' Association*, Nelson, B. C.
(w) **White Cedar Shingle Association*, Oshkosh, Wis.
(x) **The Birch Manufacturers' Promotion Bureau*, Oshkosh, Wis.

Other Associations Concerned with Wood Problems and Products. 4A4

Among such are the following, exclusive again of those with interests outside of building construction, and not including all of those interested in furniture manufacture:

- (a) **American Wood-Preservers' Association*, Baltimore, Md.
(b) **Association of Creosoting Companies of the Pacific Coast*, Seattle, Wash.
(c) **Creosoted Wood Block Paving Bureau*, Chicago, Ill.
(d) **Northern White Cedar Shingle Manufacturers' Association*, Oshkosh, Wis.
(e) **Redwood Shingle Association*, Eureka, Calif.
(f) **Shingle Branch, West Coast Lumbermen's Association*, Seattle, Wash.
(g) **Maple Flooring Manufacturers' Association*, Chicago, Ill.
(h) **Oak Flooring Manufacturers' Association*, Cincinnati, Ohio.
(j) **Eastern Sash, Door, and Blind Manufacturers' Association*, Holmsburg, Philadelphia, Pa.
(k) **Millwork Cost Information Bureau*, Chicago, Ill.
(l) **Southern Sash, Door, and Millwork Manufacturers Association*, Atlanta, Ga.
(m) **Curtis Service Bureau*, Clinton, Iowa.
(n) **Building Industries Association*, St. Louis, Mo.
(o) **National Veneer and Panel Manufacturers' Association*, Indianapolis, Ind.

(p) **Commercial Rotary Gum Association*, Memphis, Tenn.
The two following organizations are affiliated Internationals of the American Federation of Labor (Building Trades Department) listed in the *Structural Service Book*, Vol. I, under 12j:

- (q) **United Brotherhood of Carpenters and Joiners*.
Secretary: Frank Duffy, Carpenters' Bldg., Indianapolis, Ind.
(r) **International Union of Wood, Wire, and Metal Lathers*.

Secretary: R. V. Brandt, Superior Building, Cleveland, Ohio.

In addition to which, representing artisans and others engaged in some of the wood industries, there is record of:

- (s) **Wood Carvers' and Modellers' Association*, Philadelphia, Pa.
(t) **International Wood Carvers' Association of North America*.

Educational Research and Wood Utilization Service. 4A5

The Forest Service, U. S. Department of Agriculture, furnishes lists of colleges and schools with (a) ranger courses in forestry, (b) courses in forestry other than ranger, (c) courses leading to a degree in forestry; of these some provide facilities for investigation, research, and testing, as mentioned under 1A1, and others, as in the case of the University of Illinois, maintain engineering experiment stations and issue bulletins and circulars 3H2c, and one, the University of Wisconsin, at Madison,

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maintains close cooperative relations with the Forest Products Laboratory. At this University, in addition to the courses (b), a number of special lectures are given in various departments by members of the Forest Products Laboratory staff, and opportunities are also offered in these Laboratories for research work. One, the New York State College of Forestry, at Syracuse, maintains a Correspondence Course in "Lumber and Its Uses" which is a part of the Wood Utilization Service.

State Wood-Using Industry Reports. 4A5a

The Forest Service, U. S. Department of Agriculture, through the Office of Industrial Investigations, has completed studies of wood-using industries in a number of states.

The reports have been printed by some department of the government of the state interested, or by a periodical devoted to the interest of lumbering and conservation. Bulletins available with the name and address of the cooperator will be found listed in the Structural Service Book, Vol. I, under 5C.

Standing Timber and Manufactured Lumber in General. 4B

Closely allied to this subdivision is that on "Uses of Wood in Building Construction" (4E) where the publications pertaining to specific uses in buildings are separated as well as possible from those here described, which deal more with the product, its source and general uses.

Publications and Articles: U. S. Department of Agriculture, Forest Service, Washington, D. C., and Forest Products Laboratory, Madison, Wis. 4B1

The Forest Service, U. S. Department of Agriculture, the purposes and activities of which are briefly outlined under 4A1 issues a large number of publications pertaining to the silvicultural end of the work—that is the planting, growing and management of trees in forests—and other publications relating to the supply and general uses of woods in specified areas. Consult list of publications to be had, as mentioned under 4A1k.

In the Structural Service Book Vol. I, under 5D1, will be found a list of other publications of interest structurally. Those which follow, issued since then, are given Department numbers and can be obtained only from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the price stated. Remittances should be made by money order or in coin (at sender's risk). Stamps cannot be accepted.

(a) Professional Papers—Agriculture Bulletins. (4A1c.)

- 474—True Mahogany, C. D. Mell. 1917. 24 pp.; illus. 5 cents.
- 497—Tests of Western Yellow Pine Car Sills, Joists, and Small Clear Pieces, C. W. Zimmermann. 1917. 16 pp.; illus. 5 cents.
- 509—The Theory of Drying and its Application to the New Humidity-regulated and Recirculating Dry Kiln, H. D. Tiemann. 1917. 28 pp.; illus. 5 cents.
- 523—Utilization of Ash, W. D. Sterrett. 1917. 52 pp.; illus. 5 cents.
- 552—The Seasoning of Wood, H. S. Betts. 1917. 28 pp.; illus. 10 cents.
- 556—Mechanical Properties of Woods Grown in the United States, J. A. Newlin and T. R. C. Wilson. 1917. 47 pp.; illus. 10 cents.

(b) Farmers' Bulletins. (4A1d.)

- 786—The Windbreak as a Farm Asset, C. G. Bates. 1917.

(c) Reports: Contributions from Forest Service. (4A1g.)

- 114—Some Public and Economic Aspects of the Lumber Industry, W. B. Greeley. 1917. 100 pp.; illus. 25 cents. (Extracts of this report printed in *The American Contractor*, April 14, 1917.)
- 116—The Distribution of Softwood Lumber in the Middle West (Retail), O. M. Butler. 1918. 100 pp.; illus. 15 cts.
- 117—The Substitution for Other Materials for Wood, Rolf Thelen. 1917. 78 pp.; illus. 15 cents. (For brief description, see Structural Service Book, Vol. I, under 11D.)

Government Statistics and Specifications. 4B2

(a) Statistics of the Lumber Industry.

These were formerly covered in publications, entitled "Forest Products," issued by the Department of Commerce, Bureau of the Census, compiled in cooperation with the Department of Agriculture, Forest Service.

Annual statistics of the production of lumber, lath, shingles, and other forest products are now obtained by the Forest Service and are published as U. S. Department of Agriculture Bulletins, forming a part

of this regular series. The latest lumber, lath, and shingle statistics will be found in Agriculture Bulletin 673, entitled "The Production of Lumber, Lath, and Shingles in 1916." Copies of this may be obtained from the Division of Publications, Forest Service.

(b) Specifications Issued by the Navy Department.

The Navy Department issues specifications, those pertaining to wood being under Serial Designation No. 39, and covering among others the following kinds: Beech, Birch and Maple; Butternut; White Cedar; Douglas Fir; Puget Sound or Oregon Pine; Oak; White Oak Timber; White Pine; New England Country White Pine; Western White Pine (Idaho); Tonawanda White Pine, inspection rules for; Yellow Pine for decking, lumber, timber, and sticks for masts and spars; Spruce and Teak.

(c) Specifications of the War Department and Treasury Department (Supervising Architect's Office).

The portions of such specifications with respect to lumber and wood-working are not separately issued, nor are they available for general distribution to others than those having a special interest in phases of the work for which prepared. While some of these, relating especially to timber construction, are mentioned in this Serial Number, complete listings may be had upon application to the Journal, except for construction of cantonnements and other structures incident to war activities. Lists of public buildings being estimated upon and under contract will be found in *The Journal of the Society of Constructors of Federal Buildings* (1A2d1).

Activities, Standards, Specifications, Inspection, and Grading Rules, Manuals and Other Publications of Technical Societies, Lumber and Other Associations. 4B3

- (a) American Society for Testing Materials (1A5c). This society has a Committee, D7 on Timber, the Chairman of which is Herman von Schrenk, of St. Louis, Mo. For reports, see the *Proceedings of the A.S.T.M.* for each year, and for brief description of activities, see Structural Service Book, Vol. I, under 5A2.

- 1. "Standard Definitions of Terms Relating to Structural Timber," Book of Standards, 1916, pp. 598-601. (Serial Designation D 9-15.)
- 2. "Standard Specifications for Yellow-Pine Bridge and Trestle Timbers," Book of Standards, 1916, pp. 515-518. (Serial Designation D 10-15.)
- 3. Tentative specifications for "Selected Structural Douglas Fir Bridge and Trestle Timbers." *Proceedings*, 1916, pp. 479-482. (Serial Designation D23-16T.)
- 4. For other methods of tests, specifications, and tentative standards recommended by this Committee, see *Treatments of Woods* (4c1b).

- (b) American Railway Engineering Association (1A2c). There exists in this Society a Committee on Grading of Lumber, the Chairman of which is Herman von Schrenk, of St. Louis, and the activities of which were briefly described in the Structural Service Book, Vol. I, under 5A2.

- 1. "Grading of Lumber." Adopted report of committee, completely illustrated with photographic reproductions of knots, streaks, holes and conditions, sound and otherwise, containing:

- (a) Classification and Grading Rules for Douglas Fir.
- (b) Classification, Grading Rules and Dressing Rules for Southern Yellow Pine.
- (c) Specifications for Construction Oak Timbers.
- (d) Classification and Grading Rules for Cypress Lumber and Shingles.
- 2. "Wooden Bridges and Trestles."

- (c) National Board of Fire Underwriters:

- 1. "Grading Rules for Timber." *Building Code, 1915*, pp. 278-283. These are printed as an appendix to the Code and comprise "a proposed revised form of Rules of the U. S. Forest Service for Grading Structural Timbers of Southern Yellow Pine."

- (d) Inspection Department, Associated Factory Mutual Fire Insurance Companies:

- 1. "Longleaf Pine Factory Timber."
- 2. "Dry Rot in Factory Timbers." 1915. 107 pp.; illus. Contains specifications suggested for a special grade of longleaf pine for use in Mutual factories.

- (e) National Lumber Manufacturers Association:

- 1. "Timber for Structural Purposes" (4E3m1a).

- (f) National Hardwood Lumber Association:

- 1. See "Rules for the Measurement and Inspection of Hardwood Lumber."

- (g) *The Hardwood Manufacturers' Association of the United States:*
 1. "Association Standard Grades of Poplar, Oak, Cottonwood, Gum and other Hardwoods." Effective March 1, 1917. 118 pp.
- (h) *Northern Hemlock and Hardwood Manufacturers' Association:*
 1. "Rules for the Inspection of Hemlock Lumber," 27 pp. Includes Standard Sizes adopted October 29, 1913.
- (j) *Northern Pine Manufacturers' Association:*
 1. "Rules for the Grading of Northern Pine, Spruce and Tamarack Lumber." February 1, 1915 (ninth issue). 72 pp.
- (k) *The Oregon Lumber Manufacturers' Association:* (Since merged with the West Coast Lumber Manufacturers' Association.)
 1. "Merits of Pacific Coast Woods," E. D. Kingsley.
- (l) *Southern Pine Association:*
 1. "Southern Yellow Pine Timbers, Including Definition of the 'Density Rule.'" Jan. 1, 1917. 22 pp.
 2. The information contained in the above is also printed on pp. 1-10 of the pamphlet entitled "Southern Yellow Pine Timbers, Including Definition of the 'Density Rule,' Adopted and Copyrighted by the American Society for Testing Materials, Approved and Adopted by the Southern Pine Association, January, 1917." This pamphlet also contains:
 (a) Extracts from Report of Committee D-7 of the A.S.T.M., on "Standard Specifications for Timber," pp. 11-14.
 (b) "Discussion of the Proposed Forest Service Rules for Grading the Strength of Southern Pine Structural Timbers," H. S. Betts. Appendix I, pp. 15-30.
 (c) "Southern Yellow Pine Timber and Density Grading Rules," O. T. Swan. Appendix II, pp. 31-47.
 3. "Southern Yellow Pine Bridge and Treatise Timbers, for Railway Structures, including definition of the New 'Density Rule.'" Jan. 1, 1917. 13 pp.
 4. "Standard Specifications for Grades of Southern Yellow Pine Lumber." April 1, 1917. 58 pp. "Mills of manufacturers subscribing to this Association are located in the states of Texas, Arkansas, Missouri, Louisiana, Mississippi, Alabama, Georgia, and Florida."
 Contains specifications for dimension timbers, siding, fencing, ceiling, flooring, roofing and Byrkit lath, with full-sized detailed and figured drawings.
 5. "The Gulf Coast Classification of Pitch Pine Resawn Lumber and Sawn Timber." Revised May, 1910. Adopted by the Southern Pine Association 1915. 28 pp.
 6. "Service in the Department of Inspection and Grades." 1917. Describes in detail the functions.
 7. "Southern Pine Manual: Standard Wood Construction" (4E3m) "Grades of Timbers," pp. 114-117.
 8. *The Relation of Resin* to the lasting qualities of Southern Pine, 1917. Reprint from the *Annals of the Missouri Botanical Garden* by Sanford M. Zeller.
 9. For further references to *Southern Pine* see Industrial Section, pp. xix, xxvi, Southern Pine Association.
- (m) *West Coast Lumbermen's Association:*
 1. "The Lumber Users' Guide" (No. 8), a general description of Douglas fir.
 2. "The Lumber Users' Guide" (No. 12), a general description of western red cedar. 22 pp.; illus.
 3. "Not the Non-Use but the Proper Use of Wood," a description of fire-tests made. 18 pp.; illus.
 4. "Comparative Strength Values for Structural Timbers."
 5. "Structural Timber Handbook on Pacific Coast Woods" (4E3p1) contains "Grading Rules."
- (n) *California Redwood Association:*
 1. "California Redwood Lives Forever." Leaflet. 8 pp.
 2. "Two Births 2,000 Years Ago—The Marvel God Wrought with the Redwoods of California." Booklet. 12 pp.; illus.
 3. "Redwood for the Engineer."
 4. "Mechanical Properties of Redwood."
- (o) *The North Carolina Pine Association:*
 1. "Official Inspection Rules," Jan. 25, 1917, 24 pp., covering kiln-dried North Carolina Pine (revised 1917), Longleaf Pine (1905 Rules), Air-Dried North Carolina Pine (1913 Rules), Shortleaf Pine Dimensions (1910 Rules). It is stated that "at the present time fully 95 per cent of the output of pine lumber in the states of Maryland, Virginia, North and South Carolina is graded and classified according to these grading rules, and all quotations are made on them as a basis."
- (p) *Southern Cypress Manufacturers' Association:*
 1. Issues a "Cypress Pocket Library" consisting of 41 volumes, each of which describes different features and uses of this wood. In No. 1, entitled "What It Is," is also an Index to all others.
- (q) *White Pine Bureau:*
 1. "Classified Recommended Uses for White Pine in House Construction and White Pine Standard." (4E3t3).

Handbooks, Articles and Other

References 4B4

- See, also, more extended list pertaining to "Uses of Wood in Building Construction" (4E).
- (a) *American Forestry* publishes each month a list of titles, authors, and prices of books on forestry and related subjects.
- (b) See "Lumber and Its Uses" (4A2f) described under 5D5c, 1917.
- (c) "Seasoning of Wood," Joseph B. Wagner. 1917. 250 pp.; illus. Contains chapters on: Timber; Coniferous Trees; Broad-leaved Trees; Grain, Color, Odor, Weight, and Figure in Wood; Enemies of Wood; Water in Wood; What Seasoning Is; Advantages of Seasoning; Difficulties of Drying Wood; How Wood Is Seasoned; Kiln-drying of Wood; Types of Dry Kilns; Dry Kiln Specialties; Helpful Appliances in Kiln-drying.
- (d) See "Building Construction and Superintendence," F. E. Kidder. 1915. Part II, "Carpenters' Work."
- (e) "Mechanical Engineers' Handbook," Lionel S. Marks. 1916.
 1. "General Properties of Wood," H. von Schrenk.
 2. "Strength of Wood," W. K. Hatt.
- (f) *The Building Trades' Handbook* gives: Weights, Descriptions, Shrinkage, and Qualities of Timber.
- (g) "Identification of the Economic Woods of the U. S.," S. J. Record.
- (h) "The Manufacture and Uses of Cypress." An illustrated address by H. von Schrenk.
- (j) "Violet Wood of Commerce," *The American Architect*, March, 1914, p. 96; illus.
- (k) "Southern Cypress," S. J. Record, *American Architect*, Oct. 18, 1916. Descriptive article; illus.
- (l) "The Strength of Long-Seasoned Douglas Fir and Redwood," Arthur C. Alvarez. May 17, 1913. University of California.
- (m) "One Thousand Uses for Oak," to be had from Oak Information Bureau of *Hardwood Record*, Chicago.
- (n) See "American Forest Trees," *Hardwood Record*.
- (o) See "Principal Species of Wood—Their Characteristic Properties," Charles Henry Snow. 1908.
- (p) See "Timber and Timber Trees," T. Haslett and H. M. Ward. 1894.
- (q) See Index to *Lefax Data Sheets* for information on these subjects.
- (r) *Journal of Society of Constructors of Federal Buildings:*
 1. "What is a Plank?" C. E. Morrell, Jr. November, 1914.
 2. "Inspection of Yellow Pine," Hermann von Schrenk, March, 1916.

Branding of Timbers and Lumber.

4B5

This subject is being given greater attention than ever by associations, societies, and manufacturers, and is of interest and importance to architects, builders, and general consumers. In addition to being treated within some of the publications mentioned elsewhere, in this Serial Number and in the Structural Service Book, Vol. 1, under 5D6 and in a Reprint of the 1917 Serial No. 5 issued by the National Lumber Manufacturers Association, it is of further interest to note the following:
 (a) The paragraphs for use in architects' specifications with respect to southern yellow pine, given in the *Architects' and Builders' Handbook of the Illinois Society of Architects*, referred to under 4E3l, provide for branding in accordance with official requirements of the Southern Pine Association, and make a proviso that, in lieu of such branding, contractors may furnish lumber under a certificate from the *Inspection Department* of that Association, showing that the material complies with the architects' specifications.
 (b) *The Southern Cypress Manufacturers' Association* states that it is now branding, by burning ineradicably on one or both ends, every cypress board or timber and every bundle of "small sticks" such as flooring, siding, moulding and shingles, with the registered trade-mark of the Association, indicating that the wood is genuine "Tidewater" Cypress.
 (c) *The Oak Flooring Manufacturers' Association* states that every bundle of oak flooring manufactured is designated on the back by rubber stamps with the names of the grades as well as the color.

Standardization and Conservation.

4B6

These comments, of course, are quite independent of any reference made elsewhere to the important work along these lines being done by the Forest Service and the Committees and Associations which cooperate with it, more detailed references to which are given in the Structural Service Book, Vol. 1, under 5D7.
 (a) In the "Standard Specifications for Grades of Southern Yellow Pine Lumber," issued by the Southern Pine Association, 1917, it is stated, with respect to grading of flooring: "The percentage of short lengths is customary, and in the interest of conservation will be included, so far as practicable, in all shipments of mixed lengths."
 (b) See "Grading Rules" of the Maple Flooring Manufacturers' Association (4E8j1) in which it is stated that modern perfected methods of manufacturing flooring produce a larger proportion of shorter lengths because the defects are cut out closer and that the senti-

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ment in favor of conservation is strongly in favor of this utilization of wood to the greatest extent possible.

(c) *The Oak Flooring Manufacturers' Association* states that it has standardized its products in regard to thicknesses and widths, 11-inch and 3/8-inch thicknesses being known as standard grades.

(d) *The American Railway Engineering Association (1A2c)* maintains a Committee on Conservation of Timber Supply.

Treatments of Woods. 4C Preservatives and Fire-Retardants. 4C1

As of further interest in connection with materials used in treating woods, see *Structural Service Book*, Vol. I, Serial No. 12, under "D—Wood Preservatives, Shingle Treatments and Fire-Retardants," which subjects will be covered later in Serial No. 12 of this Volume.

(a) *Forest Service, U. S. Department of Agriculture*: Concerning preservatives and fire-retardants the *Forest Service* prepared a statement published in the *Structural Service Book*, Vol. I, from which the following is quoted:

Tests have been made on more than thirty wood preservatives, including creosotes and various salt solutions, to determine their ability to check the growth of fungus, their ability to penetrate wood, their effect on the strength of the wood, and their permanence. The preservative represents from 50 to 75 per cent of the cost of treatment. This is particularly true of the creosotes, necessitating their careful analysis and grading, and *Forest Service* investigations have aided materially in establishing standards in commercial practice.

Investigations have been made along two lines in developing a fire-retardant—impregnation and surface painting. A fire-test house has been built in which it is possible to approximate office building conditions, and a number of demonstrations have been made. The *Forest Service* has in this way been able to assist the *National Fire Protection Association* in developing specifications for wood in fire-resistant construction. A patent has been granted, and dedicated to the public, covering a method of treating wood and fibrous materials to make them fire-resistant.

Among the *Forest Service* publications of interest in the above connections are those described under 5E1 in Serial No. 5, 1917, and in the *Structural Service Book*, Vol. I, to which the following should be added:

1. **The Preservative Treatment of Farm Timbers.** 1916. 32 pp.; illus. (*Farmers' Bulletin* No. 744.) 5 cents.
- (b) *American Society for Testing Materials*:
 1. See Reports of Subcommittee VI on Timber Preservatives.
 2. See "Tentative Specifications for Southern Yellow Pine Timber to be Creosoted." (Serial designation D24-15T.)
 3. See "Tentative Specifications for Southern Yellow Pine Piles and Poles to be Creosoted." (Serial Designation D25-15T.)
 4. Tentative Methods for Analysis of Creosote Oil. (Serial Designation D38-17T.)
 5. Standard Methods for Sampling and Analysis of Creosote Oil. (Serial Designation D 38-17.)
- (c) *American Railway Engineering Association*:
 1. "Wood Preservation." Adopted Report of Committee, with specifications and illustrations, pp. 539-557. Manual, 1915.
- (d) *National Fire Protection Association*:
 1. "Uses of Wood in Building Construction." Committee Report. Data of tests on inflammability of untreated wood and of wood treated with fire-retarding compounds. 55 pp.; illus. Also in Proceedings, 1915, pp. 106-158.
- (e) *Inspection Department, Associated Factory Mutual Fire Insurance Companies*:
 1. See "Dry Rot in Factory Timbers," chapters on "Chemical Treatments to Prevent Rot," and "Penetration of Antiseptics."
- (f) See "Tests of Timber Beams" (4E3k2), contains information on "Treated Timbers."
- (g) *National Lumber Manufacturers Association*:
 1. "Tests of Fire Retardants, with special reference to the Shingle Roof," Herman von Schrenk and Arnold von Schrenk. Technical Letter No. 2. May 27, 1916.
 2. "Preliminary Report on Tests with Fire-Retardant Compounds on Wood," Hermann von Schrenk and Arnold von Schrenk. Proceedings, 1916, pp. 96-117; illus.
 3. See sections on "Fire Retardants" and "Wood Preservation" in "Timber for Structural Purposes" (4E3m1a).
 4. See Farm Bulletin entitled "The Preservative Treatment of Farm Timbers."
 5. See other publications referred to under (4D10) (Piling).
- (h) *American Wood Preservers' Association*:
 1. Annual Reports contain many authoritative and helpful papers upon methods of protecting timbers from decay.
- (j) *Southern Pine Association*:
 1. "Southern Pine Manual—Standard Wood Construction," 1917 (4E3n1), contains information on "Creosoting."

- (k) *California Redwood Association*:
 1. "The Test by Fire." Leaflet on California redwood; illus.
- (l) *West Coast Lumbermen's Association*:
 1. "Structural Timber Handbook on Pacific Coast Woods," 1916 (4E3p1), contains "Creosoting Douglas Fir."
- (m) *Association of Creosoting Companies of the Pacific Coast*:
 1. "Creosoting Douglas Fir Bridge Stringers and Ties without Loss in Strength," 1916, 27 pp.; tables, and illustrations.
- (n) See "Preservation of Structural Timbers," Howard F. Weiss. 1915.
- (o) "Mechanical Engineers' Handbook," Lionel S. Marks. 1916.
 1. "Timber Preservation," H. von Schrenk, pp. 580-583.
- (p) "Building Construction and Superintendence," Part II, Carpenters' Work, F. E. Kidder. 1915.
 1. "Methods of Preserving Timber," pp. 35-37.
- (q) *Fire Prevention and Fire Protection*, J. K. Freitag.
 1. "Fireproof Wood," pp. 260-262.
- (r) *Journal of the Society of Constructors of Federal Buildings*:
 1. "Preservative Treatment of Structural Timber and Piles," H. G. Richey, April, 1917, pp. 194-206.
- (s) *Trautwine's Civil Engineer's Pocket-Book*:
 1. Preservation of Timber, pp. 954-957.
- (t) "Lumber and Its Uses" (4A2f):
 1. Section on "Wood Preservation" describes prevention of decay, and brush, pressure, and open-tank methods of treatment.
 2. "Fire-Resistance" describes "fireproofing" processes and fire-retardant paints.
- (u) See Index to *Lefax Data Sheets* for information on these subjects.

Treated Wood Flooring and Paving. 4C2

In addition to being treated in many of the publications listed under 4C1, references to Treated Wood Flooring and Paving will be found in the *Structural Service Book*, Vol. I, under 5E2. A further list has been prepared which will be furnished upon request to the Journal.

Piling, Piers and Bulkheads. 4D

(These subjects will be found, also, described in many of the publications referred to under other headings, especially 4C1.)

1. *Forest Service, U. S. Department of Agriculture*:
 - (a) Preservation of Piling Against Marine Wood Borers. 1908. 15 pp.; illus. (*Forest Circular* No. 128.) 5 cents.
2. Specifications issued by *District Engineer, War Department, New Orleans*, "Piles, Wallings, Lumber, and Bulkheads" for Southwest Pass, Mississippi River, January 16, 1917. (See 4B2c.)
3. See tentative specifications of A.S.T.M. for Southern Yellow Pine Piles and Poles to be creosoted. (4C1b3).
4. *American Railway Engineering Association*:
 - (a) "Wooden Bridges and Trestles." Report of Committee in "Manual," contains sections on piles and pile-driving, with principles of practice and specifications.
5. See *Proceedings of the American Society of Civil Engineers*.
6. See index, *Journal, American Society of Mechanical Engineers*.
7. See index to the *Journal of the Western Society of Engineers*.
8. See Index to *Lefax Data Sheets*.
9. *National Board of Fire Underwriters*:
 - (a) "Building Code," 1915. See Section 19, "Wooden Piles."
10. *National Lumber Manufacturers Association*:
 - (a) "Chicago's Four Million Dollar Pier." Technical Letter No. 3, 1916. Reprint from *Lumber World Review*, May 10, 1916.
 - (b) "Interesting Comparison of Two Docks Recently Constructed in the City of Chicago, Illinois." Technical Letter No. 7, 1916.
 - (c) "Timber in Pier and Wharf Construction." Technical Letter No. 9, 1916.
11. *Journal, Society of Constructors of Federal Buildings*:
 - (a) "Pile Foundations," William S. Van Loan. November, 1914.
 - (b) "Pile Tests at the Site of the Boston Appraisers' Stores," William N. Collier. September, 1915.
 - (c) "Test Piles," Ernest G. Schurig. November, 1915.
12. See *Kidder's Pocket-Book*, 1916. Contains section on "Wooden Pile Foundations," pp. 188-196.
13. *American Civil Engineers' Pocket-Book*, 1916, M. Merriman. Contains section on "Piles and Pile-Driving," by Ira O. Baker and other sections on "Piers," "Docks," "Ferries," and "Harbor and River Works."
14. *Mechanical Engineers' Handbook*, 1916, Lionel S. Marks. Also contains sections on "Piles" and "Driving" and other data.
15. *The Building Trades' Handbook*. "Piles," and "Spread Footings."
16. *West Coast Lumbermen's Association*:
 - (a) "Structural Timber Handbook on Pacific Coast Woods," 1916, (4E3p1). Section on "Piling," with diagram, pp. 255-259.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Uses of Wood in Building Construction.

4E

Structures in General.

4E1

See publications mentioned under Standing Timber and Manufactured Lumber (4B), in many of which features of building construction are treated.

With respect to the various "Specifications" and "Standards" which follow, it is to be noted that the mandatory provisions of all Building Codes, state or municipal, must first govern construction in each locality.

Governmental Publications.

4E2

4E2a *U. S. Department of Agriculture, Forest Service, Forest Products Laboratory: Office of Public Roads and Rural Engineering, and Bureau of Animal Industry*, contribute publications relating to uses of wood, among which are those mentioned below. For functions and services in connection with agricultural structures and problems, of various divisions of the Department of Agriculture, see description under 12H1 in the Structural Service Book, Vol. I. The office of Public Roads and Rural Engineering has prepared for exhibition and illustration a most complete model in miniature of a farmstead with all buildings and accessories.

4E2a1 *Agricultural Bulletins* (Forest Service).

(a) "Cotton Warehouse Construction," R. L. Nixon. (No. 277.) 1915. 38 pp.; 13 figs. 10 cents.

4E2a2 *Farmers' Bulletins* (Forest Service).

(Price from Superintendent of Documents, 5 cents each.)

(a) *Silos and Silage*, Chas. S. Plumb. (No. 32.) 1895.

(b) *Farm Buildings*, C. G. Elliott. (No. 40.) 1896.

(c) *Practical Suggestions for Farm Buildings*, Geo. G. Hill. (No. 126.) 1901.

(d) *Hog-Houses*, J. A. Warren. (No. 458.) 1911.

(e) *The Sanitary Privy*, C. W. Stiles and L. L. Lunsdem. (No. 463.) 1911.

(f) *Poultry-House Construction*, Alfred H. Lee. (No. 574.) 1914.

(g) *Home-made Silos*, H. Rabild, A. K. Risser and K. E. Parks. (No. 589.) 1915.

(h) *Ice-Houses and the Use of Ice on the Dairy Farm*, J. T. Bowen and G. H. Lambert. (No. 623.) 1915.

(j) *A Plan for a Small Dairy-House*, E. Kelly and E. E. Parks. (No. 689.) 1915.

(k) *Equipment for Farm Sheep-Raising*, V. O. McWhorter. (No. 810.) 1917. 28 pp.; 37 figures.

4E2a3 *Circulars, Bureau of Animal Industry*.

(a) *Designs for Dairy Buildings*. (No. 131.) 5 cents.

(b) *How to Build a Stave Silo*. (No. 136.) 5 cents.

(c) *The Sanitary Construction and Equipment of Abattoirs and Packing-Houses*. (No. 173.) 5 cents.

(d) *A Plan for a Small Dairy-House*. (No. 195.) (Edition nearly exhausted.)

4E2b *The U. S. Department of the Interior, Bureau of Mines* (2A3), issues:

1. Bulletin No. 87: "Houses for Mining Towns," J. H. White. 1914. 64 pp. Contains a treatise on small houses, in groups and as towns. Illustrated with map of model mining town, plans, elevations and perspectives of concrete, brick, and wooden houses, chiefly the latter, with framing drawings and other details of construction. 15 cents.

2. Technical Paper No. 18: "Magazines and Thaw-Houses for Explosives." 34 pp. Text, data, and diagrams of cement-mortar construction, with wood linings inside and out, bills of materials, etc.

4E2c *U. S. Department of Labor, Bureau of Labor Statistics*, recently conducted a study of housing conditions in the United States. Report is now being prepared, and an article in summarization of this report appeared in November, 1917, issue, *Monthly Review*, in which, under "Employers' Housing in the U. S.," Leifur Magnusson, described company towns and houses, with illustrations and plans of typical company houses of wood construction.

4E2d *U. S. Department of the Interior, Bureau of Education*, (described under 12G1 in the Structural Service Book, Vol. I) has prepared, in cooperation with the National Lumber Manufacturers' Association, pamphlets entitled "The One-Story Schoolhouse Idea" and "Teachers Cottages," listed under 4E3m5.

Societies, Associations and Other Bodies. 4E3

(a) *American Society for Testing Materials* (1A5c):

1. See Proceedings published annually for Reports of Committee (D7) on Timber. For references to its work and Standards of this Society, see 4B3a.

(b) *American Railway Engineering Society* (1A2c):

1. See Manual for reports of Committee on Grading of Lumber. For references to its work and Standards of this Society see 4B3b.

(c) *National Fire Protection Association*:

1. **The Committee on Uses of Wood in Building Construction**, the chairman of which is Julius Franke, architect, New York City, has been working for the past two years on specifications for **Standard Mill Construction Type of Buildings**. The activities of the Committee previous to that culminated in a valuable report in 1915 on "The Inflammability of Treated and Untreated Woods," as referred to under 4C.

At the convention in 1917, the Committee submitted a report embodying specifications which, while containing several new features—the question of **decay of wood, strength of timber and calculations** for same, and also **quality and grade** of timbers having been introduced—was in the main a revision of the Standard Specifications for Mill-Constructed Buildings, which was published by the National Board of Fire Underwriters for several years in a little pamphlet prepared by the N.F.P.A. called "Uniform Requirements." Those specifications were essentially the same as the specifications of the Associated Factory Mutual Fire Insurance Companies.

In the report of the Committee, to the Convention in May, 1918, in Chicago, slight changes are included, and the specifications will have an Appendix giving standard specifications for structural timbers suggested by the U. S. Forest Service and adopted by the American Society for Testing Materials, the U. S. Shipping Board, and the Southern Pine Association. The report in 1917 having been accepted as a tentative Standard of the N.F.P.A. and referred to the Committee for reconsideration in the light of any criticism received before being finally presented this year, it is expected that the Convention will, after approval of this new standard, order it printed for distribution.

See, among others, the following publications of the N.F.P.A. listed under "Publications Available" on pp. 43 and 44 of the Structural Service Book, Vol. I.

2. "Mill Construction Buildings," C. E. Paul. (Identical with "Heavy Timber Mill Construction Buildings" (4E3m1a).)

3. "Requirements for Standard Mill Constructed Buildings." Proceedings, Vol. 12, p. 103, and Vol. 21, 1917.

4. See "Warehouses, Construction and Protection," C. H. Patton, Proceedings, Vol. 14, p. 125.

5. "Field Practice: Inspection Manual." See, "Structural Defects: Suggestions for Their Elimination and Protection."

(d) *National Board of Fire Underwriters*: (See pp. 44, 45, Vol. I.)

1. "Building Code. In addition to buildings in general and all parts of their construction, the following are separately treated: Classification of Buildings, Ordinary Timber Construction, Mill Construction, Frame Buildings, Structural Timber, Working Stresses of Structural Timber. Allowable Loads, and Fire Stopping.

2. "Dwelling Houses." 1916. Contains sections on "Frame Dwellings," "Fire Stopping," "Floor and Roof Construction," and others of interest. See index to same.

3. "Hose Houses for Mill-Yards."

(e) *Underwriters Laboratories* (1A4):

1. List of Appliances Inspected for Accident Hazards.

2. For "List of Inspected Mechanical Appliances," see 4E5.

(f) *Inspection Department, Associated Factory Mutual Fire Insurance Companies*: (See p. 45, Vol. I.)

1. See "Anchorage of Roofs" for detail drawings and recommendations for securing wooden roofs.

2. See "Dry Rot in Factory Timbers" for small illustrations and brief reference to standard mill and factory construction.

3. For "Approved Fire Protection Appliances" see 4E5.

(g) *Associated Mutual Fire Insurance Companies of New England*:

1. "Standard Mill Construction," shown in Report V, issued by the Insurance Engineering Experiment Stations under directions of Boston Manufacturers Mutual Fire Insurance Co. This is illustrated and described in Chapter VIII of "Heavy Timber Mill Construction Buildings" (4E3m1b). The Report is now obtainable from the Associated Factory Mutual Fire Insurance Companies by whom the work of the Experiment Station has been taken over. (See (f) above.)

(h) *The Associated Metal Lath Manufacturers*:

1. See "Metal Lath Handbook." Contains descriptions and detail drawings for "Protection of Steel Beams in Slow-Burning or Mill Construction;" "Fire Stops;" and "Mill Construction Buildings Protected by Metal Lath and Plaster."

(j) *American Society of Civil Engineers* (1A2a):

1. "Proceedings" contain numerous papers and discussions applicable here. Each issue also contains a "List of Recent Engineering Articles of Interest."

(k) *University of Illinois, Engineering Experiment Station* (3H2c):

1. "A Study of Roof Trusses," N. Clifford Ricker. Bulletin No. 16, 1908. 15 cents.

2. "Tests of Timber Beams," Arthur N. Talbot. 1910. Bulletin No. 41. Free.

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- (l) *Illinois Society of Architects* formerly had a Committee on Lumber and Timber Specifications, the work of which Committee it is understood is now merged with that of the Committee on Standardization of Architects' Specifications.
- In the "Handbook for Architects and Builders," Vol. XX, 1917, published by this Society, will be found "Standard Specifications for Southern Yellow Pine Timbers," as recommended by the Society, being an authorized reprint from the copyrighted standards of the A.S.T.M.
- Following these two pages are several paragraphs of application for securing certain results in the use of Southern Yellow Pine Structural Timbers, arranged in convenient manner for use in architects' specifications.
- (m) *Lumber Manufacturers Association:*
1. *Engineering Bulletins:*
 - (a) No. 1: **Timber for Structural Purposes**, E. A. Sterling. January, 1916. 20 pp.
 - (b) No. 2: **"Heavy Timber, Mill Construction Buildings,"** C. E. Paul. May, 1916. Contains chapters on: Mill Construction Defined; Exterior Walls, Fire Walls, and Enclosures; Floors; Posts or Columns; Roofs; Fire Protection; Cost of Mill Construction Buildings; Standard Mill Construction; Quality and Kind of Timber Used; Formulas for Design in Mill Construction (with table of working unit stresses). 67 pp.; illus. (See, also, 4E32 and 4E32 as of similar purport.)
 - (c) No. 3: **"Timber Highway Bridges,"** C. E. Paul. April, 1918. 72 pp.
 2. *Technical Letters:*
 - (a) No. 4: **"Building Code Suggestions"** (Fire Stops, Careful Workmanship, and Proper Selection of Materials as Safeguards in Frame Dwelling Construction). August, 1916. Construction details.
 - (b) No. 5: **"Building Code Suggestions"** (Chimneys, Flues, Smokepipes, and Fireplaces in Their Relation to the Fire Hazard in Dwellings, with Detailed Provisions for Incorporation in Municipal Building Codes). August, 1916. Construction details.
 - (c) No. 6: **"Economics of Concrete and Timber Factory Buildings,"** F. E. Davidson. September 2, 1916.
 - (d) No. 10: **"How to Build Fire-Safe with Wood,"** R. S. Whiting. September, 1917.
 - (e) No. 12: **"Standard Specifications for Mill Construction Buildings,"** 1917.
 - (f) No. 13: **"Lattice Roof Trusses,"** 1917.
 3. *Miscellaneous:*
 - (a) **"The One-Story Schoolhouse Idea,"** F. Leather. (Prepared in cooperation with the United States Bureau of Education (4E22), February, 1917. Contains 56 pages of valuable information, a list of over one hundred one-story schools in America, and many plans and other illustrations. Technical suggestions and data on fire-resistive wood construction and discussions of heating, ventilation, and other subjects. An important contribution to the study of one-story buildings as compared with those of greater height.
 - (b) **"Teachers' Cottages,"** R. S. Kellogg, in cooperation with the United States Bureau of Education (4E22), April, 1916. 31 pp., illustrations of foreign and American accommodations for teachers and a valuable list of other references.
 - (c) **"John Smith's Garage,"** R. S. Kellogg; 1915; 6 pp.; illus.
 - (d) **"Working Drawings and Photographs Showing the Construction of Farm Buildings for Use in Manual Training Schools,"** March, 1917. 15 pp.
 - (e) **"Housing and Industry,"** R. S. Whiting. March, 1918. 24 pp.; with illustrations of larger industrial housing developments of the United States and a comprehensive comparison of methods of financing and constructing.
 - (f) **"Wood Construction in Relation to Fire Loss."**
 4. *Farm Bulletins on "Rural Architecture":*

The reported demand for these publications as a distinct step in the elevation of the standards obtaining in these so frequently neglected types of structures is indicative of the interest aroused on the part of architects and others desirous of developing a finer type of rural architecture.

 - (a) No. 1: **Implement Sheds.**
 - (b) No. 2: **Grain-Storage Buildings.**
 - (c) No. 3: **The Preservative Treatment of Farm Timbers.**
 - (d) No. 4: **Hog-Houses.**
 - (e) No. 5: **Poultry-House Construction.**
 - (f) No. 6: **Ice-Houses and Ice-Supply.**
 - (g) No. 7: **Dairy and General Purpose Barns.**
 - (h) No. 8: **Farm-Houses.**
 - (j) No. 9: **Lumber's Place on the Farm.**
 5. *Better Buildings:*
 - (a) No. 1: **Your Garage—How to Build It**, C. R. W. Edgumbe. 1916. 16 pp.; floor plans and elevations.
 - (b) No. 2: **Farmhouses—How to Build the New and Improve the Old**, W. A. Etherton. 1917. 30 pp.; illus.
- (n) *Southern Pine Association* (See, also, p. xix, xxvi):
1. **"Southern Pine Manual: Standard Wood Construction,"** 1917 (fifth edition). Contains, in addition to sections elsewhere referred to, diagrams, calculations, specifications, and data relating to beams, columns, floors, partitions, etc. 128 pp. \$1.
 2. **"Mill Construction,"** C. E. Paul. (Same as 4E32 and 4E32a, except for chapter on "Quality and Kind of Timber Used.")
 3. **"Service and Economy in Building,"** 23 pp.; illustrated.
 4. **"The Home-Built Garage,"** 16 pp.; illustrated.
 5. **"Implement Sheds,"** 11 pp. Tables of space required.
 6. **"Smaller Farm Buildings,"** 23 pp.; construction details.
 7. **"How to Choose and How to Use a Silo,"** 39 pp.; illus.
 8. **"School Architecture That Embodies Beauty, Economy, Convenience, Safety,"** 28 pp.; contains floor plans and elevations with comments by the designers of ten school buildings of the Pavilion Type. These were selected as the best of 43 entries in a "prize contest" conducted by this association for one-story buildings of southern pine.
- (o) *North Carolina Pine Association:*
1. **"Planning the New Home,"** 28 pp. Colored illustrations of stained boards; exteriors and floor plans of ten modern homes.
 2. **"North Carolina Pine for Architects and Contractors,"** 15 pp. Colored illustrations of stained boards. Illustrates houses and treats of adaptability, use for doors and sash; digest of grading rules.
 3. **"Farm and Building Book,"** Wm. A. Radford. 1916. 160 pp. Contains elevations, floor plans, construction details, etc.
- (p) *West Coast Lumbermen's Association:*
1. **"Structural Timber Hand Book on Pacific Coast Woods,"** 1916. 289 pp. Complete descriptions of Pacific coast woods, specifications, tables for beams and floors, safe loads, diagrams and illustrations. \$1.
 2. **"The Douglas Fir Silo,"** 24 pp.; illus.
- (q) *Association of Creosoting Companies of the Pacific Coast:*
1. **"Structural Timber Handbook."**
 2. **"Strength Values for Structural Timbers."**
 3. **"The Douglas Fir Silo."**
- (r) *California Redwood Association:*
1. **"California Redwood on the Farm,"** 38 pp.; illus. Gives uses and recommendations for painting or staining.
 2. **"The Home of Redwood,"** Illustrating and describing building erected at the Panama-Pacific Exposition. L. C. Mulgardt, architect.
 3. **"Specialty Uses of Redwood"**—information on fire-resistance and use in door cores and slow-burning construction.
- (s) *Arkansas Soft Pine Bureau:*
1. **"How to Build,"** 24 pp.; illustrations of the wood, and recommended practice in frame construction.
- (t) *White Pine Bureau:*
1. **"White Pine in Home Building,"** 35 pages, describing qualities, availability, and cost. Illustrations of attractive exteriors with "close-up" views of entrances, fences, and features.
 2. The White Pine Series of **Architectural Monographs**. Especially prepared for architects, under the direction of Mr. Russell F. Whitehead, to present classified illustrations of wood construction critically described by representative American architects, the pictorial side being made the dominant feature and the examples being selected for their general attractiveness. Beginning with July, 1915, nine were published to January, 1917, and listed under 5G20 in Serial No. 5, 1917, since which time the following have been issued:
 - Vol. III, No. 1, **Three-Story Houses of New England**. Text by Frank Chouteau Brown.
 - Vol. III, No. 2, **The Early Wooden Architecture of Andover, Massachusetts**. Text by Addison B. Le Boutillier.
 - Vol. III, No. 3, **Old Homes of Newburyport, Massachusetts**. Text by Richard Arnold Fisher.
 - Vol. III, No. 4, **A White Pine House to Cost \$12,500**. Report of Jury of Award.
 - Vol. III, No. 5, **The Bristol Renaissance**. Text by Joy Wheeler Dow.
 - Vol. III, No. 6, **The Early Dwellings of Nantucket**. Text by J. A. Schweinfurth.
 - Vol. IV, No. 1, **Marblehead**. Text by William Truman Aldrich.
 - Vol. IV, No. 2, **Some Old Houses on the Southern Coast of Maine**. Text by C. Howard Walker.
 3. **"Classified Recommended Uses for White Pine in House Construction and White Pine Standard Grading Rules,"** 197 pp. 1917. An exhaustive treatise, compiled for architects' use in specifying white pine lumber, to supply the information heretofore lacking with respect to "frame construction" and the grades of lumber, and to enable those writing specifications to refer in the language of the lumber trade to the specific grades of white pine most economically adapted to various building uses. Gives "Recognized Defects," "Comparative Qualities," complete lists, tables, detailed drawings, and photographic reproductions of various grades, etc.
 4. For Announcement of Third Annual Architectural Competition of the White Pine Monograph Series, see Industrial Section, p. xii, White Pine Bureau.
- (u) *Southern Cypress Manufacturers' Association:*
1. See the volumes of **"Cypress Pocket Library"** (4B3p1).

Handbooks and Other References. 4E4

- (a) See Crosby-Fiske Handbook of Fire Protection for "Slow-Burning Construction: Recommendations for Mill Construction," and "Improvements for Existing Buildings."
- (b) See "Fire Prevention and Fire Protection," J. K. Freitag, for "Slow Burning or Mill Construction," Chap. IV.
- (c) See Kidder's Pocket-Book, 1916:
 1. "Wooden Mill and Warehouse Construction," A. P. Stradling, of Phila. Fire Underwriters' Association, Chap. XXII.
 2. "Strength of Wooden Columns." Tables of safe loads, metal caps and bolsters for wooden columns, pp. 448-454.
 3. For data on wooden beams, formulas and tables, working unit stresses for woods, built-up girders, types of roof trusses, strength and stiffness of floors, with tables of loads for floors and rafters, etc., see Index.
- (d) See Trautwine's Civil Engineer's Pocket-Book, for timber and wooden columns, price-list, and business directory.
- (e) See "Building Construction and Superintendence," Part II, "Carpenters' Work," F. E. Kidder:
 1. Chapter II, "Wooden Framing, Ordinary Construction," pp. 89-166.
 2. Chapter VII, "Heavy Wooden Framing," pp. 668-741.
 3. Form of Specifications for woodwork, millwork, painting, finishing, and wooden building construction, Chap. VIII.
 4. Part III, separate Vol., "Trussed Roofs and Roof Trusses."
- (f) See "Mechanical Engineers' Handbook, 1916," Lionel S. Marks:
 1. "Building Construction," pp. 1264-1304.
 2. "Industrial Buildings," Charles Day, pp. 1317-1333.
- (g) See "Mechanical Engineers' Pocket-Book," William Kent, for notes and tables, pp. 1385-1394, "Construction of Buildings."
- (h) See "The Building Estimator's Reference Book," F. R. Walker, 1917. Complete treatise on "Rough Carpentry," Chap. X.
- (j) For dividing of floor areas, types of partitions, stair enclosures, and other features of industrial buildings, see "Universal Safety Standards," 1914. Compiled under the direction of and approved by the Workmen's Compensation Service Bureau, New York.
- (k) See "American Civil Engineers' Pocket-Book," M. Merriman:
 1. "Materials of Construction," Rudolph P. Miller. "Timber."
 2. "Masonry and Timber Structures," W. J. Douglas.
- (l) See "Materials of Construction," Johnson.
- (m) See "The Building Trades' Handbook."
- (n) See "Practical Cost Keeping for Contractors," F. R. Walker, 1918. "Rough Carpentry" and "Mill Work and Interior Finish."
- (o) The International Library of Technology publishes, under the classification "Architecture," four volumes on "Building and Carpentry."
- (p) "The Use and Abuse of Half Timber Work," F. Chouteau Brown *The House Beautiful*, October, 1913.
- (q) "Homes That Were Built of Pine," M. H. Northend, *House and Garden*, February, 1917. Illus.
- (r) "Lumber and Its Uses" (4A2f), sections on "Structural Timbers," "Lumber Prices," and "Permanent Advantages of Wood."
- (s) Carnegie Steel Company's "Pocket Companion," 1916, contains Allowable Uniform Loads for Wooden Beams and Columns of woods, Specific Gravities and Weights, and other tables.
- (t) Jones & Laughlin Steel Company's "Manual" for Architects, Engineers and Contractors, 1916, contains similar data.
- (u) For wood cores in fire doors and shutters, see the various publications mentioned under 4C3.
- (v) For wooden tanks, see 4D5.
- (w) For further information on Southern Pine and references to "Mill Construction," see Industrial Section, pp. xxvi, xix, Southern Pine Association.

Some Wood-Construction Accessories. 4E5

- (a) Very important, with respect to the reduction of shrinkage in wood construction when open and the cracking of plaster when closed, is the consideration of post caps, hangers, and other devices designed, not only for structural support, but to overcome these features. References to these accessories will be found in many of the publications listed in this issue and also under "Floor Hangers, Roof Connections, and Devices" (4D4), 1917, and "Scuppers, Inserts and Devices" (4C4), 1917.
- (b) For mechanical post cap and girder supports and other appliances and materials inspected and labeled or approved, with names of the articles and manufacturers, see:
 1. "List of Inspected Mechanical Appliances" (4E3f2).
 2. "Approved Fire Protection Appliances," October, 1916 (4E3f3).
- (c) "Nail Knowledge," October 2, 1915, and "More 'Nail Knowledge,'" W. T. Flanders, *American Lumberman*, Nov. 27, 1915.
- (d) For correspondence concerning lathing nails, see 5M3.
- (e) For Lightning Protection, see 4G.
- (f) The use of units individually applied for "grounds" instead of plugging walls for wooden stringers and for laying of "sleepers"

- for wooden floors is receiving attention, as evidenced by literature of manufacturers, which see for information. These are also referred to in Report of Committee on Manufacturers and Materials in *Journal of Society of Constructors of Federal Buildings*, February, 1916.
- (g) For the use of metal lath in connection with wood construction in Industrial Housing, see Industrial Section, p. iv, The Associated Metal Lath Manufacturers.

"Mill-Work," Interior Wood-Finish, Veneering and Finishing. 4E6

- As of interest in this connection, see Painting, Varnishing, and Finishing in General, under 12E in the Structural Service Book, Vol. 1, 1917. For Floors and Floor Finishing, see 4E8.
- (a) *United States Department of Agriculture (Forest Service):*
 1. "Sugar Pine." (Professional paper, Bulletin No. 426.) 15 cents. Describes the qualities of this as an important wood in the manufacture of special and general mill-work.
 2. "Veneers" (statistics and method of production), 1906, 6 pp. (Forest Circular No. 133), 5 cents; 1909, 23 pp. (Forest Products 5), 5 cents; 1910, 6 pp., 5 cents; 1911, 8 pp., 5 cents.
 3. "Circassian Walnut," 1913, 12 pp.; illus. (Forest Circular No. 212), 5 cents.
 - (b) *The American Institute of Architects:*

There exists a subcommittee on Mouldings of the Committee on Materials and Methods "to procure from the large manufacturers the sizes from which are run the stock mouldings commonly used in small-house work; to recommend, for the usual run of present stock mouldings, substitutes of good design consistent with the recognized limitations of the manufacturers.

"These to be so worked out by suggested cataloguing as to make it possible for one not familiar with design to select a set of mouldings, each one of which shall be consistent with the others in style and scale; to secure the adoption of these designs and suggested cataloguing by as many of the manufacturers as possible; and to, in some way, inform those using stock mouldings of the better possibilities obtainable through cooperation with the stock manufacturers."
 - (c) See "Lumber and Its Uses."
 1. Section on "Standard Sizes of Lumber" gives Association Standards for Ceiling, Partition, Siding, Finish, Shiplap Boards, and Dimension Work.
 2. Section on "Permanent Advantages of Wood" treats of Availability, Workability, Insulating Qualities, and Figure.
 3. Section on "Paints and Wood Finishes."
 - (d) *Southern Pine Association:* (See, also, pp. xix, xxvi.)
 1. "The Standard Moulding Book." 1916. 37 pp.; with Patterns of Full-sized Mouldings and all forms of finish.
 2. "Directions for Finishing Southern Yellow Pine." 19 pp.; colored facsimiles of finished woods and other illustrations.
 - (e) *Gum Lumber Manufacturers' Association:* (Now merged, see 4A3r.)
 1. "Technical Information about Red Gum." (No date.) 16 pp.; illustrating and describing the figure with notes on the care of hardwood doors and trim.
 2. "Red Gum Facts." (No date.) 13 pp. Interior and other uses with formulas for various finishes.
 3. See *Canadian Woodworker and Furniture Manufacturer* for April, 1917, being a Feature Number on Gum Lumber.
 - (f) *California Redwood Association:*
 1. "California Redwood." 70 pp.; colored illustrations. Treats of interior trim and gives "Directions for Rare Finishes on Redwood." Eight large colored panels show varying effects of grain.
 2. "The Home of Redwood." Use in interiors, formulas for finishes.
 - (g) *Arkansas Soft Pine Bureau:*
 1. "Architects' Manual on Arkansas Soft Pine." 1916. 62 pp.; illus. Proper Finishing, Painting Formulas, 30 pages of full-sized drawings of exterior and interior trim, frames, sills, rails, and Standard Molding Designs and Grading Rules for finish.
 2. "Arkansas Soft Pine: Interior Trim." 18 pp.; illus.
 3. "Arkansas Soft Pine: How to Finish and Paint It."
 4. "Not a House but a Home." Home Construction, Hints for the Layman; Cottage and Residence Designs, with introductions by Aymar Embury II, Architect. 36 pp.
 - (h) *West Coast Lumbermen's Association:*
 1. "Suggestions for the Finishing of Western Woods."
 - (j) *Journal of Society of Constructors of Federal Buildings:*
 1. "Fumed Oak," Chas. E. Morrell, November, 1915.
 - (k) *White Pine Bureau:*
 1. "Classified Recommended Uses for White Pine in House Construction and White Pine Standard Grading Rules," described under 4E3j.
 2. See "Architectural Monographs," described under 4E3k.
 - (l) *North Carolina Pine Association:*
 1. "Your Home Beautiful." 16 pp.; colored illus.

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2. "North Carolina Pine for Architects and Contractors" (4E302).
 3. See "Planning the New Home" (4E301).
 4. "N.C.P. Millwork Manufacturers," giving a list of same.
 5. "Inspection Rules." Contents noted under 4B401.
- (m) *Southern Cypress Manufacturers' Association:*
1. "Cypress Pocket Library" (4B391).
- (n) See "Veneered Work in Building Construction," G. D. Crain, Jr. Article printed in *Veneers*, September, 1916.
- (o) "Decorative Value of Wood, S. J. Record, *House and Garden*, November, 1917, illus.
- (p) See *Kidder's Pocket-Book*, 1916. Various sections.
- (q) See "Building Construction and Superintendence," Part II, "Carpenters' Work," F. E. Kidder.
- (r) "The Building Estimators' Reference Book," 1917. F. R. Walker. 1. Chapter XI: "Mill-Work and Interior Finish, Erection of Same," treats of Methods of Estimating the Labor Cost.
- (s) See "Building Trades' Handbook." Information on Windows, and Outside and Inside Finish, with many illustrations.
- (t) For greenhouse construction, see 12F6. 1917.
- (u) In recent years especial attention has been devoted to standardization in construction of doors, sash, other millwork, and even interior finish, along lines of effective design away from the commonly accepted type of "stock" work. Much saving results through efficiency in quantity production and the opportunity thus to utilize time when plants are not required to satisfy demands of the brisker building season.

See Industrial Section, p. xi, for information by the Service Bureau of The Curtis Companies specializing in such work and publishers of "Woodwork, the Permanent Furniture for Your Home." Illustrated with reproductions from photographs of the original subjects differentiating between the figure in oak, birch, and other woods, as furnished in the "white" for carrying out the architect's scheme of color and finish.

Shingles, Lathing and Wall-Boards. 4E7

The subjects covered by this heading will be found included in a great many of the publications referred to under the other subdivisions.

(a) In addition to the references given under the above heading as 5K, Serial No. 5, in 1917, and in the *Structural Service Book*, Vol. I, others have been incorporated in a list here omitted for lack of space but which will be furnished upon application to *The Journal*.

- (b) As of further interest see Wood Preservatives, Shingle Treatments and Fire-Retardants (12D), and Lathing and Plastering (11D6) in the *Structural Service Book*, Vol. I, 1917.
- (c) For description of "Pamak" Fire-retardant shingle paints, see 12D5 in *Structural Service Book*, Vol. I, 1917.
- (d) See Industrial Section, p. 111, for reference to Stucco or Plaster Board by the Bishopric Manufacturing Co.

Wood Floors and Finishes and Parquetry Work. 4E8

Treated wood flooring and paving previously referred to under 4C2. (a) In addition to the references given under the above heading as 5G, Serial No. 5, in 1917, and in the *Structural Service Book*, Vol. I, others have been incorporated in a list here omitted for lack of space but which will be furnished upon application to the *Journal*.

As of further interest, see, also, "Painting, Varnishing, and Finishing in General," under 12E in the *Structural Service Book*, Vol. I, 1917.

Recreation Facilities, Finishing of Woodwork. 4E9

(a) Wood is the principal material entering into the construction of so many recreational facilities which are housed from the weather. Many of them require and should receive proper consideration in planning on account of adequate provision which should be made for their accommodation in the structure. References to some, including bowling-alleys and billiard tables, will be found under 5L in the *Structural Service Book*, Vol. I, which see, in addition to data in some few of the publications listed in this issue, such as *Kidder's Architects' and Builders' Pocket-Book*; and the *Handbook for Architects and Builders of the Illinois Society of Architects*.

(b) Also, as of interest in connection with woodwork in general, see Serial No. 12, devoted to Paints and Painting, Glass and Glazing, in Vol. I, Section 12B deals with Research, Tests and Paint Materials; 12D with Wood Preservatives, Shingle Treatments and Fire-Retardants; and 12E with Painting, Varnishing, and Finishing in General. In a great many of the publications listed under these sections and in the activities referred to there the characteristics, uses, treatment and finish of woods are constantly under consideration.

(c) See Industrial Section, p. xxxv, for reference to White Lead by Matheson Lead Company.

"Signs of Change"

A DEPARTMENT DEVOTED TO THE FUTURE OF THE BUILDING INDUSTRY

SULLIVAN W. JONES, *Associate Editor*

A paper has just been published which architects, contractors, and building owners may study with profit to themselves and to the building industry as a whole. It is the plan proposed by The Conference Club for a functional reorganization of the electrical industry into tune with the rapidly changing social and economic conditions. The Conference Club is an informal association of contracting electrical engineers—the architectural profession knows them as the larger electrical contractors—and it is significant that such a plan should be put forward by the contracting "group." It indicates that these men, who have for years been looked upon by architects, by engineers, and by general contractors as a more or less detached factor in building operations, have been thinking with vision and with an understanding of conditions and their causes that may well point the way to reforms reaching far beyond anything now proposed.

The plan is offered at this time, it is stated, in recognition of the absolute need "of bringing the electrical industry into step with the rapid march of progress." It deals principally with the service functions of the manufacturer, the electrical contractor, and the consulting engineer. In the preamble there occur these paragraphs:

"The intellectual ferment causing human progress is mothered by ideals of the heart, not of the head. It tends constantly toward mixing the classes and removing the class distinctions of whatever origin. Business is a matter of the head, and the driving power behind it is self-interest. That is why established business generally turns its face against popular reform, against change of any kind that tends to increase the number of those who benefit as participants in successful enterprise.

"In more normal times than these, 'public opinion' is the expression of this progressive ferment of ideals. Public opinion is the parent of the statute book. Statutes change business methods and business policy. But this process for humanizing, democratizing industry is a long and tedious one, punctuated with strife. It is a process totally out of harmony with our now rapidly changing world. Our common cause, the cause of humanity, has forced us to think in unified terms, and to the discovery of the great economic truth, that industrial efficiency comes only from highly developed and organized coöperative effort, inspired by common loyalty to a common cause. Put less philosophically, industrial efficiency depends for its attainment upon the creation of such conditions and upon the

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promise of such rewards for increased effort that every individual works because he wants to, and not because he has to; in short, upon the creation of a community of interest. And so, we cannot attain the full measure of industrial efficiency without also attaining industrial democracy.

"If we hope to carry, without faltering, the crushing burden the war is placing upon us, we shall have to consider the direction and consequence of every forward step we take, not as it may affect each of us alone, but with a mind to its effect upon industry as a whole. We may safely assume that the burden will be fairly equally distributed with respect to each man's earning capacity and worldly possessions. No one can risk shifting his share of the load, or any part of his larger responsibility, to other shoulders. In order that we may find the strength to carry the burden and decrease it by increasing production through the studied economy of effort, we shall have to work together in an invigorating atmosphere of mutual respect in confidence between individuals and between class and class. Our program should provide for industrial peace, growth, and development upon a sound, economic basis. If we fail in this—if we do not find a channel through which may flow the blind irrational forces of discontent—disaster may overtake us."

With these thoughts as a background, the paper proceeds to consider the possibilities for improvement in the present industrial mechanism, as follows:

"The thing we should seek to accomplish cannot be better expressed in broad terms than by quoting from the British Labor Party's Declaration of Purpose: 'We must insure that what is presently to be built up is a new social order, based not upon fighting but on fraternity—not on the competitive struggle for the means of bare life, but as a deliberately planned coöperation in production and distribution for the benefit of all who participate by hand or by brain.' Forget for the moment that this is the pronouncement of labor; take it for your own. It is reflected in the words of every student of current events—the thought behind those words may well be the foundation stone of the new civilization."

The paper then analyzes the present conflict between the interests of the consulting engineer, the contractor, and the manufacturer, and upon the findings, bases its proposals, which it defines as "an attempt to prescribe such service limitations" for these three "as hold promise

of assuring for the future an orderly sequence of engineering functions that will be mutually complementary." Under the new order, the electrical contractor is to become the constructing electrical engineer. The omission of any reference to contracting in this connection is characteristic of the breadth of vision apparent throughout the paper.

The proposals are finally summarized in the following brief statement:

1. That the manufacturer change and ultimately abandon his practice of selling direct to the large ultimate consumer and abandon also his policy of making such sales on the basis of expert engineering advice given by his representative.

2. That the consulting engineer organize to increase the scope of his practice to include rendering expert services to those large consumers of electrical products who, heretofore, have been thus served by the manufacturer, and that the consulting engineer establish a close contact with all manufacturers in order that he may familiarize himself with their products and standards, advise with them on the improvements of their product, and function as a coördinator of their several departments.

3. That the electrical contractor reorganize so as to become a constructing engineer with sufficient capital to act as his own jobber, and so that he may assume much of the consulting engineer's detail work. And that he abandon, very largely, his independence as a purchaser of the manufacturer's product, and effect with the latter some sort of close-working contact based upon a liberal policy providing for reciprocal benefits.

One is struck by the similarity between the problems dealt with in this paper and those that confront us in the building industry as a whole. Are we architects going to "sit by the fire and warm ourselves" and wait for a body of contractors to put it up to us as these electrical contractors have to put it up to the consulting engineer? Are we going to let contractors save us from our own dullness and indifference, or are we going to wake up and make our profession a service to the community and "bring it into step with the rapid march of progress"?

As the Journal has announced in the pages of this issue, we are now determined, through the Institute, to face the present and the future with resolution and with all our strength and intelligence, to the end that we too may make our profession of the greatest use to this war-shaken world.

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Vol. VI

MAY, 1918

Number 5

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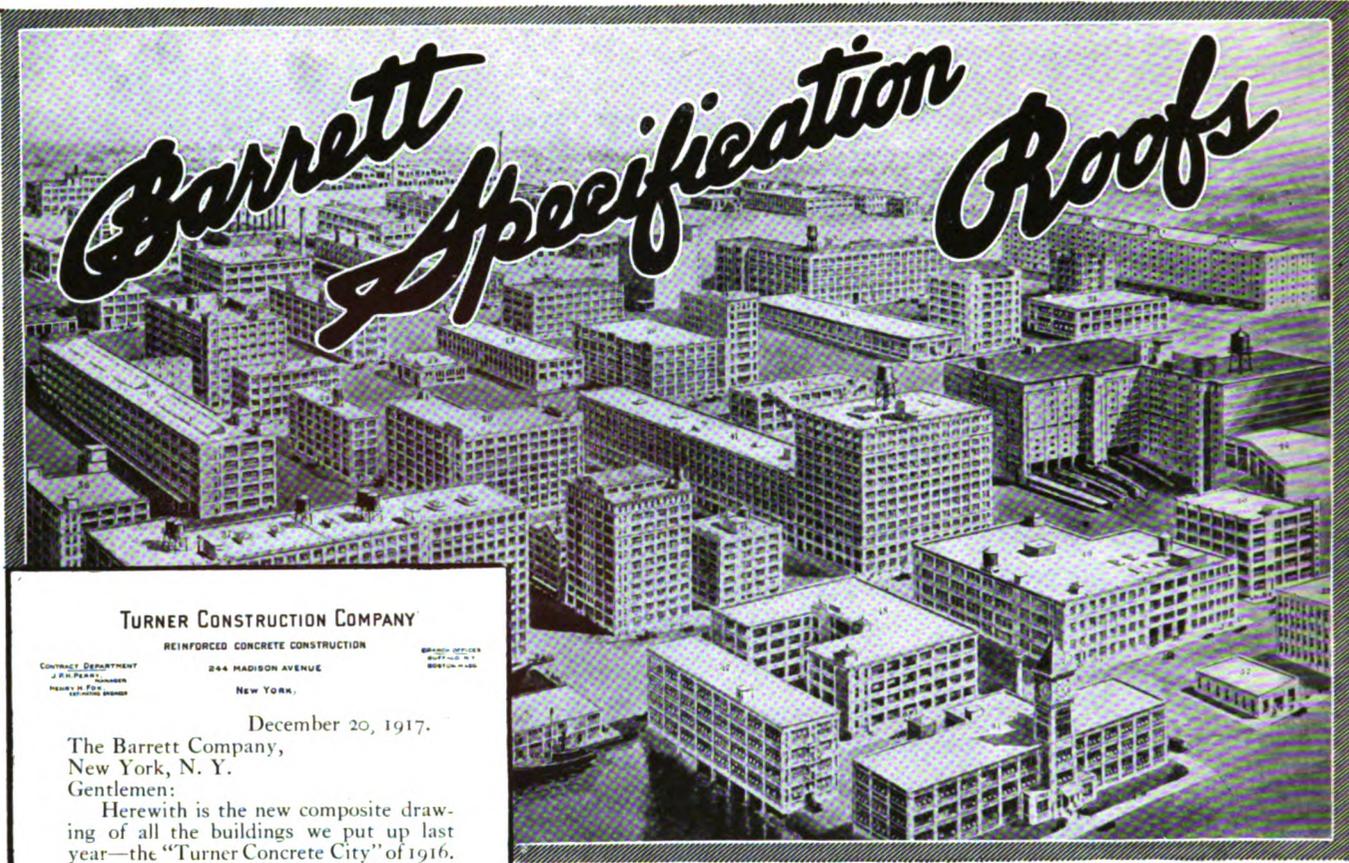
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ON THE SITE OF YORKSHIP VILLAGE

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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MAY, 1918

No. 5

Shadows and Straws

THE HOUSING DEPARTMENT of the Shipping Board has now been combined with the Department of Passenger Transportation, of which A. Merritt Taylor was the head. The new department is known as that of Passenger Transportation and Housing, with Mr. Taylor as Director and Mr. Flannery as Associate Director. A. W. Smith of Philadelphia has been appointed as the executive in charge.

Other changes in the organization are as follows: Alexander Bing having resigned, his place has been taken by D. Everett Waid. Five project supervisors have been appointed, directly under the charge of Mr. Russell, as follows: Alexander Mackintosh, Brooklyn; Eugene S. Klein, St. Louis; F. Mathesius, Jr., New York City; Walter T. Karcher, Philadelphia; John W. Ritchie, Philadelphia.

Several new contracts for housing have been made since the last number of the Journal was issued. These are for Bath, Maine, R. Clipston Sturgis, architect; Portsmouth, N. H., Kilham & Hopkins, architects; Chester, Pa., (Chester Shipbuilding Co.), Simon & Bassett and Edwin S. Brumbaugh, associated architects; Chester, Pa. (Sun Shipbuilding Co.), Ernest Flagg, architect; and Wilmington, Del., Ballinger & Perot, architects.

Tentative plans are being prepared for Lorain, Ohio, Abram Garfield, architect; Port Jefferson, N. Y., Alfred C. Bossom, architect, and Jacksonville, Fla., H. J. Klutho, architect. Appropriations for these have not yet been made.

THE BILL AUTHORIZING an expenditure of \$60,000,000 under the administration of the Housing Bureau of the Department of Labor has been passed by Congress and signed by the

President. Few bills have suffered more amendments than this one was called upon to bear, and as it authorizes the work but makes no appropriations for its execution, there are likely to be grave delays unless Congress speedily passes, as is now hoped, a bill making appropriations direct and free from the hampering restrictions which were unwisely placed in the first bill.

The Housing Bureau of the Department of Labor has now completed its organization, which is as follows: Director, Otto M. Eidlitz, New York City; Assistant Director, Joseph D. Leland, 3d, Boston.

The Managers of Divisions are: Investigating, I. N. Phelps Stokes, New York City; Real Estate, William E. Shannon, Washington; Publications, Dr. James Ford, Harvard University; Statistics, C. W. A. Veditz; Legal, A. B. Kerr, New York City; Fiscal, G. G. Box, Washington; Production, Burt L. Fenner, New York City.

The Production Division is as follows: Architecture, J. W. Cross, New York City; Town Planning, F. L. Olmsted, Boston; Engineering, J. W. Alvord, Chicago; Estimating, N. Max Dunning, Chicago; Construction, D. T. Webster, New York City.

THE ABOLITION OF THE CANON of Ethics, which stated that advertising was unprofessional, is in many ways one of the most remarkable actions ever taken by the Institute in convention assembled. That this action will be greatly misunderstood, and perhaps wilfully misconstrued, there is no doubt. Even those who have stood as the strongest proponents of the measure may not grasp the full import of the admirable report of the special committee which was printed in the last number of the Journal.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

An old tradition will be thought, by many, to have been done away with, and a great step forward to have been taken. But while there is no doubt that the Institute has taken a new stand, which is indicative of a broader spirit and a more democratic tendency, it must not be thought that the spirit of tradition has been discarded. It was born in a very simple way and was cherished by a group of men who held high professional ideals and who had an instinct for good taste which may not perhaps be so prevalent today as then. The mistake they made, if mistake it was, was to enunciate their belief in a canon of ethics. Good taste cannot be canonized. It may be acquired. It should be a part of any professional equipment. But in expressing the conviction in a Canon of Ethics which was eventually transformed, perhaps more or less unconsciously or thoughtlessly, into a recital of punishable offenses, the Institute assumed an untenable position.

At first this did not so appear. Advertising, as a word related almost entirely to business, held a very limited connotation. It related itself almost entirely to space in the newspaper or magazine. But in time, as knowledge, experience, and skill were applied to commercial advertising in a successful effort to develop it as a business force, it soon became clear that there were many and various methods of advertising. Originally confined, as a business, to the placing of space in newspapers and periodicals, it began slowly to take the form of the writing of copy, the preparation of illustrations, the study of markets, the analysis of business, in order to increase sales and open new markets. Thus, through the operation of an inevitable law, those who dealt in advertising or advertising advice, and who sold that service to business men, began to study other methods and devices. Some of these were vicious and reprehensible. They took the form of subsidizing the news columns of the press, of exerting influence through political agencies, wheedling buyers with coupons, stamps, and tips in all forms, deceiving the consumer with samples which frequently misrepresented the articles described. Others were good. They were founded upon psychological observation of influences which determined choice, and through this agency business has been broadened and its standards raised.

But advertising as a word thus began to

stand for a variety of selling forces which could scarcely be enumerated. The architect, obliged in some manner to make his name known, could no more escape the utilization of some form of it than he could escape the use of the post for carrying his letters. In short, the word advertising was no longer definable. It had gone far beyond the use of newspapers. The question became one of kind and degree. The Canon of Ethics was lost in a sea of doubt and absurdity. What was advertising? To adhere to the old definition and punish men who caused their cards to be inserted in country newspapers was a logical injustice, so long as others who employed less direct but more subtle and effective methods were left unpunished. The Canon, as a mandatory guide to good taste, had long outlived its usefulness. But it will be a sad error if architects fall to thinking that the spirit of the Canon is no longer worth keeping alive.

Contrary to the inaccurate statements which have appeared in various publications, the Institute does not advocate nor suggest nor favor advertising by its members. It takes no stand whatever. It leaves men free to exercise their good taste, if they have any. To those who have it not, it will neither mete out punishment nor reproof. Its action in convention is an acknowledgment, perhaps a little long delayed, of the belief that it is better to have men bound by honor than by a canon. The future will see this principle much extended in the Institute, unless we are greatly mistaken, for it is, after all, only upon honor that a profession can survive.

AN AMERICAN COMPETITION for a solution of the housing problem is announced on pages 252 and 253 of this issue, and an invitation is thereby extended to the architects of the United States and Canada to join in a fundamental study of a problem which is of the most vital importance to the social and industrial future of the whole western hemisphere. It is a new kind of competition, and the names of the jurors who have kindly consented to serve, afford an ample guarantee of the broad constructive principles which will guide their judgment in awarding the honors.

Associated with the Journal in this competition is the *Ladies' Home Journal*, of Philadelphia, which will join in the publication of the winning theses and plans.

A National Organization of the Building Industry

THE PROPOSED FEDERATION of the building industry, reference to which was made in the last issue of the Journal, has moved forward another considerable step during the interim. The Institute has issued a call for a conference to be held in New York City on June 14, to which there have been invited representatives of all the leading national and local organizations which are in any way connected with the building industry. The call was as follows:

"The American Institute of Architects believes the time has come when steps should be taken toward federating the whole building industry of the United States, in order that the Government may have the most intelligent support and powerful coöperation of all the interests involved.

"The wartime need of such action appears to be immediately imperative, and it would seem that the first and paramount duty of the building industry is to place its knowledge, skill, and equipment unreservedly at the service of the nation, involving as it does elements and factors of the widest diversification. That service can only reach its maximum of efficiency through intelligent adjustment of all the vital parts. The building industry also owes it to itself seriously to study from the broadest possible viewpoint the inevitable disorganizing influences of war which have already been felt, and through such study to determine what steps can be taken toward bettering conditions and minimizing any further unnecessary disorganization.

"With a view to the possible formation of a national organization, which might assume the burden of this tremendous undertaking, the American Institute of Architects accepts the patriotic duty of initiating the movement. To this task the whole building industry should subscribe. As a first step the Institute invites you to send a duly authorized and accredited representative to a conference to be held at the Engineering Societies Building, 25 West 39th Street, New York City, beginning at 10 A.M. on June 7, 1918, for the purpose of discussing the situation and determining the method and providing the means whereby such an organization may be created. This invitation is being

issued to national and important local organizations, which represent the building industry—whether technical, manufacturing, contracting, or labor.

"We will greatly appreciate your prompt notification of acceptance of this invitation, and at the earliest possible moment the receipt of the name of the representative whom you will send.

"Please address all communications to the Executive Secretary, the American Institute of Architects, The Octagon, Washington, D. C.
Cordially yours,

THE OFFICERS AND DIRECTORS OF
THE AMERICAN INSTITUTE OF ARCHITECTS.

By THOMAS R. KIMBALL,
President."

Whatever may be the extent of the changes which have been wrought by war in the traditions, customs, and methods of the building industry, and however great the monetary profit which has accrued to one part of it, or the loss which has fallen to another part, there can be no denial of the necessity of a greater unity within the industry if it is to survive as an efficient wheel in our economic future. By efficient we mean something more than speed or cheapness. Admirable and necessary as such factors may be and are, the whole building industry today must stand the new scrutiny of a world which will ask less of individualistic performance and far more of collective results. Even under a political democracy we have not succeeded in ordering the physical developments of our country any better than the older countries of Europe, and in many ways not as well. Measured by the triumphs of our building skill, we may well lay claim to brilliant achievements, but measured by the degree of congestion which our building operations have brought to our cities, measured by the colossal sums which must now be spent in undoing the mistakes of the past by solving the fast increasing problems of transportation, traffic, health, sanitation, recreation, and a national development in which we shall lay more stress upon the kind and character of human life than upon the products it makes and consumes, we may well pause and

ponder upon the fact that the race is not to the swift.

It may be said, truthfully, that the paths of the building industry are marked out by laws which are not under its control. But, instead of awaiting the final verdict of the nation, it would be far better if the industry could itself conduct a searching investigation into the economic, civic, and social ugliness which it helps to bring into being and to maintain, and then to appeal to the nation for a change in those laws which force the tremendous national waste of fire, of disease, of blighted development of hundreds of thousands of children, of loss in production as well as in consumption, and of a national scale of life which before the war, might perhaps have been marked as descending rather than ascending.

We have not organized the building industry on the democratic basis, and now that this

country solemnly has reconsecrated itself to the principle of democracy, there can be no worse traitors than those who refuse to apply that principle in all things.

The coming conference holds great possibilities. Animated by a spirit of patriotism, of unselfishness, and above all of democracy, it can yield a result of great good, not only in these days of stress and doubt, but in the better days to come, to which the building industry has in its power to make a contribution than which none is more needed.

In war service, the building industry has already demonstrated what it can do in the way of speed. Its services have been the foundation of our program. The nation cannot but be appreciative. But the great lesson learned by a result expressed in terms of public welfare must not be lost.

The House by the Sea

I. THE SAINTS ELIZABETH

The morning after my arrival I waked, having spent a fitful night, in a strange, narrow, cramping bed—my generous four-poster at home does not fit one for the hospital variety—and looked about the unfamiliar room. A damp wind blew in the open window; outside, beyond a screen of elm trees, lay a desolate prospect of dirty fog and sodden marsh. It was quite still, and the foghorn, of which I had been dimly conscious all night, joined the steam-radiator in a dreary duet. No open fire; no pretty Agnes with my dainty tray. "You have been spoiled," I said to myself while tidying my hair before the glass; "crawl into bed, wait for your breakfast, and make the best of it."

A knock at the door; a laden tray jutted into sight beyond the screen, and Elizabeth followed it. Ghost of childhood! Mary, our old nurse, stood before me. I felt again convicted of the awful crime of being late to breakfast, especially as Elizabeth would not smile, but put down the tray deftly and left the room at once. An old-fashioned, well-trained Irish servant. Irish!—the very epitome of it. In spite of the neat black-and-white print dress, I saw her running

barefoot along the bogs, a basket of peat on her back, her heavy black hair straggling in the wind over her face, with its fine eyes, short little nose and longish upper lip. She might, again, be one of Lady Gregory's players, ready for pathos or comedy.

As I ate my breakfast, I thought, "Surely there is something to be had out of someone as distinctive as that." Many weeks we have been friends and this is what has unfolded, while the carpet-sweeper and the duster have not been neglected and fresh linen has gone on bed and dressing-table. When work was slack many a little chat has accompanied the supper tray. Don't judge people by their faces. Elizabeth's voice is not Irish; it is soft English. And it speaks good English too; no trace of cockney. For all her Irish looks and her Irish mother, Elizabeth has an English father. She reads everything she can find—the *Atlantic*, poetry, Masefield—a jump to the "Irish R. M.," and we became better friends than ever over old Lady Knox, pinned up with her diamond brooches, Flurry and the Major's ladder. The first Sunday morning that she brought up my tray, I knew by her black dress that she had been to the church on the hill—St. Mary, Star of the

THE HOUSE BY THE SEA

Sea—and I, who have not been to church for months, cried out:

“Elizabeth, what was the gospel?”

“Oh, Miss, a sower went out to sow;” and with dignity and intelligence she repeated the parable and the gist of the priest’s short sermon. Thus, each Sunday I have had my spiritual food and have given thanks.

The weather, the view and my spirit cleared up, and neither of us let any beauty of nature to be seen from my two windows go unsung. Of course, we have talked the war daily. Elizabeth is an ardent champion of the British Army, with an unshaken faith in its prowess and determination. It seems that she was born on the strength of the 48th foot. Her father was a soldier from his boyhood; as a lad he served in the Crimea.

“Now don’t tell me, Elizabeth, that he was nursed by Florence Nightingale!”

“Indeed he was—not wounded but very sick. He has a wonderful picture of her. Twenty-eight years he served in the British Army and he can tell stories of India as good as any Kipling tells.

“Oh, Miss, this war is killing him and I long to go home to see him once more; but he knows I am doing right, for they need the money I can send them. There are little children of my sister’s. The husband is gone to the war; wounded already. And who knows if he will ever come back! I would go to them, but it wouldn’t help matters if the Germans got the ship I went in. I’ll just not think of it.” She talks of her father like a lover.

A few days later she came into my room with set face and took out of her apron pocket a black-bordered letter marked, “Opened by Censor.”

“I want you to read it,” she said. It told how her father had died peacefully, having made his peace with God, reciting the act of contrition. A newspaper cutting described his service and his medals and how a firing squad of two hundred men followed the soldier, Wyndham Painter, to his grave to fire the last salute.

“It is a great honor,” said Elizabeth. I have heard many an Irish girl wail and moan and keen at news of death, but not so a soldier’s daughter.

For two tense days she thought she ought to go to her sister; and my imagination pictured

the little woman all the dreary, dangerous, winter journey. But the violence of enemies was naught to her; she only dreaded a night in New York. A visit to the steamboat offices seemed to bring us into close quarters with the war—passports, identification photographs, war tax, neutral ships, mines, submarines, expense. Then Elizabeth steadied herself; the traditions of the British Army prevailed; her duty was in the munitions department and, with one bitter cry against her poverty, she settled to her work. Her dignity was quite beautiful to watch, and she little knows how much good she has done “her patient.” What turns of fate, what humble self-sacrifice have left my Saint Elizabeth an exile!

And the other Elizabeth—“Betty”—a visitor where the rest of us are patients, well instead of ill, young while most of us are middle-aged, “a sunshine in a shady place,” a breath of fresh air, a happy melody. Her hair is a glowing spot of color, red—red and wavy; her skin is white, her teeth are whiter, her eyes and mouth are sweet and generous, her body tall and straight and ample, her arms and young breast just made to hold a little child.

Betty can sew and weave and cook; she can sing, and dance all night at a ball. She loves pretty clothes and jewels; she burns to learn, to serve, to ease the lot of the poor and suffering. Beauty stirs her; goodness uplifts her. She has a lover who comes out of the great West just to look at her, leaving a trail of sweets, books, and roses, and she shakes her head and smiles. She is the cherished daughter of a very rich man; she is deep in love with a poor one. She is Saint Elizabeth with the loaves and roses in her dress at the same time.

II. THE PLEASURES OF LISTENING

All my life, when lying awake at night, I have told myself stories, but never one yet that I felt moved to put on paper. The only virtue in them is that they are so dull they put me to sleep. Sometimes I have so intensely visualized the house in which my people lived, that I have got up to draw a plan of the rooms to see if the garden and the driveway could be where I saw them with my inward eye, but to the flimsy beings of my stories names and faces refused to stick.

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Since I have been a prisoner and a captive and have had to lie so many hours flat on my back—and you know that does not mean propped up with pillows comfortably reading a novel—I have found reading, knitting, writing, very difficult and many days quite impossible. When you lie flat on your back you tend to look at the ceiling. I remember, when I was a little girl, a stain from an old leak on the ceiling of my room looked like a fish jauntily swimming in the sea. It always enchanted me, but here, alas! all is fresh and white and, like the Bellman's Map, "a perfect and absolute blank." Something had to be done to keep Satan from idle hands and thoughts, and so I took to listening.

You know, the waking up of a big house is quite fascinating. A door opens, a window shuts, a bell rings; far off in the lower regions someone turns on a faucet. Steps are heard, brooms brush, tables and chairs are moved, shades run up, dishes clink, someone shovels snow from the walk outside, voices begin, and the whole thing is in action—and the footsteps! I feel that I could write an imagist poem on footsteps; their poems so often consist of lists of things, like this:

FOOTSTEPS

The sound of the little
Feet of the little
Energetic nurse
Like steel trip
Hammers, shod with O'
Sullivan's heels of
Live rubber.
The languid step
Of the little lady,
The elephantine pad
Of the fat nurse,
Indolent, heavy.
The triad step
Of the lame man
With his stick,
The firm, even tread
Of the doctor.

The patter of the dogs' feet
On the boardwalk;
Light steps of busy women;
Shuffling steps of workmen;
Steps of people carrying things;
Steps of people wearing squeaky boots;
Steps of people taking little walks;
And steps that beat on an agonized, aching head
like kicks!

Listening has its dangers, and there are accursed sounds that must be ignored—the Victor singing ragtime, the vacuum cleaner, steam radiators, and sounds as old as time and civilization—the clatter of women's tongues and the slamming of doors. The pleasures of listening, however, come when the busy house quiets down in the afternoon and through the always-open window come the sounds of out-of-doors. The whir of an electric car and the passing of a train sound far away and almost idyllic. Sometimes a bell, a steam whistle, or the tooting of a tug remind one that the harbor and the town lie over the hill. The heavy snow keeps the motors away but now and then a cart passes or a sleigh with its bells. The gay voices of the children coasting, the yaps of the happy dogs hunting on the marsh, come in on the afternoon sunshine. The man drives up with the evening mail and the boardwalk creaks in the cold under his feet. The crows caw in the early morning and a little chickadee calls at twilight.

I have loved all the sounds of the snowstorms—the driving sleet against the windowpanes, the gay, crisp resonance of the shovels in the blue and white mornings when the storm is gone, the cries of the driver urging the old white horse to pull the snow-plow along the untrodden road, the rush of the avalanches off the roof, the drip from the eaves and the brittle clatter of the big icicles falling on the veranda when the thaw comes.

I cannot begin to tell the songs of the winter wind, of the trees and of the sea, the thunder and roll of the surf, the rattle of the stones on the beach vainly pursuing each wave. Many days it has been so calm that only a suave and heavenly sound of little lapping waves has reached my longing ear. When one has tried to live on terms of amity with the hell-fiends that race day and night on a city street, imagine the joy of putting out your light early to lie flat listening to the sound of the sea in the frosty night.

I have even enjoyed the foghorn in thick weather, with its blaring, hoarse "Beware! beware! ye little coastwise craft;" and one morning at dawn, when the wind had dropped, I had a strange feeling of unrest, of vague alarm, and the cryptic word "Aberbrothrok" kept repeating itself in my mind. Then the electric contact came: "It's a bell-buoy!" The Inch-

THE HOUSE BY THE SEA

cape Rock, Sir Ralph the Rover, and the Abbot of Aberbrothrok! And now, when wind and sea are right, I hear it often, always with that sense of danger and warning. And suddenly one day came the most exciting sound of all that brought me out of bed to the window in a flash, the sound of an aeroplane on a trial trip from the factory by the harbor. I could not see the great bird, for the house cut off my view, but I listened with all my ears. With the simile of a bird in mind, you think at first the sound is the beating of the creature's wings, but it is the terrible throbbing of its heart; and, with it, my hole-in-a-corner little room was in touch with the great war. Perhaps that very airship, guided by some young, ardent, virile spirit will soon be flying the tragic skies of France. Then I gave up listening and took to remembering Paris *en fete*—the great green field of Longchamps massed with troops, color, movement, the thrilling rush of men and horses, the call of bugles, the unforgettable sound of artillery at the gallop,

and overhead in a perfect summer sky, aeroplanes.

But beyond all is this marvelous winter stillness. One night the silence and a bright patch of moonlight on the floor lured me to the window. There was no least breath of wind. Not a land light showed, not a sound came from the big house. The snow-covered marsh stretched quiet and gleaming before me, and beyond the rampart of the beach lay the sea—so still, I swear it did not stir about the black mass of the sleeping rocks. The sentinel bell hung dumb in its buoy; the light on the distant light-ship burned far and steady; the few stars shone high and lonely; and oh, the trees—they stood there in the moonlight in quietness and wisdom, while the great elm tree flung a shadow equal to itself in beauty on the cold white snow. Silence—mystery—questioning! It was like looking on the beautiful face of the dead. I could not stay, but drew noiselessly away to my bed, to lie there, still, as all else. S. W. H.

The Circean Shadow! III

By RICHARD WALLACE TUDOR

WE have already noted how it is that we develop a set of undemocratic reactions by introducing the student to the region of architectural thought through forms expressive of social and political traditions which run counter to the currents of modern times; how we narrow his concept of vocational activities and responsibilities by an over-emphasis upon the value of form and proportion; how we discourage responsibility in thinking by the imposition of programs and judgments; how the student is given no opportunity to check the result of his study with actual situations in the fields of reality; how we suppress his inquisitiveness; and how we limit his field of interest to the needs or desires of special groups within the community rather than extending it to include the affairs of life which are most fundamental; how all-important it is that the architect (and hence the student) take a responsible part in the development of our entire social and physical environment, for buildings are but details which must take their proper place and perform, likewise, a

proper function if our environment is to express other than a chaotic jumble of individual cross purposes.

The statement thus far has been an attempted analysis—a destructive analysis. Little of our educational structure remains standing; not even the foundation remains, for primary education has been found wanting.

How shall we build the new structure? What old materials shall we use? What form shall it take? This is the problem—the tremendously important problem—*and we must decide*.

But we *must* have a foundation. Therefore let us start with that. How shall we prepare that? Shall we continue to press our futile suggestion that the students in our primary and secondary schools be taught drawing and modeling and design—that they shall be taught “fine art”? Will that really help?

It will not so long as these subjects are taught in the dry, frigid, academic atmosphere of the formal method which makes these activities appear as perfectly useless operations. Such subjects would but add to the burden of useless

baggage—become so much junk—which the student brings to the architectural schools.

But what is education—general education? Do we know? We do not know, else we would not make our futile suggestions. Dr. Dewey has answered the question; in "Schools of Tomorrow" he has built our foundation. Why do we not consider what he has to say? In terms of educational technique he has laid the foundation of a new world, a democratic world in which there is contained the hope of a rebirth of art and architecture.

If we are *really* sincere in our desire to achieve within our field, we will study well how it is that he proposes we should reorganize the education of today. If we are *really* sincere, we will make the advocacy of the principles which he enunciates the central theme of our educational effort.

Look the matter squarely in the face. What has our system of general education produced? A sordid and ugly chaos of industrial stupidity; a pyramid of conditions inducing unrest; a world in which nearly the sum total of human effort is lost in that it neither satisfies in itself nor produces things physical which satisfy.

With an adequate background of primary and secondary education established, the problem of teaching architecture would be relatively a simple matter. But that background does not exist—nor will it exist for a long time. But we must have that background; therefore let us demand it—and get it.

But how shall we teach architecture?

How many of those teaching architecture have considered thoughtfully, seriously, earnestly what is meant by "teaching"—in a real educational sense? How many have endeavored to formulate a philosophy of education? How many have considered the philosophy of Rousseau, and read and reread and pondered over that work, pregnant with new life, "Democracy and Education"?* Shall we call for a show of hands?

How many have really attempted to think this problem through to the end? What, for example, is meant by "aims in education"? Do we know? I do not think we do, for I do not recall having heard anything at all about this very important matter at our conventions, nor

* "Democracy and Education," by John Dewey. The Macmillan Co., New York City.

do I recall having observed a serious treatment of this theme in our architectural papers.

We talk and talk and talk about education, but it is all about "fine art" and "degrees" and medals and credits and scholarship and exhibition and standardization; but of how we teach, how we *should* teach—what we teach, what we *should* teach—what are our aims, what *should* be our aims—of these important matters there is little said.

The whole unvarnished truth is that we are teaching architecture just as we do a thousand and one other things—to no particular purpose, without aims, without a philosophy.

This brings us again to the beginning. What should be the aims in education? What in particular should be the aims in architectural education? Much that has already been suggested anticipates what is now to be stated. We must define more accurately the aims, for it is upon our definition that we must reorganize the technique of teaching.

"An aim implies an orderly and ordered activity, one in which the order consists in the progressive completing of a process." In order that there be an aim in education, the conditions within the school must be such as to stimulate the student "to look ahead to see what the outcome of a given activity is to be." It is this foreseen end, appearing as an aim, which should give direction to an activity.

"We can definitely foresee results only as we make careful scrutiny of present conditions, and the importance of the outcome supplies the motive for observations. The more adequate our observations, the more varied is the scene of conditions and obstructions that presents itself, and the more numerous are the alternatives between which choice may be made. In turn, the more numerous the recognized possibilities of the situation, or alternatives of action, the more meaning does the chosen activity possess, and the more flexibly controllable is it. Where only a single outcome has been thought of, the mind has nothing else to think of; the meaning attaching to the act is limited. One only steams ahead toward the mark. Sometimes such a narrow course may be effective. But if unexpected difficulties offer themselves, one has not as many resources at command as if he had chosen the same line of action after a broader survey of the possibilities

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of the field. He cannot make needed readjustments readily."

We should ponder over this, for it seems to me that it discloses the reason why the architectural profession is groping about in an endeavor to adjust itself to the present.

But what sort of aims should we have? "The aim set up must be an outgrowth of existing conditions. It must be based upon a consideration of what is already going on; upon the resources and difficulties of the situation An aim must, then, be *flexible*; it must be capable of alteration to meet circumstances. An end established externally to the process of action is always rigid. Being inserted or imposed from without, it is not supposed to have a working relationship to the concrete conditions of the situation."

As I look back upon the days in school, I recall vividly the hours and hours spent in "presenting" the elements, the tombs, the mausoleums, and how all this work, and the succeeding problems, headed straight toward an achievement expressed in ideas associated with magnificence—the region of the Prix de Rome. Occasionally there was a short excursion into the field of reality, but this was considered by our teachers and ourselves as a humdrum, uninspiring sort of place, for, seemingly (and as a matter of fact), it had little to do with the goal for which we were striving. On and on we were led into that region of dreams, the land of the great monumental baths, the pantheons, the great *établissements* for the reception of royal guests, into the land of unreality.

The days, the weeks, the months spent over the paper silhouettes, the "points de poché," the greys, the blacks and whites, the indications, the mosaics, and the wonderful renderings! What was it all about? What *is* it all about? In terms of the present, the future, in terms of social value, in terms of democracy—I do not know.

It was into this world of magnificence, this world of sumptuousness, this world of unreality that we were led. Our hope was to achieve the magnificent and to stage it in a setting borrowed from the past. This was the mark toward which we strove, toward which we are striving. Has this effort been effective? Let each answer that question in the light of his own experience, in terms of his own environment, in his interpreta-

tion of the significance he attaches to the increasing volumes of discontent voiced by members of our profession and by the attitude of the public toward the profession as a whole.

So the cause of all this questioning and the attitude of the public toward the profession is very largely the direct result of an education which moves forward upon a single track—toward a goal which has no relation to reality. Our education is but an academic formula without real or vital living aims.

It is alone in the school of experience—the years of practice—that the architect, still a student, is presented with real situations, and it is only he who in school silently submitted in rebellion to the rigmarole and to the imposed academic objects (miscalled aims) who realizes that his problem can only be solved by a new formula. It is only he who searches for the new formula and acknowledges his utter inability to think his way into a real, an actual situation with which he is confronted and to think his way out with a real or actual solution, who fully realizes his impotence and the cause.

But impotent though he may be to organize his program and his solution, his inquisitiveness, his rebellious spirit, his actual contact with a living world opens up new vistas—carries him into a new region of thought and creates within him a new ideal.

And this new ideal, this new region, is not that of the great baths, nor the palaces, nor the pantheons nor the great *établissements*—that seventh heaven of the architectural school. It is a totally different place; there is an orderly arrangement of the forms, but the forms are of a different sort—there exists a totally new set of values by which forms are appraised. Through the vista thus opened he sees—vaguely perhaps—but he sees as the goal of his endeavor, as the aims of his calling, the crystallizing forms expressive of the democratic motif.

For his contact with the world of reality, with real situations, has stimulated him and has given him an insight into the new techniques which he realizes that he must adopt.

And so he realizes that the old ideals of architectural education—class conscious and narrow, revolving as they do around custom, tradition and authority—belong only to a static civilization.

He realizes that "in our world only those will

conquer who can understand." He also comes to realize that only those can understand who check their acts and thoughts in the world of reality. Above all, it comes to him that life is not something which he is merely to interpret, but something to be shaped; that architecture must be more than a passive, interpretative expression; it must be dynamic; it must enable us to live forward in the midst of confusion and complexity. And so it is that a new light dawns and in that new light he sees in broad outlines the aims of a forward-looking education.

And among those aims there stands in the forefront that suggestion by Sidney Webb: "and above all and supremely, it (the profession) ought to regard it as its duty to claim, in season and out of season, that the services which the profession can render to this community should be available in quantity sufficient to enable every person in the community to get the benefit of the service."

Nor should the aims of an architectural education omit those which relate to associate activities. To isolate the students in architecture from the students in collaborative activities is but the act of erecting formidable barriers in the way of closer collaboration in practice. To teach landscape architecture, decoration, or sculpture in isolation and apart from architecture is to render worthless much of the teaching. In reality, the central aim common to all contributors toward interpretative expression of ideas in form and color is *unity of expression*; that such are among the aims of education should be made vivid through *collaboration in the methods of education*. *To think in terms of collaborative effort—to use subject matter collaboratively in educating those who must join hands in the production of an adequate environment—is an essential first step which cannot be omitted, for if we omit it we shall continue in our failure.*

And there is still another tremendously important factor in the production of architecture which must be recognized and considered while the mind is plastic, while the foundation of an understanding of art is being laid.

We are living in an intensive industrial age; we question its justification; we condemn the machine and the intensive processes of production; we carry into the school a sweeping condemnation of the physical products of this

industrialism. *In so doing we make a fatal error, and we prove that we fail to recognize what constitutes art.* Art emerges, and ever will emerge, from industry. Instead of fostering the idea that industries are to be condemned, we should develop the idea that our future art must be derived from the very industries which we now condemn. This false attitude, fostered and developed in our schools, instead of bringing us nearer to achievement, carries us constantly further and further away.

It is only through a sympathetic understanding of the social and economic phases of our processes of fabrication that it will be possible for the architect constructively to criticize and point the way toward the development of industry and industrial conditions which will make the realization of a rational art and a rational architecture possible. We who have had experience in the world know that the labor problem, as it relates to production, is a fundamental problem which has somehow got to be solved. Why in the name of sense do we shut these problems out of the university? Why do we turn our students loose upon the world without the slightest inkling of the significance of these fundamental problems? Are we afraid to deal with them?

Why do we send our prize students to Europe, to Paris, to Rome? For what purpose? For what aim? What are they told to do? What *do* they do? Upon what is the emphasis, the greatest emphasis, placed? It is the past—as if Europe contained only the remains of the past.

And it is also form—forms of the past—as if Europe contained only forms. Why not send our students to Europe to study life, to gain a knowledge of social and economic conditions as they affect art and architecture? Why not send them to study the expanding functions of government as they affect art and architecture? Why not send them abroad to study the future?

We treat Europe (academically) as if it were a tomb, a mausoleum of art; we send our students to pick the lock if they can.

And so they miss completely the most important things: They return having failed to grasp the architectural significance of the new social and industrial order that is emerging and the expanding functions of government which are developing and which will profoundly affect the entire physical environment in which men

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live in Europe. (I have no reference to the war but rather to the stream of tendencies witnessed just prior to the war.)

The student returns with his portfolio of sketches and measured drawings (valuable in their way), rather further removed from the field of reality than when he left. America appeals to him as more raw and crude. He realizes this, for he has eyes. But why is it so? By what social and political technique has Europe achieved a better physical environment in recent years? He does not know.

He has been taught to look at things, and not into things; and so he returns without the slightest knowledge of how Europe, by collective action of a social and a political nature, is evolving an art and an architecture.

Such are the essentials of the problem. How shall we reorganize the education of the architect?

There is the problem of primary education to consider; to this we must direct our attention, for it is hopeless for us to attempt achievement with the background now afforded by the primary schools. There is the tremendously important task of making vivid more rational aims. There must be within the school a definite goal of endeavor which gives direction to each act of the student, and this goal must represent the aims of forward-looking men—with the aims of the new democracy. We must introduce the student to his professional work in such a way that from the outset there will never be any confusion in his mind as to the relative value of form and function. We must so organize the work as to develop responsibility in thinking. We must give him an opportunity to check the results of his study, and lastly, we must extend his interest to include affairs of life which are fundamental.

(To be continued)

The Architect After the War*

By MILTON B. MEDARY, JR.

THE only consideration which led me to consent to read a paper to the convention was my firm conviction concerning the obligation of the architect to see that his special knowledge of planning, as it affects the health, morals, and general life of a community, shall not only be made available, but that the benefits resulting from its application shall be guaranteed to the crowded populations of our cities. Some work along these lines is being done, partly by boards of health and partly by privately supported housing and social working organizations, while our profession, as a whole, although best qualified for leadership in such a program, is content to confine its activities within a small circle representing a group of clients able to pay for what most of them regard as a luxury.

In this respect we compare unfavorably with the medical profession, whose societies and organizations are known to the public, not so much by reason of the success of their individual members in serving their personal patients, but by reason of the demand of these societies that the whole population shall be guaranteed the advantages resulting from medical research, and, further, that established medical standards shall be made compulsory when the health of the community is at stake.

"The Architect after the War" is the title assigned for my paper, and its form suggests something in the nature of a prophecy, and I want to make it clear at once that this is not the time lightly to attempt a prediction of

*Read at the annual convention in Philadelphia, May 26, 1918.

what may lie beyond the most solemn hour in world history, when the destiny of human institutions still hangs in the balance. Down through the centuries men have struggled to achieve that destiny, and the results of the struggles of countless men are now in jeopardy.

This is a world war, not so much because of the magnitude of its operations, but because men must fight once again for all they have inherited from Yorktown, from Runnymede, and from the shores of the Sea of Galilee. On one great altar, stretching from the North Sea to the Alps, millions of men are being sacrificed that this inheritance may not be lost.

Let us, then, rather examine ourselves in this hour, when all selfish interests are hushed, with the hope that we may learn something for our guidance in that new era when we hope we may emerge again into the clear pure air of a new Easter dawn, and when the least we may do is to cherish and preserve those ideals which are being defended for us at so great a cost.

Architects had begun to speculate upon the relation of their profession to the social order and upon ways and means of informing the laity of the value of their service, when the outbreak of the great war brought with it an almost immediate conviction that in the popular mind the profession was associated with the luxurious, or at least the unnecessary, and that as long as real work was the order of the day, the services of the architect had no place in it. This popular judgment must form the basis of any analysis of ourselves if we hope by such an analysis to

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qualify for a more worthy estimate of the value of our services.

To attribute it to ignorance and offer the timeworn suggestion of "educating the public" only restates the question in other forms. Why is "the public" ignorant? and how do you propose educating it? Incredible as it may seem, it has been seriously proposed that the profession should buy space in the public press and explain that architects are a misunderstood group of men, vastly more important than anyone outside of the profession has even guessed, and that we crave a greater appreciation of our merits. Such a maudlin lament reminds one of the typical novel of half a century ago, written for the consumption of homesick boarders in young ladies' seminaries, in which the heroine was invariably an anemic person in her early teens, the pattern of perfection, but always misunderstood and unappreciated by everyone except the said young lady herself. Groups of men, like individuals, are judged by what they do rather than by what they profess, and I think we may answer the question, "Why is the public ignorant of our merits?" with the statement that, with few exceptions (and these exceptions which prove the rule), we have given little to that 90 per cent of the public which makes the real nation, little which vitally and sympathetically touches their own lives or attempts helpfully to interpret their own desire for self-expression.

In our love for our art, we have thoughtlessly, but none the less selfishly, ignored the only ground in which we might plant that art and make of it a real and living thing, rather than a hothouse plant which only the few may buy. Good architecture must once again be made a wild flower growing naturally along every roadside in America, and to make it so is our task. All honor to the little groups of men in cloistered cells who kept the treasures of classic learning through the Dark Ages, but that trust would have been of little value had it not been made again the common property of all men. This was the great service for which we know them and from it we should learn that our profession may not remain a cloistered priesthood serving only our own goddess.

In suggesting service as the great common ground on which men come to know and honor each other, and on which architects may learn as well as teach, I am offering nothing new, but am rather trying to give some emphasis to what is being so well said by thinking men everywhere. One of the heartening signs of the times is the fact that men are asking themselves where they stand in relation to other men. The current literature of the day turns again and again to this theme, and from that literature I am bringing to your attention three articles published comparatively recently as worthy of emphasis. One dealt with another profession altogether; another touched on architecture only in a secondary way and in criticism of still another group; the third contained helpful suggestions to the architectural profession. I refer to the article entitled "Peter Sat by the Fire Warming Himself," published in the *Atlantic Monthly*, an editorial from the New York *Evening Mail* republished in the Journal of the Institute, and the paper by Mr. Sidney Webb read to the R. I. B. A. and also republished in our Journal. The first of these was a criticism of the part the clergy have taken in the work for which their profession should qualify

them for leadership, and the lesson which it attempts to teach is of equal value to our profession without regard to the justice or injustice of the criticism as applied to those it was directed against.

Our profession has served the great corporations, the dispensers of public funds, and the private clients who are able to pay for such service. What of the other 90 per cent of the American people? What have we as a profession done for them? Where have we touched their lives closely enough for them to know or care about our work? Like Peter, have we not sat by the fire warming ourselves while medical men, social workers, and amateurs have been demanding better living conditions and have found that at the root of the problem lie questions of planning which we are peculiarly fitted to solve? From these workers have come housing laws and housing standards offered and enacted into law in an effort to protect the victims from the results of bad planning. Many of these laws are clearly faulty. What have we done about it? Have we as a profession offered anything better in a field where we should be leaders rather than merely critics?

The editorial in the *Evening Mail* dealt with the control of loans for building operations in such a manner as to prevent the building of healthful homes in open outlying districts, at such a rate as to empty the loathsome dens in which unborn generations must be condemned to live and grow up into criminals or unfit adults, in order that investments in such properties should not suffer. The *Evening Mail* referred to the ingenuity of the architects as applied to single huge structures housing thousands of people, while, at the same time, guaranteeing healthful surroundings, and asked why such a guarantee could not be secured to those who need it most. This is more than an academic question at the moment, as it is deeply involved in the discussion revolving about the proposed house-building operations by the Federal Government. At a recent convention of the National Housing Association it was several times intimated by speakers that too large a number of good houses might result in emptying the worst ones in the community after the war, thereby requiring the owners to rebuild them or suffer a loss of income. Here is a challenge worth accepting. If the building of houses as a war necessity can at the same time rid a community of its worst houses, is not this a reason for their construction just as vital to the nation and its future as their present need? And why may we not frankly and fearlessly take up the challenge?

Mr. Sidney Webb, among other things, in his paper pointed out the plain duty of the profession in this field: First, that the architect, by virtue of his training, was under an obligation to bring to the attention of the governing authorities all conditions which might be improved by intelligent planning, and particularly those where the health and happiness of the population were at stake; and, second, after having so informed such authorities, to inaugurate and conduct a public campaign demanding the establishment of standards for the benefit of all. This, coming from architects, may seem interested, but who would question the motives of a national medical association demanding that the health of the nation must be safeguarded, even though it required the public employment of thousands of physicians and the setting aside of

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private interests or investments? You and I know that the physical and moral health of the nation is in greater jeopardy from the type of home and its surroundings, in which millions are born and live, than from any other cause.

In the new era after the war are we going to take our place among those who are giving their knowledge for the benefit of all or are we going to sit by the fire warming ourselves while others try to do this work as best they may? From a purely selfish point of view I might point out that the architect (hitherto unknown) has only to adopt the comparatively new title "town planner" immediately to enjoy the reputation of having a common interest with other men, no matter how slight his qualifications—a reputation which architects generally do not enjoy.

In making these remarks I have qualified them by admitting exceptions to the general situation. Among these exceptions there is none so outstanding as that in which we here may properly feel an honest pride—the pride one feels in the achievement of friends and associates.

I refer to the record of our own Journal, particularly during the last year, to the farsighted and clear vision of its editor, and to the courage, and I shall add, judgment and discernment, which led him to send Mr. Ackerman to Europe as early as last summer to collect at its source the dearly bought experience of England after three years of war. While other architectural publications were still publishing the work of individuals or discussing the architect's interests, the Journal took that broader view which

it has held from its inception, and, since the war, has not faltered, despite many discouragements, in its effort to render to the nation that service which the architectural profession was best qualified to give and which made Mr. Ackerman's report the one authoritative document on a subject now imperatively demanding national action.

I am speaking to architects and am therefore only offering these considerations as "preliminary sketches." It is for you to develop them in your own way to meet the needs of that new era in which ideals will mean more and material possessions will mean less.

Let the little children born in airless and sunless rooms, growing up in congested surroundings where every fine instinct must wither and die, be a challenge to the architects of communities where such things exist! Let us look for our reward in the hearts of the mothers of healthy children and in the appreciation of those who have been allowed to grow to manhood, and womanhood, in surroundings which permitted them to retain their self-respect and to preserve that dignity which belongs to them by right and not by patronage! From these we may expect a new point of view and in them we may one day find that "educated public" which we have so long talked about.

Let not the measure of our success in the future be based solely upon the great works we have created for the 10 per cent, but primarily upon the extent to which the best of our abilities have been applied to the humbler but more vital problems of the other 90 per cent.

The Real Meaning of the Housing Problem*

By FREDERICK L. ACKERMAN

WE were not prepared for war; we acknowledge it. Thanks to three years of European experience to guide us, we conceived preparation for war as the mobilization of all of our resources. Being a great industrial nation full of pride and with a little contempt for what Europe had accomplished in the industrial field, we made light of our task. Seemingly all that we had to do was to appropriate money, call to Washington our captains of industry, negotiate contracts, and presto! all would be accomplished. So we assumed.

But why have we been so slow? Why does the production of ships lag when it is by all odds the most important factor in this war? Why? The answer is simple: In our pride we had assumed that our old pre-war business methods were efficient, that we were at least organized for industry. Now we ask ourselves squarely: Were our old pre-war methods really efficient? Were we really organized for industry? Were we organized for peace? We were not.

What is the evidence? Look at our output of ships and munitions. Consider our labor turnover. Consider the army of restless workers shifting up and down our seaboard. Observe labor flowing through our industrial plants as water through a sieve. Consider the attitude of capital and labor toward each other. Are they together

fighting this war? Are they fighting shoulder to shoulder? They are not.

But what is the cause? Why the low output? Why the heartbreaking delays? Why the unprecedented labor turnover? Why the suspicious attitude of capital and labor? The outstanding reason, the answer to this composite question, is found in our stupid pre-war industrial policy. The restlessness of labor is not a product of war; the labor turnover was with us in the pre-war days. Together with the periodic conditions of non-employment, it was the inevitable resultant of our archaic industrial system.

In New York City alone prior to the war it was estimated that the annual labor turnover amounted to 8,000,000 per year, which means that 8,000,000 people were hired and fired and each lost approximately six weeks per year. It was estimated that the annual labor turnover in the United States amounted to 125,000,000 during the pre-war days. What it is now no one knows. Multiply that by six and that product by the average wage per week and you get some conception of the staggering losses resulting from the restlessness of labor.

To overcome this condition it is proposed that a system of Federal labor exchanges be instituted. The initial step has been taken; an insignificant number of exchanges are in operation. It is hoped that this service may be expanded. This work is of value, for, if made to function

*Read at the Annual Convention in Philadelphia, May 25, 1918.

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over the entire field, a portion of the loss will be eliminated. This work may even be made significant, for the process of examining an applicant, and the securing of work locally for *qualified* applicants, will make vivid to the laborer that ability is a qualification which will secure employment. This is a hopeful sign; *it shows that we are beginning to recognize the problem as one of Federal scope.* It will not, however, solve the problem.

Our entire social structure rests upon an insecure foundation. We have developed an industrial system which, in the light of reason, has very little justification. And the root of the trouble is that we have become obsessed with the idea that the mere act of producing things was in itself a complete justification of effort. America suggests a mass of raw materials, a medley of industrial processes, a chaos of "Things." And all the "Things" are conceived as temporary—temporary buildings, temporary cities—something to depreciate, "write off," and replace—an utter waste of effort.

We have assumed that we possessed marvelous powers of organization; that we were tremendously efficient.

For what were we organized? In what sense were we efficient?

We were organized to accumulate profit out of things produced as cheaply as possible, but we were not organized nor are we now organized to produce the greatest benefit to those who labor at the production of things. The direct evidence of work, the vivid end of effort, has been the transformation of materials into things having little or no relation to the acts of the producer.

Our efficiency has been conceived *a la mode de Taylor*; "Things" again, the greatest number of "Things" in the shortest space of time, has been the only vivid goal of efficiency. Of a "liberal" efficiency, in which interest in a process of production served as the stimulating factor, our captains of industry know nothing. The nearer the artisan approaches the motions of a machine in his operations, the more he and his industry were deemed to be efficient.

The root of the trouble, the fault in our methods of industrial organization (which fault has been brought out so tragically in our effort at production in war industries), lies in the fact that we have failed to recognize that industry is at bottom the organization of human beings, and that human beings are not machines, that there is inherent in the souls of men a creative instinct, and that, if you suppress that instinct in making a man into a machine, it is sure to assert itself in some other form which is likely to have a negative social value.

Much of the unrest which is in the world today is not primarily the result of political institutions; it rather results from the fact that the great industrial organization of society which has developed during the last century has had as its point of departure and its end, the making of men into mere tools, into automatons; it has suppressed the creative imagination in the mass of men, and this suppression has given rise to the unrest of labor.

But what has this to do with "housing"? It is not so remote as it may appear. With society, with our entire mechanism of government and finance, organized upon the basis of an industrialism which aims solely at the production of things at a profit, with the standards whereby the measure of adequacy of environment is determined by

"economic" standards—themselves a denial of a rational standard of living—with actual disease of the body as the only legal standard whereby we measure tolerable living conditions within our cities; with entire communities measured in the hundreds of thousands, organized and justified solely upon the profit of the land speculator and the profit arising out of the single industry there located; with such conditions, is there any wonder that there is restlessness in industry?

Can you expect men living in temporary houses in a temporary city, with no more vivid purpose in view than a living wage, to remain content? You can not.

The first problem of industry is so to organize itself that labor, that work which the mass of men do, shall in itself serve the purpose of a focus of creative endeavor.

Labor was, before the war, and labor is, treated as a commodity, like pig-iron, to be bought and sold, transported, mobilized, and then cast upon the dumpheap. Would it not have been more rational, would it not have been more businesslike, would it not have contributed more toward efficiency to have first organized the human factors in production, instead of first buying materials, negotiating contracts, without the slightest regard for the human beings who were to produce the sinews of war? In war the human elements which contribute to industry are as important as the human elements which comprise the military machine. This is the simple and elemental truth which we utterly ignore.

The industrial communities which I visited in England were but an expression of the national attitude toward the organization of industry. This attitude was not the product of war; war simply gave emphasis to an already acknowledged truth that the first and foremost factor in production is the conservation of human resources. Great Britain organized for war, not by writing paper contracts, but by making labor a part of her national industrial organization. *A disorganized mob of industrial workers can no more wage war against industrial Germany than could a disorganized mob of untrained men wage war against Germany's military machine.*

We witness our industrial effort breaking under the strain of war, but we fail to summon our courage to meet the situation. But we must meet the situation; we must remove the cause of our delay; and the cause relates to the future quite as much as to the conditions of the present and the past. But why should we now prepare for a future peace while we are still at war? The answer is that in Great Britain it is the vivid hope of a better peace, of better industrial conditions, of better education, of a better social and physical environment which has put British labor solidly behind the war.

In our program of industrial organization we have stubbornly refused to allow labor to see a single ray of hope. To the mass of men who labor we have said: "As you were;" and, "When peace comes, you shall return to the pre-war conditions of employment, back to the tenement or the slum, back to the home tied by a mortgage to the industrial corporation, back to the home built by the jerry builder, back to the same old, depressing, sordid environment." Because of these conditions, labor was restless prior to the war; because we have done nothing to remove these conditions, labor is more restless now.

THE REAL MEANING OF THE HOUSING PROBLEM

But what of the future? What of the new standards of life which in Europe are emerging out of the conflict? Can we ignore these? Can we thwart the new purpose which fills the minds and souls of those who labor? If we do, the peace which we shall achieve will turn to chaos. Yet to stand still is but to oppose; it is to thwart the hope of better peace. Is this the way to wage the industrial phases of war? It is not.

There is one tremendously important element missing in our program of preparation and that element is the hope of labor for a better condition of peace. Make such a hope vivid to the men who work and American labor will become stable. Ignore it and the restlessness will increase. Within our field of interest a vivid hope would be expressed in decent homes, in slumless cities—in a word, in an adequate environment. It is our problem, it is our obligation to make such a hope a reality.

But to make this hope a reality we must extend our field of vision; the problem of housing and town-planning must be conceived in broader terms; the mere ability to design pleasing cottages will not serve the purpose. Our narrowly conceived personal efforts, our much-heralded private enterprise will not serve, for we shall be confronted with a national problem involving international values.

But what does this mean in definite terms of action? It means that we must establish totally new standards in the framing of legislation and in the administration of justice. Under present conditions, by legislative enactment and through judicial decision, we permit an individual to rob his neighbor of light and air and to maintain his property in such a state as to jeopardize the health and morals of the community.

It means that we must so organize our government that such conditions will no longer be possible.

It means that we must establish a complete new system of mobilizing credit. What is the sense in our limiting the use of state funds to such fields of collective building as the erection of poorhouses, houses of correction, jails, and hospitals for the insane, while we permit loaning corporations to use our collective capital in such a way as to develop the social, moral and physical diseases which fill these public institutions to overflowing? It means that we must so organize society, that we must so organize the state, that wealth, that capital, that credit shall be also used for the purpose of preventing these diseases.

It further means, if we hope to solve this problem, that we must establish a new set of values in education. Here it is "right-about-face" as regards aim and purpose. To go on teaching the narrow ideals of individualism is futile. The purpose for which men live must be considered in terms of collective interests and not in terms of individual and selfish profit. To be able to serve, to be able to contribute, must become the central theme of education. This applies quite as well to the education of the architect. Our schools absolutely ignore this fundamental problem.

Speaking more technically, it appears as a problem because we are at last beginning to understand the appreciation of land values which accrue as the result of an increase of population, and to realize that when this increment of value is grabbed by individuals, by speculators, gradually but inevitably every one of us is forced into smaller and smaller quarters and a more cramped and arti-

ficial environment. While part of us can meet this situation in one way or another, that cannot be said of the low-paid wage-earner. He has absolutely no choice. As the value of property goes up, little by little the size of his home diminishes until his windows open out upon tiny shafts and cramped back yards. He becomes a tenement dweller, but still the process goes on; in comes business, the god of the modern world, and he has to move. It is the increment of land values that squeezes and squeezes and finally drives the worker from his home.

The solution of the problem, therefore, consists in conserving the appreciation of land values which result from the community use of property, for the benefit of *all* who constitute our communities. Unless we conserve this increment for this purpose the problem cannot be solved.

Housing appears as a problem, because we have recently discovered (Europe discovered this fact a generation ago) that restrictive legislation—of which the New York Tenement House Law is an example—when operated alone, does not provide the worker with a better home. Such laws insure that the home shall be more sanitary, that it shall have a certain minimum amount of light; in a word, they express a minimum degree of toleration. They tell the property-owner what he cannot do. The law is a repetition of "don't, don't, don't"!

The effect of such legislation is to increase the cost of building, which means that for a given rent the worker obtains a smaller home. Such laws are necessary to protect the community against the greed of individuals. Therefore, in this respect, solving the problem means the creation of a counteracting force so that, when we increase the cost of the worker's house by legislation, we shall not by that legislation decrease its size nor force him into a more densely populated area.

The entire western world has recognized that the provision of homes for workers is a "problem." Various measures looking toward solving this problem have been initiated by the various nations. These measures may be divided into two classes: Those which aim at providing better homes through restrictive legislation, and those which promote the erection of better homes by mobilizing state funds for this purpose.

The United States stands almost alone in having made use of restrictive legislation only. Stubbornly, tenaciously, have we held to the idea that the problem could be solved in this way. Jealously have we guarded "individual rights" and private initiative; fearful have we been of Government aid and paternalism. Seemingly we prefer slums; seemingly we prefer to have labor tied by a mortgage to the industrial corporations; seemingly we prefer philanthropy to rational collective action. Apparently we do not care what happens to the lowest-paid wage-earner. We give him three situations from which to choose—intolerable conditions, employment by a corporation which provides homes for its workers, and the acceptance of philanthropy. Collectively we have made no provision for the lowest paid except that he be squeezed between the relentless organized forces of credit and those arising out of restrictive housing legislation.

But what have the nations of the western world accomplished? They have been trying to solve this problem. They have restrictive housing legislation, but they also

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provide the counter force. In nearly all cases the nations of the western world loan large sums to limited-dividend corporations, to municipalities and to workers, for the purpose of erecting workmen's homes. In most cases, European cities are empowered to clear slum areas and erect better homes in the place of those removed. In many cases we find that cities have bought up large tracts of land for this purpose in order to preserve the increment of land value which results from such a use. Some countries promote the building of workmen's homes by making them tax-exempt.

With this evidence of the world-wide recognition of the problem, with this evidence of the consensus of opinion as to how it can be solved, still we hesitate. "Don't, don't, don't," is the central theme of our law. Is it any wonder that we develop a fear of government? Is it any wonder that our government remains impotent to deal with affairs which relate to our collective interests? We have never given our government a fair trial.

After the war there will be a tremendous and unprecedented demand for labor. Europe will not then seem so far away. If there be greater hope in Europe, if governments there function more effectively for those who consume, if there be expressed in the governments of Europe a more liberal democracy, if life should there appear more worth while to those who labor, the flow of workers to our shores will cease and we shall witness the human currents of migration change their direction.

The mass of men in the future will not think so much of the form as they will of the function of government, and you may rest assured that after the war the function of all European governments will be extended to a wider field of collective provision; and the collective provision of homes, of a more adequate environment, of a more liberal education for those who work, will become a most important function of the State.

Do we think for a moment that we can compete, as now organized, with such conditions after the war? If we do, we shall be sadly mistaken. Housing and town-planning, so long as industrial production be stressed and emphasized as it is now, must be no less than a function of the State. If we are not sufficiently alive to the social, political, and economic significance of housing and town-planning to make them functions of the State by choice, then it behooves us speedily to make them functions of the State in self-defense; and the reason for this is that labor will have extended its field of knowledge, acquired greater powers, and will then be able to choose its own environment. This is the reason why we should now phrase our industrial program in terms of reconstructive value; why we should lay the foundation for a liberal program of constructive housing and town-planning legislation.

But what is a "liberal" program of housing and town-planning? What does it involve in terms of philosophy, of science, of education, of art, of the technique of government?

A "liberal" program is, above all and supremely, a national philosophy, and such we do not have today. It is a science involving all interests of life. We do not so treat it. It is an art, forward-looking, involving the future; we treat it in terms of the past. It involves a complete reorganization of education, for education must look forward toward the development of a rational concept

of life, and our present education does not. In the technique of government it involves the extension of the function of government into new fields, for it is not sufficient for government to function alone in the field of restrictive action; government must be forward-looking, for it *is* more powerful than individuals, and a government which confines itself to thwarting the purposes of men is not a progressive nor a democratic government.

In the field of education within our particular interest a liberal program involves the complete reorganization of our methods and our ideals. To attempt to lead a nation in the tremendously important fields of housing and town-planning, while omitting completely, as we do, these subjects in our schools, is utterly irrational; it is stupid; it is the act of the hypocrite. Our knowledge of the subject is superficial and it will remain superficial just so long as we fail to educate ourselves. That, in particular, is what it involves in connection with our architectural schools. In the field of government it involves a series of activities relating to towns, cities, states and the nation.

Let us hope that we are done with the futile, impotent "commission" method of attacking this problem. There must be vocational representation in the seat of executive and legislative authority. The organization of our entire physical environment better to serve the needs of all men must be a function of the State. There must be integrated purpose expressed in our acts of government.

We must mobilize national credit, state credit and municipal credit to remove the slum areas and centers of congestion. We must treat the problem of congestion upon a national scale; otherwise congestion will increase. We must, in one direct, simple act, sweep aside our stupid concept of the value of having all things initiated locally and treat the planning of all areas within the United States as a single problem. Let us quit thinking of town-planning in terms of quarter sections and prepare to plan counties, states and the nation. Is there any logical reason why we should not? We may not know how, but we can learn.

In any case, let us lift our ideal above the level of that of our present false and misleading "economic" values and standards and attack the problem of housing and town-planning in such a way that the ideal which we set up shall coincide with the ideals of a rational life.

By such a program we would make vivid the hope that a life of labor would not of a necessity doom a man to life in a slum, nor to life in a tenement, nor to sordid surroundings, nor would it require that he, in order to avoid these conditions, tie himself to his employer by a mortgage upon his home, nor as a last resort, that he accept philanthropy.

If we wish the worker to respond to our call for greater industrial effort, we must make vivid in terms of present acts and future policies that victory will bring to him no less than it will bring to his industrial allies in Europe. To suggest that with the advent of peace labor shall return to pre-war conditions is but the act of eliminating from our program of industrial preparation for war the most stimulating factor of all. Deliberately to propose that the industrial phases of this war be waged vigorously without hope is quite as irrational as to propose that in this war peace may be attained without victory.



*AFTER A DRAWING BY WILSON EYRE

*This and the three following illustrations are from drawings exhibited at the Annual Convention of the Institute in Philadelphia



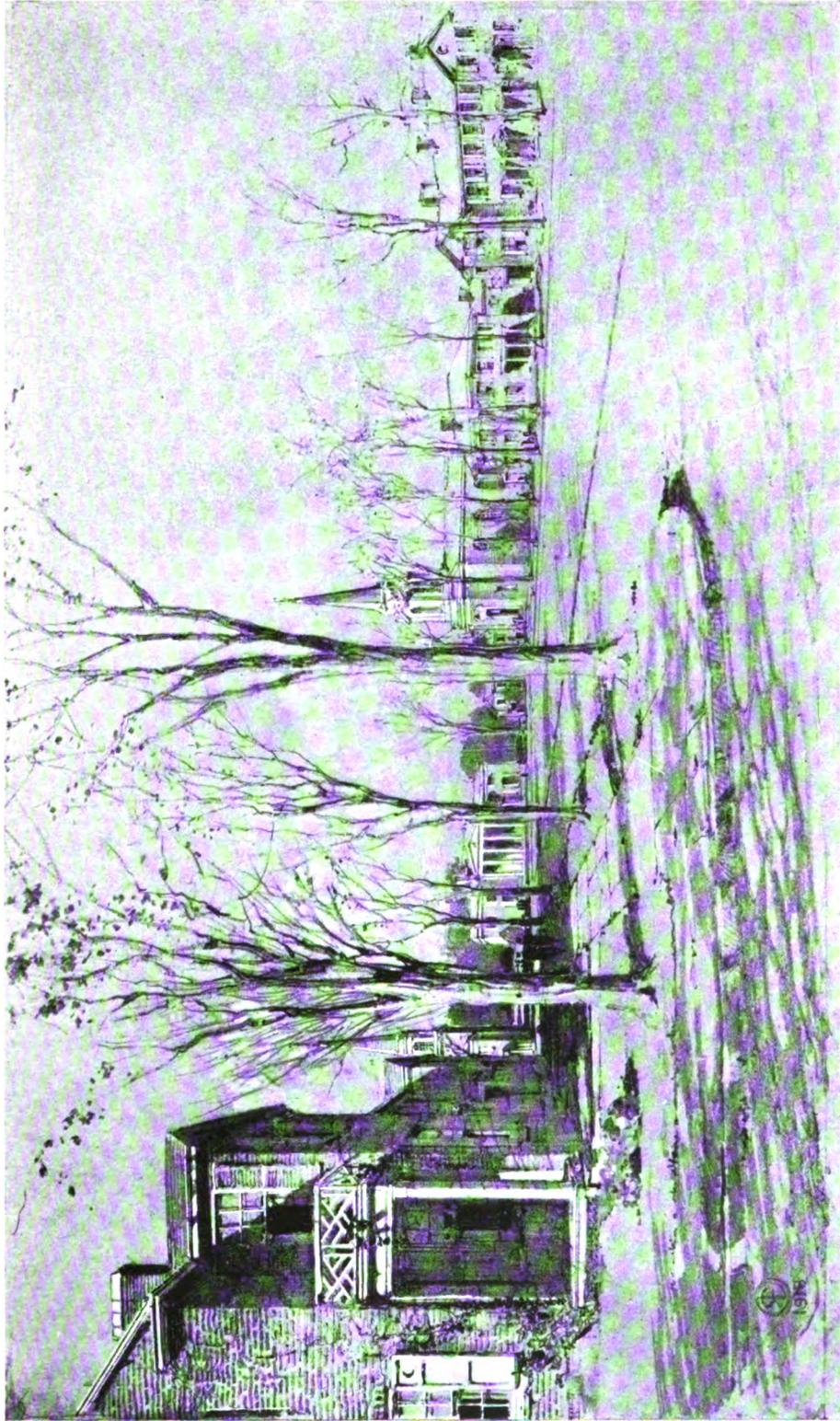
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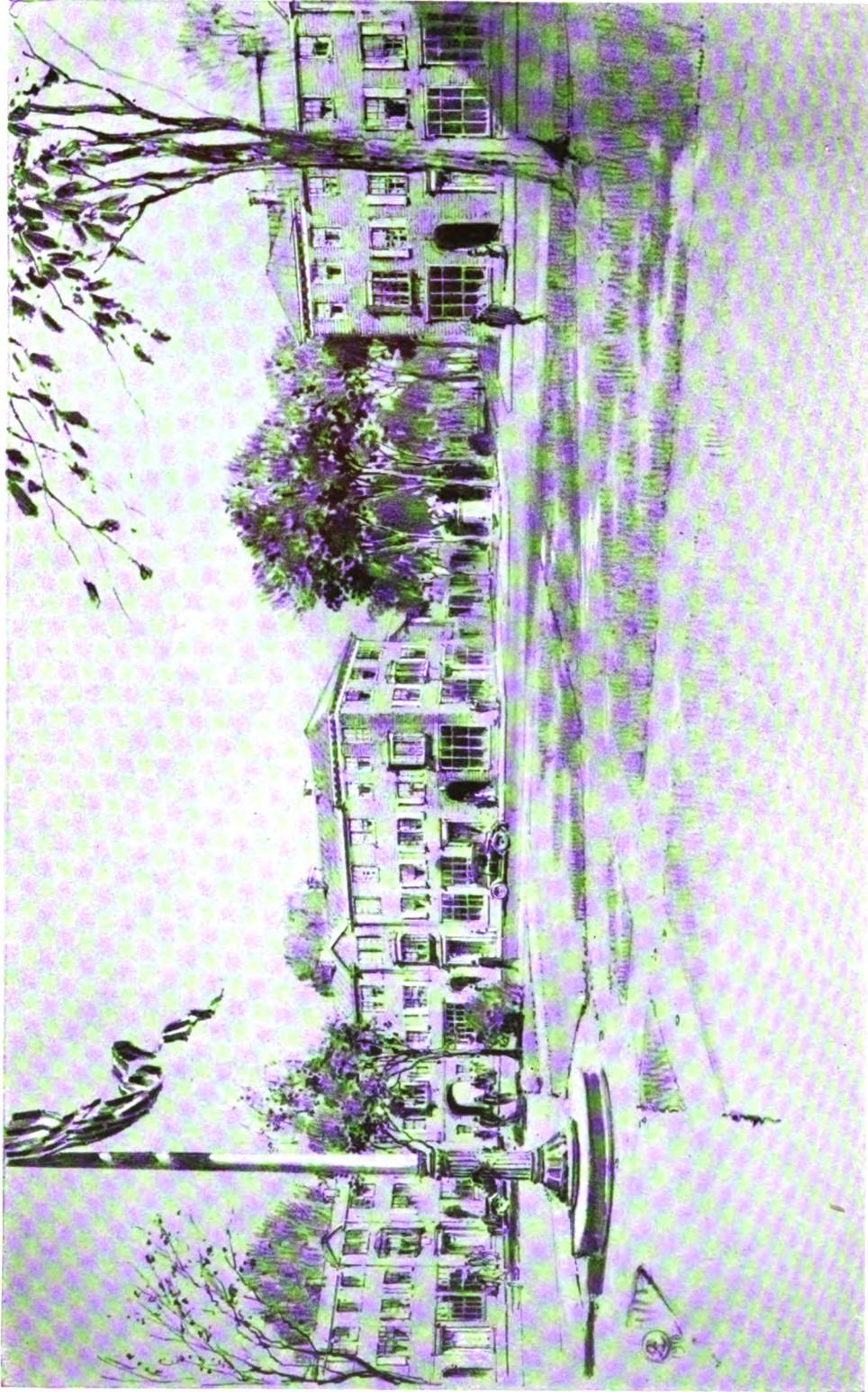
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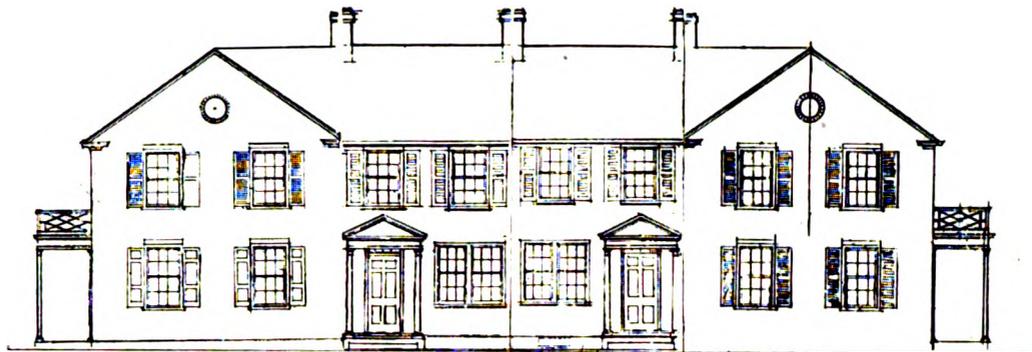
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Electus D. Litchfield, Architect. See page 249



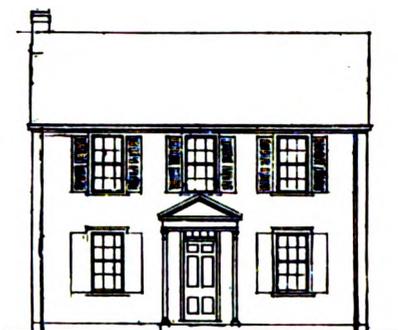
ALBEMARLE SQUARE, YORKSHIRE VILLAGE.—A Housing Development near Camden, N. J., for the New York Shipbuilding Corporation
Electus D. Litchfield, Architect. See page 249



BUILDING NO 210



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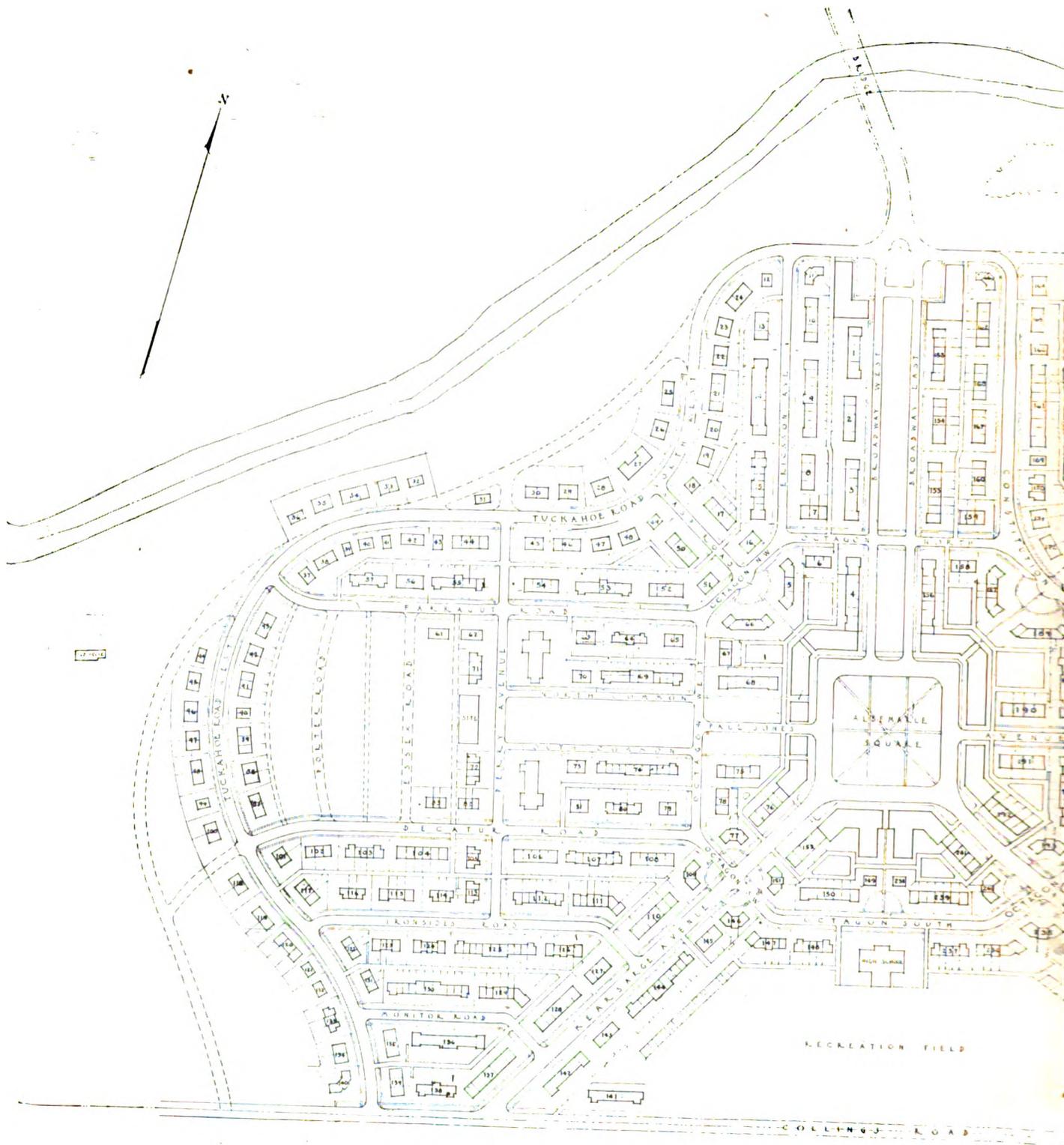


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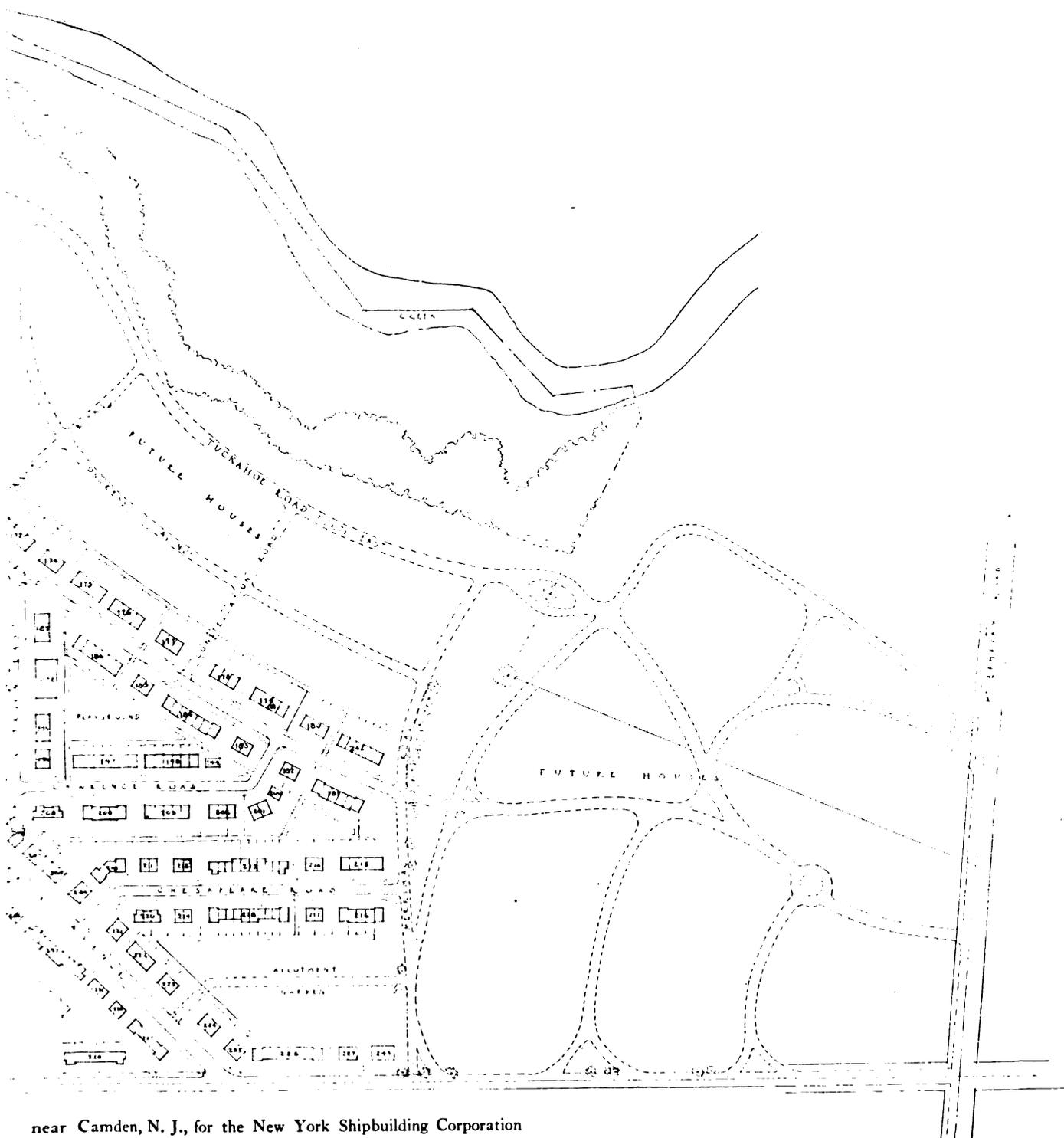


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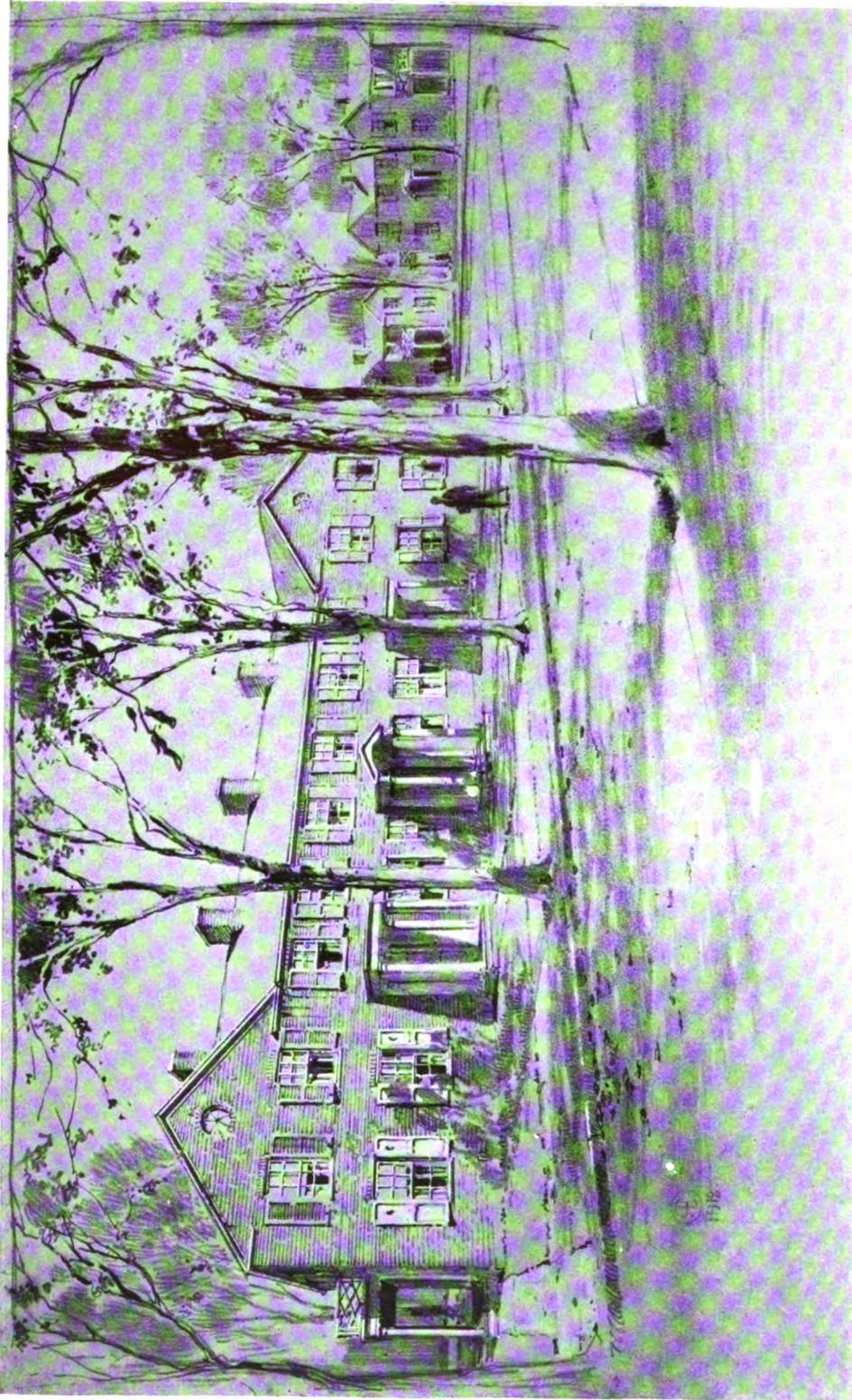
ELEVATION SKETCHES OF HOUSE GROUPS, YORKSHIP VILLAGE
A Housing Development near Camden, N. J., for the New York Shipbuilding Corporation
Electus D. Litchfield, Architect. See page 249



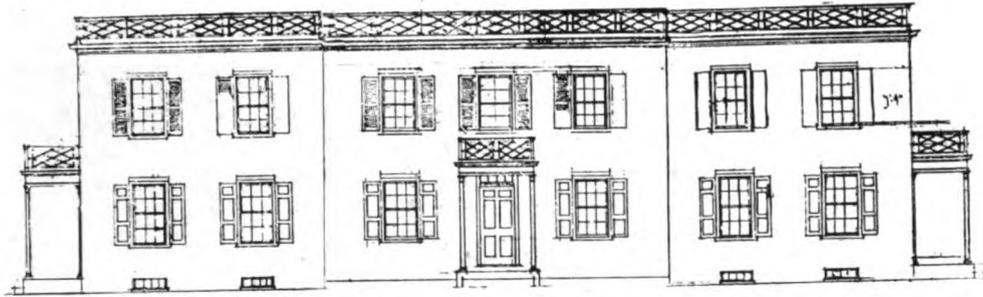
GENERAL PLAN, YORKSHIP VILLAGE.—A Housing Development
 Electus D. Litchfield, Architect



near Camden, N. J., for the New York Shipbuilding Corporation
 Lockwood, Greene & Co., Engineers. See page 249



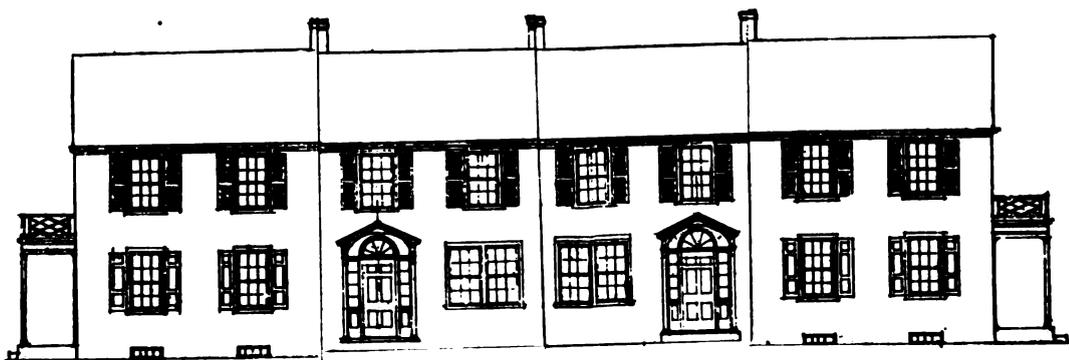
GROUP OF HOUSES, YORKSHIP VILLAGE.—A Housing Development near Camden, N. J., for the New York Shipbuilding Corporation
Electus D. Litchfield, Architect. See page 249



BUILDING NOS. 120-27-173



BUILDING NOS. - 56-180-222
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BUILDING NOS. 179-168-167-21
ELEVATION SKETCHES OF HOUSE GROUPS, YORKSHIP VILLAGE
A Housing Development near Camden, N. J., for the New York Shipbuilding Corporation
Electus D. Litchfield, Architect. See page 249



ON THE SITE OF YORKSHIP VILLAGE

Paper Architecture

By A. KINGSLEY PORTER

IF, to a certain extent, it be true that clothes make the man, it is, with a similar qualification, true that technique makes art. In polite society a picture without technique appears to as great disadvantage as a person without clothes. An excessive recognition of this fact has led during the last half-century to the use of the catchword "art for art's sake," which, as currently employed, means technique for technique's sake. In painting, the value of the technical means has thus been grossly exaggerated. In architecture, on the other hand, it may well be doubted whether the value, or even the existence of technique, has been sufficiently recognized.

The modern technique of architecture differs fundamentally from that in vogue during the Middle Ages and in antiquity. In the Italian Renaissance there began a gradual evolution, or, perhaps, it would be better to say revolution, which has entirely altered the mechanical aspect of the art. If we seek for the fundamental cause of this radical change in means of expression, we shall find it in a very obvious mechanical detail. It is the discovery of paper which has entirely changed the practice of architecture.

It may seem surprising that a mere mechanical and utilitarian invention, such as that of paper, should deeply transform, not only the surface finish but even the inner spirit of a major art. Yet the event is not without analogy. Historians have long called attention to the influence which the introduction of printing produced upon thought, though, of course, it is obvious that printing could not have had its effect had it not been for paper. Further improvements in the mechanical arts have produced an equally great transformation in the art of literature. Stenography and typewriting in recent years have vastly increased the quantity of the output, and have also with equal certainty altered the quality, though that for the better rather than for the worse, I should hardly venture to assert. Indeed, I am far from being satisfied that the influence of printing upon literature has been as beneficent as usually supposed. It has not been demon-

strated that either Dante or Homer would have written more divinely had the printing-presses stood yawning to issue their works in editions of the hundred thousand. An inspection of an American news-stand has seldom failed to leave me with the impression that the average of literary production in the Middle Ages, in that hour which we are accustomed to consider most dark, possessed greater merit, both from a literary and an intellectual standpoint, than the average of literary output today.

For the medieval architect, the only drawing material available was, generally speaking, parchment, which was comparatively expensive and used sparingly. The builders did indulge in its use. Quite a number—all told perhaps twenty or thirty—architectural drawings of the Middle Ages have come down to us. Villard de Honne-court, a thirteenth century master-builder, even possessed an entire sketch-book filled with free-hand drawings. Recourse to parchment, however, was had only very rarely, and, in general, the builders appeared to have worked directly in the stone. With the introduction of paper, all this changed. Architects became able to sketch as much as they desired. With very little expense and very little effort, ideas could be tried out on paper, and their effect judged. Moreover, paper lay flat and could readily be stretched on boards. It lent itself to mechanical drawing, whereas sketches on parchment must, perforce, be largely free-hand. The invention of paper was soon supplemented by the discovery of improved drawing instruments and a new convention of architectural draftsmanship.

It is evident that the new methods offered immense advantages to the architect. By means of drawings he was able to study and restudy, not only the building as a whole, but any of its details. He was enabled to judge with far greater accuracy what the ultimate effect would be, and he was able to foresee and solve many difficult problems of planning and intersection which otherwise might lead him into serious embarrassment. Indeed, so evident are the advantages of the modern method of construction, that it is very difficult for us to conceive

how an elaborate building could have been erected with only the simple appliances at the disposal of the mediæval builders.

As in the case of literature, however, the obvious mechanical advance does not seem to have produced the artistic results which might reasonably have been expected from it. It is easy to point out several particulars in which architecture, created with the modern technique, is inferior to that produced by the more laborious ancient process.

For one thing, there has resulted rigid mechanical exactness in the laying out of buildings. Nothing is easier than to draw straight lines with the help of a T-square and a ruling pen, and straight lines were adopted in drawings in place of the broken lines and curves which had been used in ancient buildings. From the drawings the mechanical exactitude, the hard straight lines, were transferred to the buildings themselves, and thus were lost the vibrations that lent so much charm to medieval and ancient structures.

In our modern cities the fronts of the buildings are elaborately finished and often coated with cut stone or other forms of decoration. The sides and back, however, are generally left unfinished, and are apt to be exceedingly ugly in their crude lack of ornament. It is doubtless the theory that the back and sides will not be visible; but, as a matter of fact, they constantly are visible. This so too familiar defect of modern architecture I believe to be due to the use of paper. Modern architectural drawings are made in elevation, that is to say, from an imaginary and artificial point of view from which only one face of the building is seen. In actuality, of course, a building is never seen under precisely these conditions. The modern system of architectural drawings is the result of a long evolution. Du Cerceau, at the end of the sixteenth century in France, perfected a system of architectural perspective in which buildings were seen at bird's-eye view from above, so that the plan as well as the elevation was indicated. This method, delightful from a pictorial standpoint, was yet complicated and difficult, so that it was gradually supplanted by the modern conventional drawings which are entirely mechanical and, therefore, very quick. Nevertheless, the fact that buildings are studied in elevation and not in perspective leads to many blemishes of which the unfinished back

and sides are the most conspicuous, though perhaps not the most insidious.

The use of paper has also led to deterioration in the quality of detail. In mediæval times the man who cut a capital was himself an artist. He designed what he executed. The discovery of paper has made it possible for the architect, or his office force, to design on paper all the details. The drawings are given to the workmen who copy them mechanically. The result has been a great decline in craftsmanship. This has been accentuated by the unhappy fact that the ease of the new method has greatly stimulated production. Modern architecture, like everything else modern, has too often been wholesale. It was so easy to draw capitals, that the architects themselves ceased to bother with them, and even the office force became annoyed at the task. The thoughtless drawings came to be executed more and more thoughtlessly by laborers who felt no joy in what they did. The trades-unions gave the *coup de grace* to the art of stone-carving. Medieval guilds differed from modern trades-unions in that the guild was organized primarily to safeguard the art, to insure the thorough training of all who professed it, and to maintain the highest standard of quality in the production; while the modern trades-union seeks only to safeguard the material welfare of its members. The trades-union has no interest in maintaining quality. For its selfish ends it even seeks to lower the standard of production.

Trades-unions have been able to exert this baneful influence upon architecture only because of the evolution which has taken place in the art. It is a mistake to conceive of the trades-union as occupying today the place held by the guild in mediæval times. The modern system tries to compensate for the inferiority of present-day laborers by producing a class of specially trained architects to direct them. The decadence of modern labor is evident if we stop to think of the dire results which almost inevitably follow the attempt to erect a modern building of any pretensions without an architect. Yet nine-tenths of the architectural masterpieces of the world have been erected without an architect in the modern meaning of the term. Throughout the Middle Ages such a functionary was unknown. The so-called architects of the Italian Renaissance were almost without excep-

PAPER ARCHITECTURE

tion trained as apprentices to painters or sculptors, and were much more analogous to the medieval master-builder than the modern architect. Of the three best-known English architects, Inigo Jones, Sir Christopher Wren, and Lord Burlington, not one was a trained architect. In America we possessed no architect before Charles Bulfinch, a name which marks the close of the great period in American architecture. The school-trained architect was really a creation of the French, and more precisely of Colbert. It is only during the nineteenth century that his right to existence came to be generally recognized. The rise of the architect is solely due to the use of paper and the technical processes thereby made possible.

One of the most serious, though the least tangible, evils of paper architecture, is the fact that the architect no longer senses the building growing beneath his hand. It is undoubtedly a great advantage for the creative artist to work directly in his material. There comes a feeling from the material itself, a subtle unity with the medium, which cannot be attained when the artist does not himself execute. Moreover, the very labor of the execution compels a closeness of study, forces a thoughtfulness which is lacking when the conception is translated from paper. This fact has been so thoroughly demonstrated in sculpture that most sculptors who possess artistic conscience (there are still a few who have not become commercialized) will not allow their works to be executed by another hand. Paper architecture is always executed by another hand. Thus it loses.

Another quality which paper architecture has lost is the element of color. Until the introduction of paper, color played an almost predominating rôle in architectural effects. When buildings began to be studied in drawings instead of in actuality, color, which does not appear in a drawing, came to be eliminated. Instead, there was developed the new art of rendering. This often supplies in the drawing the important element of polychromy so essential to artistic effect, but this color is not reproduced in the actual building.

In recent years the introduction of photography has had a profound influence upon architectural art. Even before engravings and other methods of reproduction had led to the use of foreign and distant models, the architect in

search of inspiration found it more convenient to turn to books rather than to the actual monument. It therefore became as easy and natural to copy a Burmese pagoda or a California mission as a Colonial house. The natural consequence was that eclecticism, that use of models of all types and styles, which is, perhaps, the dominating, but by no means the most fortunate, characteristic of present-day architecture. Moreover, photographic effects have been very largely sought in design. I am amazed to see, in turning over the pages of current architectural magazines, how much more effective photographs of modern buildings are than the structures themselves. It is undoubtedly because the design was itself inspired by photographs. The architect has selected those effects which appear best, not in the actual building, but in reproduction, and these he has copied or enlarged upon.

Indeed, it is from reproductions in books that fashions in architecture are set and reputations are made. The rôle played in the history of English architecture by Campbell's *Vitruvius Britannicus* is well known. Yet this work was composed with no higher motive than that of self-advertisement, in which the author so admirably succeeded. It may well be doubted whether the Adam Brothers would enjoy half the reputation they actually possess, had they not advertised themselves by a book useful to architects. There is hardly a modern architect who does not know and admire the finely pictorial works of Mr. Charles Platt, yet it has been my experience that many of those who are most influenced by them have seldom seen the beautiful originals, but are acquainted only with the reproduction in Mr. Platt's book.

All told, it appears that evolution in architecture has not been an unqualified advance. The obvious advantages gained have been counterbalanced by serious losses. A realization of this fact has produced in recent years a considerable dissatisfaction with the state of things as they are, and more than one attempt has been made to overthrow our existing system. It has been believed that at all costs ancient conditions must be revived.

A little thought, however, will, I think, be sufficient to show that this can never be done on a large scale. We cannot go back to the Middle Ages. The ancient guilds are dead. The

architect has come to stay, and there is no possibility, even were it desirable, that he should be replaced by a master-builder. Craftsmanship and the conditions of labor we may not too unreasonably (if we be of optimistic temperament) hope to improve; but the fundamental technique of the art cannot be rolled backward. We must produce paper architecture as we produce paper books. It would be as unthinkable to revert to medieval methods of building design as it would be unthinkable to issue a great poem in manuscript on parchment.

Moreover, after all, in the last analysis, the faults of modern architecture are not so essentially those of the technique. New methods should be devised to meet new conditions, and if the new conditions have produced difficulties that have not been solved, the fault lies not so much with the conditions themselves as with us who have failed to meet them. It is, I believe, distinctly the public, not the architects, who are to blame. Many modern architects are conscientious artists, but they are too often helpless in the hands of the public. America of the nineteenth century was not a land sympathetic to art. Artists were born among us, but we gave those of them that were true artists scant encouragement. We produced one great novelist, Henry James. He expatriated himself. We produced one great painter, Whistler. He also expatriated himself. We produced one great musician, MacDowell. He was driven insane, and among his chief persecutors was an institution which passes as a center of culture. James, Whistler, and MacDowell were still able to produce. Less strong men, however, were doubtless sucked into the mediocrity which surrounded them by the Great Boog, that most uncompromising spirit of compromise. But if, in spite of the spirit of the time, some painters, musicians, and poets have produced great art in America, no architect can ever hope to do so. The chance of the architect depends upon immediate recognition. He cannot wait for vindication by time. If he is not given his chance, he can leave nothing for posterity to judge.

Also in a more subtle way the architect is the child of his age. He must build in the manner in which men about him build. No individual, however great a genius, could have produced the

cathedral of Rheims in the fifteenth century at Florence. The modern architect must build in the modern manner. He must, moreover, contend with modern conditions, and these conditions have been very adverse to the perfection of his art.

No influence has been more pernicious than that of machinery. Nothing has played such havoc with the esthetic sense of the race, nor with craftsmanship. We are all familiar with what machinery did to furniture. We are also familiar with the gingerbread carved woodwork introduced by its gentle ministrations into the Victorian house. We do not, perhaps, often stop to consider the deadening effect upon the esthetic sense of the people produced not only by the habitual contemplation of such abortions of art but by long days passed in the presence of machinery and far removed from everything beautiful. The machine also supplemented the T-square in producing that rigid regularity which is the curse of modern buildings.

In addition to the machine, architecture has had to contend with other enemies no less dangerous but more insidious. A people, intensely interested in the latest inventions in plumbing, steam-heating, and electricity, but indifferent to the expression of the beautiful, has pushed the artist towards the fatal descent to Avernus. He who made the great refusal was rewarded with flesh-pots fatter and greasier perhaps than any ever before offered; he who was obdurate was crushed. The power of vicious folkways, the tyranny of the majority, has been victoriously asserted. Architecture has been engulfed by the commercialism of the age; and, in so far as it has become a business, it has ceased to be an art.

In such conditions, it would be a most dangerous, even were it a practical, move to revert to the mediæval system. The architect is at present the only safeguard for art against the degeneracy of craftsmanship and the ignorance and vulgarity of the public. Hope for the future lies, not in stopping the education of the architects, but in bringing about a change in the attitude of the public. The seeds of genius are sown among us, as thick, perhaps, as they ever have been; but, unless they fall on soil that has been worked and fertilized, they can never reach their full fruition.

The First War Emergency Government Towns for Shipyard Workers

I. "YORKSHIP VILLAGE" AT CAMDEN, N. J.

By RICHARD S. CHILDS

YORKSHIP Village is the name of the housing project of the Emergency Fleet Corporation for employees of the New York Shipbuilding Company at Camden, N. J. If it indicates the kind of Government housing that is to follow, we may all rejoice.

The site is an irregular tract of 225 acres of farm land on the outskirts of Camden, just within the city line near Gloucester and Westmount. It is shut off from Camden and Gloucester by a marshy brook. A highway with a new trolley leads to Gloucester, and a new road crosses the marshy land toward Camden. For all practical purposes the site is an island—a feature with economic possibilities that we will consider later.

The entire tract has space for 2,400 lots. The present contract develops 90 acres and calls for the erection of 907 houses, some stores, apartments, and a theatre. Sewers, lights, and gas are being brought in from Camden, and Camden will supply a school. Work is well under way, and the town will doubtless be a living reality before summer ends.

Electus D. Litchfield, of New York, is the architect and town planner, and he desires that generous credit for assistance be given to his junior associate, Pliny Rogers.

Having a flat, unobstructed site, almost unconnected with other areas, Mr. Litchfield was able to draw his town plan on practically blank paper. His starting-point was the new road from Camden, which he broadened to a parkway and terminated in a plaza and commercial center in the heart of the tract. At an angle he ran another parkway toward Gloucester, where is another shipyard; the rest was a matter of spinning a cobweb in such fashion as to avoid long weary lines in favor of short closed vistas. He has not let his fancy run as far and free as the English planners did at Well Hall, where straight lines were studiously and completely avoided, even the edges of the sidewalks being made irregular, but his straight lines are short, and

the end of the street or a turn of the way will always be in sight. As no thoroughfare cuts through the tract any way, the residential roads are secure from heavy traffic and will be quiet and safe. There are generous playgrounds, a spacious school-site, and a space for gardening for workers who desire land for that purpose.

In the houses, Mr. Litchfield has drawn upon his successful experience with small houses at Jamaica, Long Island, and has devised a charming series of Colonial exteriors in brick and in stucco. The creation of a whole town in Colonial architecture will set a novel standard in town harmony!

It is hard to realize that these varied and attractive façades mask a type of small home, the endless monotony of whose exterior treatment makes Philadelphia so dreary to the eye! Long rows are avoided, the longest groups having eleven houses. There are 243 groups altogether, composed of 27 types of houses in 70 different combinations. Broken roof-lines are the rule. The ship-worker will not have to look at the number to identify his home in Yorkship Village!

The improvements on a typical lot will cost \$450, perhaps more; a typical house costs \$2,700. The bulk of the money is lent by the Government (Emergency Fleet Corporation) to the New York Shipbuilding Company, with provision for the transfer of the whole housing enterprise to a subsidiary corporation, the Fairview Realty Company, the stock in which is, for the present at least, in the hands of the shipbuilding company. Mr. Wallace Benedict, of the New York Shipbuilding Company, is the active manager of the project.

The contract with the Government makes the loan a first lien upon the property, charges 5 per cent interest, and demands repayment of the principal at the rate of 3 per cent a year. Houses may be sold and the parcel excepted from the blanket mortgage by paying off the due proportion thereof, and such a payment (rather

illogically) may be counted as part of the general 3 per cent amortization charge. There is no arrangement for continuing the Government loan as a separate little mortgage on such a parcel; private capital must be found to finance a worker who wants to purchase on a monthly instalment plan. The private capital stock is forever limited to dividends of 5 per cent cumulative, even after the Government gets its money back. In the period from two to five years after the close of the war, the realty company, if it has been unable to meet the Government's demands and to pay its 5 per cent dividends, may secure an appraisal of the assets of the company by a board of arbitration, and the shrinkage up to 30 per cent will be written off the Government loan and presumably refunded likewise to any who may have purchased houses meanwhile. The foreclosure provisions are slow and lenient. The present generation of Fleet Corporation officials interprets the contract to mean: "Get along if you can. If you make money, use an amount up to 3 per cent each year to repay the Government. Any excess beyond that goes back into welfare work or further improvement of the property. There will be no foreclosure if your management is competent and sincere. After the war, if building costs go down, leaving you face to face with a competition that you can't meet, or if a reaction in local industry leaves you with a deserted village on your hands, we will absorb the shrinkage as a cost of war and write it off the Government mortgage, making the property once more a sound business proposition, with all your arrears of dividends cleared up. Go ahead now, pick your own architect, show us the land and the plans for our o. k. and don't be afraid to make the place attractive to labor, so as to reduce the labor turnover which is now crippling the shipyards."

For the present, this contract is, I understand, typical of those emanating from both the Emergency Fleet Corporation and the housing organization under Mr. Eidlitz.

Locally capitalized corporations are insisted upon in all these projects because of the Government's reluctance to be a landlord, but, in cases like this, where the employer is the only available local capitalist, it creates the unfortunate embarrassment of making the employer the landlord, subject to the additional friction

with his employees that the relation of landlord and tenant so often involves.

On paper, at least, Yorkship Village faces a remarkable economic opportunity, an opportunity that is enlarged by its topographical isolation. The unearned increment cannot very seriously spill over its borders to the enrichment of lucky neighbors or the enhancement of the business frontages of any adjacent community. Nobody can set up in business very near to Yorkship Village, for the wooded creek, with only one crossing, shuts off parasite developments and keeps within the tract the commercial land values that are due to be created by the spending-money of a thousand prosperous workers. Mrs. Shipyard Worker will therefore spend her husband's pay mostly in Yorkship Village. The Camden business streets are too far away—a stiff walk or a roundabout trolley ride via Gloucester. Gloucester and Westmount are too small to outbid the markets of Yorkship Village itself. So the grocer and meatman and drygoods merchant and druggist and movie manager who seek the trade of the Yorkship Village people must come and jostle for elbow-room around the central plaza and pay good ground-rents for the privilege. The land values thus created constitute the major part of the unearned increment that is to be expected, and while the residential lots may remain worth only about what they have cost, the business frontages will be worth five and ten times their original cost and may be valued in scores of dollars per front foot.

How much the increment will amount to is impossible to predict. But the cost of the land, with the land improvements, reckoning on 5,000 population, will be only about \$90 per capita, whereas the normal land value is at least double that figure for a high-grade industrial community like this, without allowing anything for the extra value conferred by the charm of Mr. Litchfield's architecture and town plan. The land value in Gary is \$743 per capita; in Lackawanna it is \$644; in New York, over \$1,000; in numberless towns of the size of Yorkship Village it runs from \$150 to \$450 per capita. If we take \$200 per capita as the Yorkship Village value, we have an increment of \$550,000, which at 5 per cent gives an annual value of \$27,500. In other words, the owners could safely charge the people \$5.50 a year per

WAR EMERGENCY GOVERNMENT TOWNS FOR SHIPYARD WORKERS

head more land rent than the costs compel (assuming that house rents cover house costs).

Moreover, there are empty lots left within the 90 acres against which no street improvements have been calculated, the whole cost being calculated above against the 907 lots that will be occupied at once by houses. To these extra lots nothing further will be chargeable on the books except the original cost of the land. As to the section reserved for future development, its water and sewers need not cost nearly as much per lot as in the first contract. There is room* for 2,400 houses altogether, and if they are built and occupied, as it seems likely they soon will be, the cost of improved land per capita goes down and the market value per capita goes up, increasing the indicated increment to over \$1,000,000! That may seem fanciful to the builders of Yorkship Village, and we need not bet on it, but when a prosperous population of 12,000 suddenly goes to dwell on a rural farm, strange things are due to happen. The unearned increment at Lackawanna, which the Lackawanna Steel Company created (14,000 population), was \$6,788,000. Part of it, of course, is a speculative value, but it serves to make an increment of at least \$1,000,000 at Yorkship Village, with its ultimate 12,000 population, seem reasonable enough!

The annual value of that increment, if converted into revenue for the benefit of the community, would apparently add over 50 per cent to the normal per capita income which Camden obtains from the general property tax.

As the dividends of the Fairview Realty Company are limited to 5 per cent annually, the increment is safe from private exploitation so long as the Realty Company refrains from selling off any houses and lots to parties not similarly restrained. The Realty Company will probably charge no more rent than the

*With further additional street development.

costs compel and thus will deliver the increment to the tenants in the form of rents that are lower than unrestrained private landlords would exact. A better way, if practicable, would be to charge normal rents, i. e., what other landlords in the region charge for equal accommodations. Thus, private construction, which is still badly needed, will not be discouraged, and the wage-scale of the employer will not have an unequal value, depending on whether a worker is lucky enough to get into Yorkship Village. Such a rental basis might drive up the wage-scale—it certainly would bring in a revenue in excess of all normal expenses. The community with its 50 per cent extra revenue could do for itself a multitude of things along the lines of health, schools, and recreation that would make Yorkship Village as surely a garden city in a social sense as it is to be in the sense of physical attractiveness!

At all events, speculators must be excluded. While the war lasts they must not be permitted to get hold of these houses and take advantage of the continuing housing shortage to boost the rents to the maximum that the well-paid shipyard workers can stand. That would nullify high wages by high rents and restore the restlessness of labor and the high labor turnover, thereby delaying the ship program. Any Tory can see that!

But why not continue to prevent exploitation of the unearned increment after the war, too? Amortize the Government loans out of rentals, at least to the point where a private mortgage can be obtained to refund it! In other words, take advantage of the unique non-profit-seeking origin of this town to sell the town on the instalment plan to the tenants *as a group*, to be held in perpetual trust for their benefit by a limited-dividend corporation, like Letchworth, or the Co-Partnership Tenancy Societies of England.

AN AMERICAN FOR THE BEST SOLUTION

Conducted by the Journal of the American Insti.

WHILE the indispensable contribution which architecture has to make to the world-wide problem of the house is of the highest importance, the experiences of the last half-century, in all the leading nations of the world, have demonstrated beyond further doubt that society must now and in some manner grapple with and correct those fundamental economic laws which have produced their cycles of congestion and slums in all our communities. Until this is done, architects cannot take any great part in the solution of the house problem, the present acuteness of which has been so greatly emphasized and demonstrated by war.

While the numerous "small-house" competitions of the past have done much toward stimulating an interest in the question and have exercised a certain influence upon a small fragment of our small-house development in this country, they have contributed nothing at all toward an ultimate and more universal answer to that question which they only approach in a superficial way. Land and building speculation continue to be the prime motives behind all housing undertakings, with the exception of those where there is sought a certain result which may be measured in terms of labor stability.

As a result, we are continually piling up a more and more mountainous barrier between society and the democracy we profess to seek, while our communities, one and all, are given over to speculation, to congestion, and to all the evils of our unchecked policy of development, in which the individual is permitted to take his profit, no matter what loss or damage he may cause the community.

With these bald facts now staring us in the face—with the known condition of landlordism to which the United States has descended as though inexorably doomed to the fate of other nations—with the knowledge of that huge loss in time and money in our war-making activities, due to bad housing and no housing—with the certainty that as a nation we must now boldly face this insistent social and economic problem with which the future of the United States is indissolubly bound up, the Journal of the American Institute of Architects believes that the time has come when we must cease the *futile application of philanthropy and charity* to the house problem, discontinue the hopeless attempt to solve the problem by restrictive legislation alone, and offer a positive and constructive program which may in some manner serve as a basis for future effort.

COMPETITION OF THE HOUSE PROBLEM

Institute of Architects and the Ladies' Home Journal

To this end the Journal has organized a competition to be held along new lines and by means of which it is hoped that there may be created in the United States a more fundamental knowledge of all the factors which govern the problem of decent houses for all workers.

In order that this knowledge may have the widest possible diffusion, the Journal has arranged with the Ladies' Home Journal for the publication of the winning solutions of this competition in its pages as well as in those of the Journal of the Institute. The competition will be in three parts:

- PART I. THE SOCIAL PURPOSE
- PART II. THE ECONOMIC METHOD
- PART III. THE PHYSICAL PLAN

All competitors will be required to submit the following:

Under Part I, a Thesis in which there shall be set forth the social purpose which house-building should seek to attain.

Under Part II, there must be described the proposed economic method of financing and administering the community to be created and maintained without likelihood of slums and the general deterioration which usually has accompanied unchecked private development.

Under Part III, there shall be submitted a rough sketch plan to show the physical scheme of the proposed development. The prizes, which are offered jointly by the Journal of the American Institute of Architects and the Ladies' Home Journal, are as follows:

THE WINNING SOLUTION	\$1,000 00
THE SECOND PRIZE	500 00
THE THIRD PRIZE	250 00
THE FOURTH PRIZE	150 00
THE FIFTH PRIZE	100 00

The competition is open to all citizens of the United States and Canada, who may enter singly or in groups as they desire. All treatises and plans must be sent prepaid to the office of the Journal of the American Institute of Architects, The Octagon, Washington, D. C., on or before October 31, 1918. No submissions will be accepted unless the requirements as to the three parts are fully complied with. A detailed program will be sent on receipt of request.

The Jury will be as follows: Thomas R. Kimball, *President of the American Institute of Architects, Chairman*; Louis F. Post, *Assistant Secretary, Department of Labor, Washington, D. C.*; Thomas Adams, *Town Planning Advisor, Commission on Conservation, Ottawa, Canada*; Herbert Quick, *Farm Loan Board, Washington*; Lawson Purdy, *Chairman Committee on New Industrial Towns, New York City*; James Sullivan, *Representative of the American Federation of Labor on the Council of National Defense, Washington, D. C.*; Edith Elmer Wood, *Legislative Authority, Philadelphia*; Frederick L. Ackerman, *Architect, New York City*; Milton B. Medary, Jr., *Architect, Philadelphia*.

The Architectural Incompetence Revealed by Some Registration Laws*

By D. EVERETT WAID

IT frequently has been said that the public does not understand the function of the architect; that the public does not understand the reasons for his association (which it terms a trust or union) or his attitude on preliminary service, competition, and professional practice.

Very true, the public is not educated to understand the architect's function. And why? Is it not because the architects have not educated themselves to fulfil those functions? Is it not because the profession does not yet fully deserve to be trusted to conceive and execute the projects which ought to be put into our hands?

Perhaps the members of the Institute do not fully appreciate the condition of our profession as a whole. Let me try to tell you what registration boards have an opportunity to see.

The New York Board, under our registration law of that state, can refuse to register any architect who was in practice when the law went into effect if he is not, in their opinion, entitled to a certificate of competency. The Board has issued certificates to those who presented satisfactory evidence, but, in cases of doubt, called in the applicants for personal hearings. These men were, one at a time, given a verbal examination and each was addressed something like this:

"Please consider yourself as an architect having an interview with a client. Just imagine that the five members of the Board around this table are a building committee who are charged with the responsibility of building a bank or a church and wish to ask you various questions for advice and information."

Then would follow a series of questions, such as a keen, able man of affairs is always firing at his architect, and some questions more technical. There were questions about fees, contracts, kinds of foundations, soil-loads, stresses on concrete, kinds of material for floor surfaces, advantages of different systems of heating, difference between a direct and indirect light fixture, some questions about principles of planning and styles of design. Ofttimes two or three questions brought answers which showed at once that the candidate was quite competent to practise architecture. It was like a real musician striking a chord. In other cases, the ignorance of men who claimed to be practising architecture was simply appalling. Some men who had lived in New York City all their lives never had seen the Morgan Library, which every man in this convention has made a pilgrimage to see, and they did not know the style of St. Thomas Church on Fifth Avenue. One man had frequently passed by the new Municipal Building but "had never taken any notice of it." Tennessee marble one candidate thought a porous, soft stone which could not be used out-of-doors. The New York Board has rejected 500 such men

*From the remarks of Mr. Waid at the annual convention in Philadelphia, April 25, 1918.

and should have rejected others whom they registered. Is it any wonder that our profession is not held in the highest respect by the public?

If there is one thing that will give a registration board a sinking feeling, it is the statement that a candidate got his architectural training in a correspondence school.

If there is one answer that came oftener than any other to questions asking for the items of practical information which an architect should be able to give his client off-hand, it was, "I don't just know—I would have to look it up in a handbook." Then we painted vivid pictures of an architect excusing himself to a meeting of bank officials and going out to look at his book and then coming back to tell them what the handbook says should be done. We asked such an applicant if, for his sick child, he would call a physician who had never seen a case of scarlet fever and would have to look up his book before he could write an everyday prescription.

Many of the younger men were encouraged to read our booklet to find out what an architect ought to know, to work hard and come back for an examination. But many of the 500 rejected were hopeless. We hang our heads with humiliation often enough over our own shortcomings as architects, but interviews with many even of the 1,500 admitted made us blush over the sorry credit of the profession.

Our examinations brought before us three types of incompetents, the mention of which may be of interest:

1. The shrewd real estate man who has picked up some knowledge of letting building contracts, who can talk building investments, and knows how to get work and hire draughtsmen to do it.

2. The young fellow of native ability, an all-round draughtsman who has had the courage to start out for himself, but who is sadly deficient in training to fit him to do creditable work.

3. Brilliant and clever designers in the office of many a prominent architect, young fellows who can make beautiful designs and stunning renderings, but who have been kept doing one thing without ever having even thought of many of the essentials needed to fit a man for independent practice.

Incidentally, let me say that I have a few copies of the booklet on architecture, issued in New York, which I will be glad to give to those interested. The booklet contains the law and a syllabus of examinations which is intended as a guide for study, to outline to the student what he ought to know in order to be qualified to practise architecture.

Only five states out of fourteen mention any requirements for the general education of an architect. One of these five accepts "primary school work," two require a high-school course, and two go further and add "such courses in mathematics, history, and one modern language as are included in the first two years" of a college course.

ARCHITECTURAL INCOMPETENCE REVEALED BY REGISTRATION LAWS

Some states require only a "good moral character," while others demand two or three years of practical experience in an architect's office before taking the technical examination. In some states, graduates of architectural schools are permitted to practise without experience. Several states require two or three years' experience first. In one state, a non-resident architect, even if previously practising in the state, is forced to take a new examination or else share his fee with a resident architect. Another state also extends leniency toward the non-resident architect on condition that he will take a resident architect into partnership or association. This has the flavor of a protective tariff applied to the practice of architecture in a way not entirely creditable to the profession.

The standards of technical education in the several state laws are various and indefinite. Considering the powerful influence which such laws, through the several state boards of examiners, will exercise over the curricula of architectural schools, it is of the greatest importance that these standards should be as nearly uniform as possible. The Institute has a great opportunity to cooperate with these state boards by helping to fix upon adequate standards of education for architects, both general and technical.

Aside from educational requirements, there are differences in this group of registration laws for fourteen states which cannot be accounted for entirely by local conditions. Fees for registration vary from \$5 to \$40. One state has no annual fee, while most charge \$5 to \$10, and no doubt that annual charge is necessary to meet cost of administration. The penalty for violation of the statute in one state is a \$50 fine. In others, the maximum runs as high as \$500 fine, plus a year's imprisonment.

The two most frequent and serious defects in these state laws are: First, the want of adequate educational standards; and, second, the requirement that everybody who does architectural work must call himself an "architect," thereby creating unnecessary opposition and competition.

The requirement should be quite the *contrary*, namely, everyone who wants to call himself an "architect" must qualify. But let anyone do architectural work who pleases, so long as he uses his legitimate title of "builder" or "engineer," and not that of "architect."

The whole basis of registration laws should be the education, ability, and training of architects. As soon as the possession of the title "architect" means a definite

high-grade qualification, the line will be clearly drawn before the public. The architect who is really qualified will have no occasion to fear competition, provided only that there is no imposition on the public, and this copyright on the title architect, plus his own ability, will be the guarantee.

The fight in Illinois between the architects and engineers has resulted in the enactment of an engineers' license law which nullifies the architects' license law, so far as engineers are concerned, and leads them into a sort of direct competition with architects, which probably they never would have thought of had they not been driven to it by the strictures of the architects' law.

In New York, the engineers have no quarrel with the architects' registration law, since it does not forbid them doing buildings so long as they do them as "engineers." The effect of this is very interesting. Those engineers who make a specialty of designing mills and factories find it to their advantage to possess the title "architect." Some of these firms are doing work which is architectural in character and artistic to a marked degree.

In such cases the Board is glad to issue certificates. Certainly this encourages the engineer to respect his obligations to give architectural quality to the exterior of his structures. If registration laws can encourage partnerships or association between architects and engineers, it would be a promise of long-hoped-for improvement in the artistic quality of bridges and other engineering works. That alone would be no small achievement. But, on the other hand, what a salutary reaction on architects will be the influence of engineers, in cooperation with architects, arousing them to their present reprehensible shortcomings in matters of practical construction.

Finally, since many states will undoubtedly pass registration laws in the near future (four states did so in 1917), and since many of the fourteen states now having such laws are more than willing to amend them, it is a matter of great importance that the Institute should publish a model law. The endorsement by the Institute and the enactment of a high standard law by several states will make it less difficult for other states to secure a good law instead of a bad one.

NOTE.—The model law referred to will be issued very shortly. Address the Executive Secretary at The Octagon, Washington, D. C.

Letters* from an American Architectural Student in France

August 19, 1917

I suppose that I told you last time about the indefinite postponement of my permission. They have suspended all furloughs until the excitement is over. This will probably make it a month late. I do not really mind, though, as I will get it some time, and, besides, I would not miss this attack for anything. It begins to look as though it were going to be a regular "offensive." We have had such beastly weather lately that a permission would have seemed wasted. It has rained for close on three weeks—not a steady

*The letters of Edmund Randolph Purves, continued from the March number.

rain, but showers, showers, showers, and little sun, and everyone and everything is cold, clammy, and covered with mud which is the consistency of glue and clings to everything. Judging from the roads about here, No Man's Land must be a veritable sea of mud and the trenches almost untenable.

Yesterday about twenty-five infantrymen came in with trench feet, which is extraordinary for this time of year. The disease is somewhat painful and, strange to say, contagious. It appears to be, practically, catching cold in the feet. When they come in their feet are all swollen and blue. They keep them in the sun for a while, and they be-

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come all red and inflamed. The man having it gets little sympathy and is usually made to walk, lame as he may be. You see, it can be prevented, and there is always some of it just before an attack. These fellows are so fed up with war that trench feet are really a relief—almost a case of real "cold feet." In the English army it is a court-martial offense to have bad feet. Personally, I do not see why standing in water day after day should not have a bad effect on one's feet, but the authorities evidently know to the contrary.

The Germans now have a brand-new kind of gas which is pretty effective for awhile, but, mercifully, it later wears off, and I believe that unless a man gets it very badly, it will not kill. Do not think, however, that the Boches, are using it for humanitarian reasons, but entirely for scientific and practical purposes. The old-fashioned hologen gases gave one a sensation of having an attack of double pneumonia in fifteen minutes, and either killed a man or put him out of commission for life. But then gas-masks were invented, and, besides, those gases had the disadvantage of being both odorous, visible, and slow-moving, hence they soon lost their prestige. This new stuff is a liquid, comes in shells which can be sent far back, and favorable wind conditions do not have to be waited for. When the shell breaks, the liquid spreads about and the gas arises and permeates the atmosphere in that vicinity. It is invisible, does not smell, and is very effective in a way. The shells explode with very little noise, and are very insidious. They make a man feel all in, down and out, and so come in handy for destroying morale, stopping battery fire, and for hindering the *ravitaillement*. Besides, if this liquid touches the skin, it makes terrific burns, and even the gas itself does, in concentrated quantities. They have been using this gas a great deal lately on the road up to our *poste* and have created much havoc with it, as its novelty has not worn off yet. The lesser victims look like men suffering from very bad colds, their eyes closed and tearful, their noses running, and faces pretty well swollen. Moreover, it appears to cause some internal trouble, producing nausea. The men that get it bad are in pretty poor shape when they come in—black, blue and green in the face, unconscious and breathing hard. The other day one man still had his mask on, but every bit of exposed skin, hands, wrists, and neck were terrifically burned—great blisters, as if some one had touched red-hot irons there.

Besides putting gas on that road, they have lately been shelling it, and night before last they wiped out an entire convoy. It certainly is a mean road—dark, dusty, and dangerous—and one is even denied the view of the lines. In fact, one does not feel there the thrill that occasionally comes in this war. Just prosaic traffic work; everything moves at a snail's pace, and every so often a shell comes in and messes things up a bit. A most defenseless sensation—that of being caught like a rat in a trap. Once in a place in the traffic, it is difficult to move out. How the French hate it! Just dull, mechanical murder, or worse, from their point of view.

August 29 (Paris, "permission").

When we reached camp, I was told to be all ready to leave in half an hour for the *poste*, and to stay for an indefinite length of time, maybe two or three days. I scurried around, collected a couple of sweaters and a few other

necessities in the way of a flashlight and camera. Five of us were sent off in my charge, each equipped with tins of emergency rations, two gas-masks, and lots of advice.

We went up to Section 18's barracks and waited there for our turn to go up to the *poste*. I suppose that I have already told you all about that road up there. It certainly is a "peach" and has lately degenerated into a sort of abattoir—there are so many horses killed on it every night, also men. About 10 o'clock at night I was sent up. Several drivers had come in, coughing and rubbing their eyes, complaining of gas, and one had "lost his lunch." His case, I think, was more alcoholic than anything else. Nevertheless, it was with the gravest misgivings and the hollowest of stomachs that I started out, and my condition was aggravated considerably by a little calamity howler who shook my hand as if he never expected to see me again.

The night was good and dark—all such nights are—and, to make things easier, the road usually taken was being shelled pretty accurately, consequently I had to go through the town, a rather roundabout route. On the other side of the town a connection broke, and I did a piece of repairing in the dark of which I am quite proud. It was a terribly slow trip—move ahead about fifty yards and then wait several minutes. The traffic was frightful.

Finally I reached the corner where we turn off to go up to the *poste*. From there on the road was highly dangerous—dark and disagreeable, with the big guns banging off most unexpectedly, and the flashes blinding one with aggravating persistency. I stopped there and asked the military *gendarme* if there was any gas ahead on the road. He said that they had been throwing in lots of gas-shells, but that he thought it had died down. At all events, I took my mask out of the case, hung it about my neck, and proceeded. The road is about a mile and a half to two miles long, and it took me a good hour to get to the end of it. All one could do was to get into a place in the line and move along with it. It was too dark to try to dodge in and out, and, moreover, the empty artillery caissons which came tearing down the road made this maneuver rather hazardous, even in broad daylight.

The road at one place passes through a very slight valley, an almost unnoticeable drop, but a place where the gas hung low. Up to this point I had not used a mask, in fact, I had quite forgotten about it, but an artillery wagon which thundered past, both men and horses wearing masks, brought me to, and then suddenly I got a good whiff of it—a strong chlorine smell that made one's eyes smart and run and the back of one's throat feel "funny." I lost no time in getting my mask on, and I drove ahead. After awhile, I cautiously took it off again and, finding everything all right, left it off.

A tie-up in the traffic, which threatened to last some little while, induced me to leave the car and walk on ahead to see what chance I had of getting through. There wasn't the slightest. I stopped and had a little chat with a *camion* driver. He certainly was sick of the business, and said that this was his first trip on this road. It also happened to be his last, for an hour later all they found of him was a pair of legs, charred at the ends, and it makes me rather nervous to think how close I came to being in his place. Oh! this courageous hot-air stuff is fine at a distance, but life, at times, appears very sweet and pleasant. I

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don't want to be killed—what is the use?—and yet why should I take especial care of my life when nowadays lives are worth so little? It is perhaps just because we want to hang on and see all we can.

Finally things moved on, and I proceeded about seventy-five metres to the road down which we turned to park our cars in the lee of a wall, close by a friendly *abri*, away from the main road. Just after having left the car, I heard several shells in the direction of the main road, then a loud report and a great flare. By this time I was safe underground and stayed there for two or three hours, as the Germans started looking for batteries all about the place, and then it was continual "swish, swish," with the inevitable "crump" of the bursting shells, and the *éclat*, *débris*, would come rattling and falling around.

Three times a fellow in Section 18 tried to get up to the *poste* by the road, but found it impossible and dangerous. Finally he got there by way of a communication trench, and, upon returning, told me about the *camions* that had been hit on the road. They turned out to be the *camions* that were just ahead of me and were full of ammunition; later I saw the result.

Toward dawn, I could not resist the temptation to see what was going on, so I stepped out, walked along the trench a way, climbed up and looked over the top, and I saw something which I shall never forget—the *tir de barrage* of the French before they left the trenches. (They went over the top at 5 A.M., I afterward learned). It was like looking out into another world. The dawning had barely started, and everything was misty and unreal. There was a peculiar hammering in one's ears, and whenever one looked up at the hills the flashes of the trench guns could be seen, like the little spurts of flame in the Doré pictures of the "Inferno." It was strange and wonderful, not at all like war, rather like some electrical display.

Soon we received word that the road had been cleared, or rather that a path had been cut through the *débris*. Of all the gruesome sights I have seen that was the worst. It was really perfectly ghastly. You see a shell had hit this *camion* loaded with explosives, consequently it had gone up in smoke, but in doing so had set fire to another *camion* and two artillery caissons. Of course the men in them had been caught like rats in a trap. It was the narrowest and most tortuous sort of lane that ran through the muck, which you could smell long before reaching it. The first thing was an overturned, charred caisson, the horses lying beside it, all shot to pieces and having bled profusely over everything. Then there were the remains of the *camion*, smouldering away, the odor of burning rubber mingling with that of burning flesh—a fetid combination. All about were pieces of clothing, still smoking, and pieces of flesh within them. You see, everything in the middle had been quite blown to bits, and in one place I had to turn aside to keep from running over a pair of legs that lay smoking on the road, with the feet blown off, leaving the bone, blasted and protruding. Further on were more horses, one thoroughly crisp and baked, and some minus legs, heads, and other parts, with their entrails lying across the road. Then there was more wreckage—animal, mechanical, and human—twisted bars, burnt leather, burnt everything, and the bodies of the drivers lying along the sides of the

road in every conceivable position, some apparently without a mark on them, others in unmentionable death.

The *brancardiers* and *genie* corps were already hard at work, and they did their job quietly, quickly, and thoroughly, for an hour or so later all that remained were the horses, dead and dying, and the broad blood stains on the road. I suppose now that I have seen some of the horrors of war, they really are not so frightful as one would imagine—not if one looks at them the right way.

Think how lucky the "man of the pair of legs" was; his end must have been quick. It is the long suffering that is the real horror—the going back home, maimed, disfigured, helpless, or an idiot (which last case has happened too often). That man's family will never know how he died, will never have the pain of seeing his charred, mutilated remains, but will be consoled, I hope, in the fact that he died gloriously on the field of honor, for, to my mind, the field of honor is not bounded by No Man's Land, but extends far back, even as far as the despised road-mender, who occasionally does his bit under fire.

I reached the *poste* finally, and immediately got a load of men who had been injured in the German barrage before the show really started. They were quite excited about it and gesticulated with wounded arms in a most dangerous manner. The French really, I believe, like to fight. That trip to the *tirage* and back passed quickly, for by this time I was rather excited myself, and felt as if I were really in it—a most wonderful sensation. You can do anything then.

The next trip started in with a deal of excitement, which kept up all day. It began to get boiling hot, and the bodies of the horses on the road were swelling and stinking and covered with flies. There must have been at least twenty-five in one mile. (They were left there for three days, the only thing done being to sprinkle them with quicklime, which made it worse.) No wonder some began to call it "slaughter-house road."

There was a lull in the work on my third return to the *poste*, and I had an interesting time with the prisoners. There were a great many of them, and so different from what I had imagined or read about. They were, for the most part, pretty fine specimens, healthy, tanned, straight, about 50 per cent of them quite young—seventeen to twenty years—from the 109th, 110th and 111th Baden Regiments. They worked willingly, well and long, helping with the French wounded, and were talkative and seemed altogether glad to be prisoners. It was funny to see several of them together at times, walking down the roads, without guards, carrying stretchers. The French treated them wonderfully, laughing and joking with them, and one would see *camion* loads of wounded from both sides going to the road, all singing and carrying on as if they were going to a picnic instead of a hospital. One instance was very funny. A French artilleryman and a German infantryman came swinging down the road, arm in arm, caps exchanged, and both most gloriously drunk. On reaching the *poste*, the Boche, who had a slight wound in the arm, took a most touching farewell of his new-found comrade, who went swaggering on. Any hostilities after the fray were always quieted by the priests, who really work exceedingly hard in the field and make little noise or show about it. And they are not impressed with their goodness, as are some members of well-known benevolent institutions. I saw a

priest come with a wounded German and make the French give up a seat to him—just a little thing—but it counts.

I talked with a good many Boches, especially one gentlemanly looking boy of eighteen who came from Heidelberg. He was much interested to know if I had been there, and told me his address and many other things. They all say about the same thing—little food and no future—coffee in the morning, so much meat, so much sugar, so much of something else; for lunch, the same thing; for supper, only tea with a little Schnapps in it.

The French *brancardier* gave several of those Boches the meal of their lives. It was pathetic. One old *brancardier* would say something about the terrible Boche, only to meet with a storm of protests—"He is so young, so hungry," and straightway they bring forth bully beef, wine, and bread and stand around to watch them enjoy it.

While we were there, several shells came in close by. One landed quite close, striking a squad of *genie*, killing several and wounding a good many others. Of course, we all made a dive for shelter, but the Germans out there were quietly smiling, and one of them said that he did not see any cause for worry; they had listened to such things for many days.

A little later I was sent on up to a *poste*, heretofore unapproachable. The road was bad, but passable at one time. I ran through a field. There were shells falling all the time around there, but none very close. What they were shooting at I don't know. The damage they did appeared accidental. On reaching the place, it proved to be a French dressing station—very interesting.

The German prisoners were hard at work there, and I wish you could have seen me at one end of a stretcher, with a sweating, cursing, fat little Boche at the other, go plodding to the ambulance under a boiling sun, through that blasted field.

The driving from that time on began to be a ticklish business. The shells kept coming in with such irregularity as to make it a trifle disconcerting. On my next run back from the *poste*, which happened to be some time later, I stopped off to have lunch at camp. During that time I looked about the *tirage*. What a change there was! The line of ambulances waiting to get in stretched way down the road, and in the courtyard the scene was one of confusion and clamor—auto-ambulances getting all twisted up with each other—excitable Frenchmen yelling vain orders, and stolid British drivers gazing calmly on. The part not taken up by the cars was covered with stretcher cases—moaning and groaning—and inside the corps of doctors was working feverishly, a captured German surgeon-major looking after his own men. I went back into the garden and that, too, was full of wounded, limping, walking and crawling on their hands and knees, Boche and French, to the big tent where the sitting cases were being looked out for.

In the afternoon I started back again, passing great convoys of prisoners, marching rapidly to the rear. As I neared the place where we parked the cars, I saw the shells breaking near there, throwing up their geysers of earth and rocks—about 8-inch shells, judging from the commotion they created. I began to get into somewhat of a funk, and not knowing just what to do, kept on, as it was broad daylight. On reaching the corner, I found everything in a state

of confusion. Cars left all over the road—horses wandering nervously about, and not a soul in sight, except the German *saucisse*, which seemed to have become human and murderous as it gazed silently at us, directing the fire.

I left my car at the side of the road, and, along with another fellow who had come up behind me, started to run. It was God's mercy that no shells came in at the time. For some unknown reason there was a lull. I never have had the sensation of running for my life before, and I can assure you that I don't want it again. It was not a mad dash—that would have been foolhardy, as one becomes excited then and is not on the alert. We dared not take to the trench, as two shells had just landed in it; the road was dangerous on account of nervous horses. So we loped along a little railroad track, ready to drop into the ditch at the first screech. We reached the *abri* in safety, where the French welcomed us with open arms, saying that our comrades had gone out to look for us, having seen us come down the road.

I found the rest of the fellows under a little "bomb-proof," waiting for a chance to get out and away up to the *poste*. (This place was just a stepping-off place, where some cars were kept to prevent congestion. I believe that I have explained this system before.) We noticed that now the shells were coming in about every five minutes, and so we decided to wait until the next one came in and then make a dash for it, which we did, but the best-laid plans most often miss out. The Boche had gotten the range of the corner and started in working on it in order to block the road. They failed in this, however, but did quite a little damage. We ran back, and three or four fellows got out of the mess with their cars, but I had just started for mine when a shell whistled along and I dropped into a shell-hole. The shell burst quite close, and I could hear the *éclat* go whistling over my head, and received a shower of dirt myself. I then scrambled out, reached my car, but had trouble getting it started, which was fortunate, for just then another shell of good size landed about ten yards away. I dropped on my face in the lee of the car, with my heart in my mouth. A shower of dirt and a few rocks were all I received, however, but on climbing up again I saw a hole in the Klaxon, which is right beside one on the seat. I took the thing apart the next day and extracted a piece of shell which I am saving as a souvenir—one of the very few I have. Had I been sitting there in my seat!!! But, luckily, the car would not start at first. Well, I got out of there all right, and went on up this time, way up to the place where the French Reserve trenches had been in the morning. Way up there, for some reason, it appeared wonderfully quiet—a lull after the storm—everyone sitting around thoroughly fagged out. French doctors, *brancardiers*, and German prisoners sitting on the edge of the trench, smoking and talking, all very naturally. But up in the air there were three German machines, flying so low that we could see the crosses plainly on their wings, and every now and then the tat-tat-tat of their *mitrail-leuses* would break in the quiet of the evening, as they shot down into the trenches.

The wounded were plentiful, however, and I soon had a load and started on my return trip, which, at one time, I thought I would never finish, for, as I rounded a bend in the road, I saw that, ahead, the Boches were still at work

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plastering that old corner. It was not a cheerful prospect for me or my passengers. Nevertheless, there was nothing to do but go on. As I neared the place my spirits sank lower and lower, and life struck me as being something desirable. I began to take a very piggyish view of the affair.

Finally we reached the spot, and the signs of the bombardment were everywhere—great gaping holes in the solid dirt and débris, and at one place an artillery caisson lay in the road, the horses bleeding and dying before it. How the men escaped I do not know, for there was no one there. They must have got out all right, though, for nobody would take the trouble to remove bodies or go after anything on that spot.

I thought I had got through all right, when two shells came in close by, but, fortunately, landed in soft ground

and merely threw dirt all over us. That was my last trip and ended the most eventful thirty-six hours of my life. I was relieved and sent back for a good night's sleep.

Several nights later, a German aeroplane paid us a visit, ostensibly looking for guns, but they dropped four bombs near the barracks—wooden sheds only—killing our French corporal and wounding two of our men—one of them maybe injured for life. We were all asleep at the time. I went to see the *Brigadier* before he died. Poor man, he was over age and had a wife and two children. The *éclat* hit him in the back, severing the spinal cord and piercing his lung. A number went to his funeral but could not find his coffin—there were so many. A company of Territorials were hard at work digging graves as fast as they could. Such is war.

“Signs of Change”

A DEPARTMENT DEVOTED TO THE FUTURE OF THE BUILDING INDUSTRY

SULLIVAN W. JONES, *Associate Editor*

The recent discussion in the Senate on the Housing Bill discloses no evidence that senatorial minds are any nearer an understanding of the crucial need, as a war measure, of housing accommodations for industrial workers than they were six months back. That which caught our interest and turned our thoughts toward a possible change was not so much what some senators said on the subject, as it was what the interested constituents of these senators had been saying, and why. The discussions in the Senate on April 30 and May 1 centered not upon housing, but upon the method by which contractors should be selected for housing projects. The cost-plus contract was torn to shreds, stamped underfoot, and cast into the waste-basket. It had one defender, Senator New, who put up a brave fight, but his arguments failed to make the slightest impression upon the convictions of his colleagues: first, because to them there seemed to be, apparently, abundant, irrefutable evidence that the cost of the cantonments and other projects constructed under cost-plus contracts has been far greater than can be justified or even excused on any grounds whatever; and, second, because the other senators were determined that in the future there should be a wider and more equitable distribution of Government contracts.

We venture the belief that the Senate, and the House as well, was much more deeply interested in securing Government employment for a larger number of contractors than it was in the inordinate cost of work under the cost-plus contract. The means by which Congress intends to secure a wider distribution of contracts is apparently to force the Government to adopt the method of competitive bidding and the lump-sum contract. Here are some of the statements from the Congressional Record:

SENATOR KING: “. . . is this not a very excellent time to give the small contractor a chance to get into the game, into the field of activity again, and rescue the business of the country from a few enormous corporations and trusts?”

SENATOR SMOOT: (Advocating competitive bidding on work costing more than \$25,000.) “When you take the upset fee, then the power is in the Board to throw contracts to almost any contractor it may desire. The Board can . . . limit the number of contractors to a very few. It could cut out the great bulk of contractors in the United States.

. . . I do not want to put it within the power of the Board to say who shall be the contractor and who shall not. The contract should be awarded to the lowest responsible bidder.”

SENATOR KING: “. . . has not the effect of this cost-plus contract business, established by the Government, been to drive into inactivity many of these small contractors throughout the country . . . ?”

SENATOR CALDER: “. . . that (Mr. King's statement) is correct. I know in the city of New York . . . three-fourths of the building contractors are doing nothing at all at this time, and they would be glad to take some of this Government work if given an opportunity.”

SENATOR FRELINGHUYSEN: “. . . I believe the only fair way to let these contracts is to give every contractor an opportunity to bid, after due advertisement, and have the bids opened in the presence of the bidders.”

Who has been talking to these senators? Anyone familiar with the statistics on Government war construction will answer without the slightest hesitation—the vast army of unemployed general contractors, and another vast army of established subcontractors who have been given no opportunity by either the Government or the general contractors employed by the Government, to render a service. Now, both of these groups are, we believe, wrong in advocating competitive bidding as a cure for the conditions of which they rightfully complain. As a result of competitive bidding the unemployed general contractors might, of course, secure contracts that would not otherwise be given to them. The subcontractor knows that under the lump-sum method, the general contractor would quickly return to his normal practice of dividing his risk and reducing it by employing those productive agencies which in the past have proved sure and economical—namely, subcontractors.

If Congress understood, and, more particularly, if the senators whose remarks have been quoted, understood, the elements of uncertainty surrounding construction work under existing conditions, and the effect of these uncertainties in completely nullifying the contract obligations assumed by the contractor with respect to time and cost, the discussion on the Housing Bill would certainly have taken another direction. It is not an exaggeration to say that the most astute lawyer would find it impossible to draw a lump-sum contract that would be worth the paper on which it was typed. The Government must, and intends to, furnish all materials, but it cannot guarantee deliveries.

The labor situation is wholly beyond the control of any contractor. Knowledge of these things will not deter the contractor from making competitive bids or signing lump-sum contracts. It will, in fact, encourage the most reckless kind of bidding by the most undesirable element in the contracting fraternity, actuated by the sole aim of securing work. The inevitable sequel to such a process will be protracted disputes, delays, and complete failure on the part of the Government to secure housing accommodation quickly.

Competitive bidding and lump-sum contracts will neither answer the needs of the Government nor the demands of the unemployed contractors. Unless these contractors are suffering from distorted reason through brooding over their grievances, and have learned nothing from past experience, they must certainly prefer working under the cost-plus form of contract to working under the lump-sum contract in these days, crowded as they are with uncertainties. What these contractors really want, and what Congress is trying to secure for them, is a more equitable distribution of contracts, and we cannot help feeling that the contractors would have placed themselves in a stronger position and might have exerted a far greater influence for improving the Government's methods if they had frankly talked the real issue instead of resorting to the obsolete, back-door methods of the old-time politician.

Some of the Government departments, particularly the Construction Division, require education on matters of policy and method, and these contractors might have rendered a service of inestimable value to the Government, directly, and indirectly also, through helping themselves and the whole building industry by intelligently applying pressure where it is needed. Their cause is a just one, and has our whole-hearted sympathy, but we are entirely out of sympathy with their methods. A determined and persistent effort ought to be made to convince those Government officials who formulate policy that they are adding fuel to

the fire of unrest, and depriving the Government of very great benefits, by failing to use the greatest possible number of existing productive agencies. One official, who has much authority in the selection of contractors, is quoted as saying, in effect, that it was the policy to keep the number of contractors serving the Government down to the smallest possible number, and to confine that number to those who had "made good." What about the hundreds of other contractors who have had no opportunity to demonstrate their ability? And what about cases where second and third contracts have been given to contractors who have not "made good" on the first? The size of an organization, in these days when contractors underwrite construction projects, is no indication of organization efficiency. As some of the senators have said, the cost of the work has been inordinately high. The contractors' overhead expense, paid by the Government, has been, as a rule, out of all normal proportion to the cost of the work. The Government has paid liberally for services which, in many cases, it has not received.

The Government cannot escape its share of responsibility for the existence of these conditions. It has failed to check or correct them. In some cases the officials in charge in the field have dictated to the contractor the method of handling the work and the character of his organization, both of which indicate an absolute ignorance of the usual methods and of organization. In some cases the Government has duplicated the contractor's organization. The Government's field expense has run as high as 10 per cent of the cost of the work, and this does not include the overhead expense in Washington. If work were conducted by private individuals during peace times on any such wildly extravagant scale, there would be no building industry. The unemployed contractor has a splendid case, and he ought to present it properly, unselfishly, on the ground that it is his right and privilege to serve the Government at this time.

Obituary

George W. Rapp

Elected to the Institute as a Fellow, 1882
Died at Cincinnati, Ohio, January 10, 1918

Goldwin Starrett

Elected to the Institute in 1915
Died at New York City, May 9, 1918

Goldwin Starrett was born in Lawrence, Kan., September 29, 1874. His education began in his mother's school for girls in Chicago, where he enjoyed those unique advantages which, as a child, left that impress upon his nature which made him so beloved by those whom he gathered about him. His studies were pursued under special tutors, and he then entered the Engineering Department of the University of Michigan, from which he was graduated in 1894.

Thence to the office of D. H. Burnham in Chicago, where he remained for four years, leaving there to join the George A. Fuller Company, where for two years he was superintendent and assistant manager. During the next four years he associated himself with the Thompson-

Starrett Company as secretary and assistant general manager, and another four years were spent with the E. B. Ellis Granite Company.

In 1908 he established himself as an architect in New York City, and shortly thereafter formed the firm of Goldwin Starrett and Van Vleck. About a year thereafter, Mr. Orrin Rice was admitted to partnership, and, in 1914, Mr. (now Colonel) W. A. Starrett joined the firm, which then became known as Starrett & Van Vleck, Mr. Goldwin Starrett becoming the senior partner.

The Philadelphia Chapter Medal Awarded to Messrs. Day & Klauder

At the last meeting of the Philadelphia Chapter, the report of the Jury to award the Chapter Medal was read in connection with the recent annual Architectural Exhibition. The medal was awarded to Messrs. Day & Klauder for the Princeton University dormitories and dining-halls. The Jury was composed of Bertram G. Goodhue and John Wyncoop, of New York City, and Thomas L. Kellogg, of Philadelphia.

Structural Service Department

D. KNICKERBACKER BOYD, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE CONTRACTS AND SPECIFICATIONS FIRE-PREVENTION
MATERIALS AND METHODS QUANTITY SYSTEM

The personnel of these Committees for the ensuing year will appear next month, together with that of the new COMMITTEE ON STRUCTURAL SERVICE (concerning creation of which see 5B1)

CONTENTS

FIRE-PREVENTION AND -PROTECTION ISSUE

Last year this issue consisted of two sections, the first devoted to Fire-Resistive Materials, the second to General Building Construction. The Wood issue followed. This year all materials of general construction, including wood, and with the exception of metal and plastic products, have been covered in the Serial Numbers preceding this.

One issue, therefore, with cross references to the materials already treated and to metal lath taken in con-

nection with stucco, and to other metal and plastic products treated in Serial No. 11 of the Structural Service Book, Vol. I, and to Wire Glass in Serial No. 12 of the same (these will appear in later Serials also), will cover the general subject of Fire-Prevention and -Protection.

Features relating to electrical installations and to gas equipment will be described in the two next following Serial Numbers.

SERIAL NO. 5, MAY, 1918

INDEX TO SUBJECTS TREATED IN THIS ISSUE

(For index of materials previously treated, see Index on page 273 and General Index to the Structural Service Book, Vol. I, 1917)

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Departments of the U. S. Government, Associations, and Other Bodies

5A

U. S. Bureau of Standards.

5A1

In addition to the functions and organizations of the Bureau described under Serial No. 1, January, 1918, its activities with respect to coöperation in testing of columns and to investigations, tests, and the promulgation of fire-prevention data are described in detail in the Structural Service Book, Vol. I, Serials Nos. 3 and 4. Résumés of these, with the addition of work since undertaken, are given under each subdivision in this Serial Number, including the fire-tests of building columns, which are described in the report of the Committee of the American Institute of Architects, printed under 5C1, where references will also be found to other activities and to publications giving detailed accounts of the types of columns, materials, methods of tests, and tables.

Considerable correspondence has been carried on with engineers, state fire marshals, fire department officials, and others interested in fire-prevention work, and the Bureau has coöperated with committees of the National Fire Protection Association in their several lines of work, especially with the committees relating to state building codes, safety to life, etc., and with the Bryn Mawr Fire Prevention Committee in their investigations on the fire-hazard in relation to factories in which women are employed.

Serial No. 5

Work has been done in preparing an index for collating information relating to the fire-resisting features of building construction and in collecting data on the causes of fires.

A section entitled "Fires in the Home" has been prepared as a part of a new Bureau circular, "Safety for the Household" (5D1a).

Other Departments of the Government. 5A2

- The U. S. Geological Survey*, previous to the creation of the Bureau of Standards and the Bureau of Mines in 1910 (as mentioned under 2A), conducted investigations on the fire-resistive qualities of building materials and on buildings under fire, which resulted in the issuance of publications, the value of which has not diminished with the years. (5C3b.)
- The Bureau of Mines* is charged with fire-prevention and other safety measures in mines, as mentioned under 2A3.
- The Navy Department*, because of its control of floating equipment, as well as of the amount of construction on land under its direction, is especially interested in all phases of fire-prevention. For specifications separately issued by it see 5G2a.
- The War Department* and the *Treasury Department*, through the

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Office of the Supervising Architect, issue specifications for construction in general which are referred to under 4B2.

- (e) *The Forest Service* of the Department of Agriculture conducts investigations and tests and issues publications with respect to the fire-**resistive treatments of wood**, which are mentioned in the preceding Serial Number under 4C1a.
- (f) *The War Industries Board*. The *Quarterly* of the N.F.P.A. for April, 1918, states:

"The constitution of a **Fire Prevention Section** of the War Industries Board, among the officers and committeemen of which we observe the names of many prominent N.F.P.A. members, reminds us, not only of the importance which attaches to the prevention of fires that may interrupt the high-speed production of war supplies, but also of the two strikingly contrasted attitudes of mind which are found among fire-preventionists at large. On the one hand the extraordinary demands for highly technical service in fire-prevention have given rise in some quarters to the feeling that the present emergency calls only for work of this character and that efforts along other lines are inopportune. On the other side are ranged those who regard the present situation as offering a unique opportunity to arouse popular interest in the subject and thus **develop in the whole community a fire-prevention conscience that shall outlast the war.**"

For publications prepared by the National Board of Fire Underwriters for the Council of National Defence, of which the War Industries Board is a part, see 5K3.

National Fire Protection Association. 5A3

Secretary: Franklin H. Wentworth, 87 Milk Street, Boston, Mass.

Publications:

- (a) (For members only): **Proceedings** (annual); **Yearbook and Directory**; **Quarterly**; **News Letter** (monthly); **Index** to all subjects covered in the printed records; **Bulletins, Papers and Reports** (at intervals), many of which are referred to under appropriate subdivisions in this issue.
- (b) (For general distribution): **Standard Regulations for Fire-Protection and the Safeguarding of Hazards**; **Suggested State Laws, and Suggested Municipal Ordinances**, for regulating fire-hazards; **Educational**; **Special Bulletins and Fire Reports**; "No Smoking" signs. For complete lists of publications issued under these classifications, available to March 1, 1917, see *Structural Service Book*, Vol. I, pp. 43 and 44, and for any changes in, or additions to, those lists see 5K2 in this issue.

Purposes:

"To promote the science and improve the methods of fire-protection and prevention; to obtain and circulate information on these subjects; and to secure the cooperation of its members in establishing proper safeguards against loss of life and property by fire."

Has two functions: One, to make the "standards" under guidance of which the fire-waste may be checked; the other, to educate the people in the observance of those standards and point out the grievous economic penalties for ignoring them.

The task of compiling and revising its standards, covering all phases of building construction and fire-prevention engineering, is performed through committees of experts drawn largely from the 130 "organization members," of which the American Institute of Architects is one. Notwithstanding the arduous nature of the service, a large number of committees is always at work adapting old standards or formulating new ones to meet the everchanging conditions of modern life.

The Committees on **Safety to Life, Fire-resistive Construction, Uses of Wood in Building Construction, Field Practice, Manufacturing Risks and Special Hazards, Protection of Openings in Walls and Partitions, Roof Openings and Cornices, Tanks, and Nomenclature**, are those whose activities are of especial significance in connection with building construction. The work of these committees and of the Association will be found more fully described under 3A3 in the *Structural Service Book*, Vol. I, and the current activities and reports are mentioned in this Serial Number under appropriate subdivisions.

The National Board of Fire Underwriters.

5A4

General Manager: W. E. Mallalieu, 76 William Street, New York City.

Publications:

Suggested Regulations covering the installation of hazardous and protective devices, **Model Building Regulations and Ordinances** and **Special Reports** on various subjects prepared by the engineers of the Board. A list of the publications distributed by the Board will be found on pp. 44 and 45, of the *Structural Service Book*, Vol. I, additions to which are listed in this issue under 5K3 and all of which are referred to throughout this Serial Number under the appropriate subdivisions.

Purposes:

Is supported by a pro rata tax upon the 133 principal stock fire insurance companies of which it is composed.

Serial No. 5

Organized in 1866, it sought to restore stability in the troublous period following the Civil War by a rigorous control of rates.

Difficulties arose, however, which made it necessary to abandon rate-control. This was done in 1877, since which date the National Board has exercised no jurisdiction or supervision of the question of rates, that power being entirely in the hands of local fire underwriters' associations, each having jurisdiction over certain specified areas, as mentioned under 5A5.

In a sense, its name has become a misnomer, since it no longer exercises the functions of an underwriter. It has really become an investigative, standardizing, and distributing organization, dealing with the broad principles of underwriting and fire-protection. In this work it cooperates the best technically trained service it can secure with the wide practical experience of its members.

Its activities are conducted through standing committees under supervision of the Executive Committee and the direction of the General Manager. Most of these committees employ skilled experts who devote their entire time to work planned by the committees. The more important of these committees are described by Prof. Ira H. Woolson in the account which he prepared for publication in the *Structural Service Book*, Vol. I, under 3A4. Those whose activities are chiefly of interest to architects, engineers, and other constructionists being on **Fire Prevention, on Construction of Buildings, on Lighting, Heating and Engineering Standards**.

The National Board also maintains the important organization known as the **Underwriters' Laboratories**, reference to which is made under 5A4a, which follows.

Underwriters' Laboratories. 5A4a

President: William H. Merrill, 207 East Ohio Street, Chicago, Ill.

Publications: Complete list will be found under 5K1, and those applicable to this issue are referred to under appropriate subdivisions.

Purposes: Established and maintained by the National Board of Fire Underwriters for service, not profit, and chartered by the state of Illinois, 1901. The work of the Laboratories was mentioned in the *January Journal* under 1A4a, and will be found described on page vi of the *Industrial Section* of this issue, in which see, also, 5C1 for cooperation of the Laboratories in fire-tests on building columns with the U. S. Bureau of Standards and the *Factory Mutual Laboratories*.

The work of the Laboratories with respect to accident hazards will be mentioned under a later Serial Number and with respect to electrical matters under Serial No. 6.

Local Underwriters and Jurisdiction. 5A5

The local boards of fire underwriters, or fire insurance bureaus or exchanges, are composed of the insurance companies or their officers or agents; some of the officers may also represent their companies in the National Board with which, however, the local bodies have otherwise no official connection whatever. **Each such organization is a separate and distinct association**, complete within itself, having its own officers and different departments dealing with the special hazards which affect construction, inspection, fire-insurance losses, and other matters relating to the actual business of underwriting within its own prescribed territory.

For the convenience of architects, engineers, and other constructors, who are urged to develop a closer cooperation with these locality organizations as mentioned in the subdivision which follows this, a colored map of the United States, 28 x 14 inches, is issued by Ream, Ives & Wrightson, Insurance Brokers, 24 Broad Street, New York City. It shows, in a very complete manner, the **territory under the jurisdiction of the various boards and bureaus**. Price, \$2.50.

Associated Factory Mutual Fire Insurance Companies. 5A6

Having grown from the idea of a New England manufacturer who started the system in 1835, this organization now includes nineteen individual mutual fire insurance companies, a list of which will be found in the *Structural Service Book*, Vol. I, under 3A7.

Inspection Department, Associated Factory Mutual Fire Insurance Companies. 5A6a

Secretary: C. H. Phinney, 31 Milk Street, Boston.

Assistant Secretary and Engineer: H. O. Lacount, 31 Milk Street, Boston.

Publications: For complete list of those available to March 1, 1917, which are also referred to under appropriate subdivisions herein, see *Structural Service Book*, Vol. I, p. 45, and for any changes in, or additions to, that list, see 5K4 in this issue.

Purposes: The Associated Factory Mutual Fire Insurance Companies established in 1886 the Inspection Department, or Engineering Bureau, to take over the work of inspection of all the Mutual risks, the making of plans and appraisals of the properties insured, and the engineering work along all lines of fire-protection engineering previously done by the individual companies for the information of themselves and the Mutual members. Since 1896 the Bureau has also been responsible for the adjustment of all losses.

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Other functions and activities of the Inspection Department will be found more fully described in the Structural Service Book, Vol. I, under 3A7, and electrical phases under 6A8.

Factory Mutual Laboratories. 5A6b

Engineer: Edward A. Barrier, 31 Milk Street, Boston, Mass.
Issues no publications, all emanate from the Inspection Department.
Purposes: Established in 1890, the Laboratories are under the direction of the Inspection Department, and the services, primarily for mill owners insured in the companies, are performed without charge to them or to parties submitting appliances as described under 3A8 of the Structural Service Book, Vol. I, and under 1A4b, in Serial No. 1, January, 1918.

The following organizations, among others, and exclusive of those concerned with electrical phases of the subject, are interested in fire-prevention matters. The first three listed will be found more fully described in the Structural Service Book, Vol. I, under 3B1, 3B2, and 4A3, respectively.

International Association of Fire Engineers. 5A7

Secretary: James McFall, Roanoke, Va.

Fire Marshals' Association of North America. 5A8

President: James R. Young, Insurance Commissioner, Raleigh, N. C.

National Automatic Sprinkler Association. 5A9

Secretary: Ira G. Hoagland, 80 Maiden Lane, New York City.

The Union. 5A10

Insurance Exchange, Jackson Street, Chicago, Ill.

An organization of stock insurance companies which has jurisdiction over underwriting practices in the middle western states. In addition to electrical inspection, it maintains a Committee on Publicity and Education which has been useful in promoting fire-prevention practices and literature.

Society Advocating Fire Elimination. 5A11

Secretary: Ralph P. Stoddard, 356 Leader News Bldg., Cleveland, Ohio.

An organization composed of the purveyors of fire-resisting building material, conducting an informative campaign in the use of such materials as a means of fire-prevention.

Factory Insurance Association. 5A12

Manager: H. L. Phillips, 266 Pearl Street, Hartford, Conn.

An organization of stock insurance companies formed for the purpose of insuring selected risks which are kept under special inspection by engineers employed by the Association.

Mutual Fire Prevention Bureau. 5A13

Secretary: William Reed, Oxford, Mich.

An inspection bureau maintained by the National Millers' Federation to look after the fire-hazards and improve the conditions of grain elevators and mills. Operates principally in the northern Middle States.

Fire Prevention Bureau of the Pacific. 5A14

908 Merchants Exchange Building, San Francisco, Calif.

Was formerly named "Fire Underwriters' Inspection Bureau." Maintains inspectors at several points throughout the states on the Pacific slope.

National Association of Insurance Commissioners. 5A15

Secretary: Fitzhugh McMaster, Columbia, S. C.

An organization made up of state officials who have charge of insurance matters in the various commonwealths. Principally concerned with underwriting problems.

In addition to the foregoing bodies concerned specifically with the fire-prevention propaganda, there are many national and other societies not concerned with structural materials which recognize the importance of fire-preventive measures and evidence their interest through the activities of committees or otherwise. For one list of these consult "Constituent Organizations" of the N.F.P.A. Among such are:

National Association of Credit Men. 5A16

General Secretary: J. Harry Tregoe, 41 Park Row, New York City.

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National Association of Manufacturers of the United States of America. 5A17

Secretary: George S. Boudinot, 30 Church Street, New York City.

The Philadelphia Chamber of Commerce. 5A18

Has a Committee on Fire Prevention and Insurance under the active chairmanship of Powell Evans. Issued April, 1918, a report advocating a bill to fix personal liability for fires due to carelessness or neglect. Also urged, at sixth annual meeting of Chamber of Commerce, U. S. of A. April 10-12, 1918, a resolution requesting the U. S. Government to "initiate and carry forward promptly and continuously to some conclusion a complete study of American fire-waste, -prevention, -protection and -indemnity, etc." This resulted in the action mentioned below:

Chamber of Commerce of the United States of America. 5A19

General Secretary: Elliot H. Goodwin, Riggs Building, Washington, D. C.

At its annual meeting, April, 1918, adopted the following:
"WHEREAS, The subject of fire insurance and adequate protection of property value has become increasingly important, due to the war and its contingencies, therefore, be it

"Resolved, That the Board of Directors of the Chamber of Commerce of the United States is requested to consider the appointment of a special committee to study the whole subject thoroughly and to issue a referendum to its membership in the near future with respect thereto."

Other organizations concerned with the manufacture of metal lath, doors, windows, and other metal products and with gypsum, asbestos, and other plastic products will be mentioned in later Serial Numbers when those materials are treated.

Architects, Engineers, and Fire-Prevention—Lectures and Educational Work. 5B

It is generally agreed by those who have made a study of this question that architects might have a colossal influence in the cause of fire-prevention were they willing to give proper attention to the matter at a time when their buildings are planned. The trouble is that many architects do not realize even the most simple fundamentals of fire-preventive construction. They imagine that fire-prevention means fireproof construction. They do not know that it is possible to build even a frame house in such a way as to greatly decrease the fire-hazard. Even so-called fireproof buildings are not really safe unless the fundamentals of fire-prevention are insisted on. There are repeated cases where buildings of steel and terra cotta and concrete are destroyed because of lack of attention to the fundamentals of fire-prevention, such as enclosure of stairs and elevators, erection of proper fire-walls or the dividing of buildings into restricted areas, providing sprinkler equipment and standpipes, arranging for isolation of boiler-rooms and fire-hazards, like storage of hazardous fluids and materials, etc.

In buildings built of wood there are very simple methods of reducing the fire-hazard which are constantly neglected by architects. Ordinary incombustible fire-stops, built in at the sill-levels and at each tier of beams and to isolate roof-spaces, may be given as instances of what may be done at a comparatively small cost; the proper construction of flues and fireplaces, the proper installation of heating systems and the isolation of the ordinary house boiler are all of them of vital importance. These have all been ably detailed for the benefit of architects and others in the booklet prepared by I. H. Woolson for the National Board of Fire Underwriters, under the title of "A Code of Suggestions for Construction and Fire-Protection in Dwelling Houses," which is referred to elsewhere and can be had on application.

In more complex cases it is highly desirable that the architect when designing his building consult with the Board of Underwriters having jurisdiction in that particular district. The architects are assured that the local Boards in various districts are glad to cooperate and give advice with regard to the best methods of fire-protection in each particular case. The important thing is that adequate fire-protection is not only a question of safety to property, for many architects and owners feel that they would rather have a building a little more convenient and pay the extra insurance rate for failure to comply with the best fire-protection methods than be bothered with the obstruction of various preventive features, or go to the extra expense over the original cost. The real danger lies in the colossal injury to business and industry that results from fire and the still greater injury to human life. In some states we are beginning to get the courts to take the view of responsibility for fire which is taken in certain foreign countries, particularly in France. There the owner of a structure in which a fire occurs through defects of construction or through neglect is responsible for the damage to all neighboring property that may result from fire starting in his own structure. In New York state

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recently, in a number of cases, owners of buildings in which fires occur through failure to comply with the fire-prevention law have been forced by the courts to pay the cost to the city of extinguishing the fire. Very large sums have thus been collected. Legislation of a similar nature is being introduced in the various states, so that not alone for the necessity of humanity will the architect be required to consider fire-prevention when planning structures, but he will be forced by economic conditions to give due consideration to this subject. (Written by Robert D. Kohn for *The Journal*, May, 1918.)

Committee on Structural Service, A. I. A. 5B1

At the fifty-first annual convention of the Institute, held in Philadelphia, April 24-26, 1918, it was

Resolved, That the Board be instructed to appoint a special Committee on Structural Service, which shall consist of the chairmen of all standing and special committees whose activities are connected with structural phases of architectural practice, the Editor of the Structural Service Department of the Journal, and one or more members of the Institute, as designated and appointed by the President. The chairman shall not be the chairman of any of the component committees.

"The duties of the Committee on Structural Service shall be to coordinate and correlate structural phases of the Institute's activities and to cooperate with departments of the Federal Government, states, and municipalities, and with affiliated organizations in matters where the Institute may properly render service toward improvements in structural materials, their safe and efficient application and toward higher ideals in providing for the health, safety and comfort of the occupants of all buildings."

Committee on Fire-Prevention—A. I. A. 5B2

This Committee is now actively canvassing all the Chapters of the Institute throughout the United States in an endeavor to get them to create individual committees on fire-prevention for their states and communities. They are being urged to follow the example of the New York Chapter in getting co-operation with local boards of underwriters so as to keep architects in the various communities in close touch with the laws prescribed on the subject and the best practice in fire-prevention. It is being urged upon them that they send out, from time to time, copies of the underwriters' reports on current fires with a special comment on the cause of those fires wherever the cause lies in defects of original construction or maintenance. The Committee is very anxious, also, to get colleges and technical schools, where architects are trained, to agree to a special course of lectures in fire-preventive building construction. For that purpose it is trying to create a special list of competent speakers on this subject who are willing to visit institutions of learning and deliver such lectures from time to time in order that the students may be brought in touch with men of experience through actual practice. Robert D. Kohn, *Chairman Institute Committee on Fire-Prevention*.

Committee on Fire-Prevention—New York Chapter, A. I. A. 5B3

A former chairman of the Committee (which some seven or eight years ago came into existence), Julius Franke, working with the assistance of F. J. T. Stewart of the Underwriters, prepared and sent out a very valuable booklet of general information for architects, with regard to the important points to be considered in the design of buildings from the point of view of fire-prevention and low insurance rates. (5D24.)

Since then the Committee on Fire-Prevention has been sending out to the Chapter members such of the fire reports of the underwriters as deal with buildings in which obvious and curable defects of design have contributed toward the fire-loss. These reports are printed by the underwriters and submitted to the chairman of the Committee for his opinion as to whether or not they will be of value to the architects. For reports of value, the Chapter pays part of the cost of printing and mailing.

Particular attention from the members of the Chapter to these pamphlets is directed by a notice at the top of each copy stating that a Committee on Fire-Prevention of the New York Chapter, A. I. A., considers this pamphlet of special interest to architects. The Committee is now preparing to give as much publicity as possible to the imminent danger in New York City of a general conflagration due to the lack of coal and extremely cold weather, these causes having brought about many frozen sprinkler systems, stand-pipes, hydrants, and even hand extinguishers, as well as hindering greatly the fire-fighting ability of the fire department. Wm. O. Ludlow, *Chairman Fire Prevention Committee, New York Chapter, A. I. A.*

Joint Committee on City Departments—New York Chapter, A. I. A. 5B4

The New York Chapter of the Institute co-operates also with the local Board of Underwriters through its "Joint Committee on City Departments." In this Committee, delegates of the Chapter, the underwriters, the building trades and the engineering societies come to-

gether periodically to discuss questions affecting the building interests of the city, both as to building codes and fire-prevention ordinances. The Committee is active and very effective, and in the nine or ten years of its history has been successful in impressing city and state authorities with the fact that its opinion on building and fire-prevention legislation is the opinion of an authority. Officials have very generally been willing to listen to its recommendations and, in many cases, have welcomed the cooperation. Robert D. Kohn, *Chairman Committee on Legislation, New York Chapter, A. I. A.*

Committees on Fire-Prevention—Other Chapters, A. I. A. 5B5

See the Report of the Committee on Fire-Prevention to the fifty-first annual convention of the American Institute of Architects, which gives a résumé of the replies from the Chapters to the communication from the chairman of this Committee and a list of Chapters which have already appointed committees, and of those which will do so or have evidenced their interest in this important subject.

Theory and Practical Application—Teaching and Lectures. 5B6

(a) In connection with the teaching of fire-preventive measures and building construction in colleges and technical institutions mentioned in the report of the Committee of the American Institute of Architects under 5B2, it will prove of significance to read "The Teaching of Fire-Protection in Architectural Schools," a summary of the replies of eleven architectural schools whose graduates are accepted without further examination by the American Institute; in *N.F.P.A. Quarterly* for April, 1918. 3 pp.

(b) With respect to the headway which is being made in securing recognition of the necessity for instruction in fire-prevention fundamentals in the public schools, see various issues of the *School Board Journal* and other educational publications, as well as the *N.F.P.A. Quarterly* and literature.

(c) Those who remember the report in the *Quarterly* of the N.F.P.A., April, 1917, on the disastrous fire which wrecked the plant of the Quaker Oats Company at Peterboro, Ontario, will be interested in the remarks made by J. W. Lowell, Jr., upon a paper read by T. D. Mylrea before the Western Society of Engineers. Mr. Lowell said:

"This paper has been of great interest to me, not because of the fact that the Quaker Oats Company lost a great deal of business, not because some insurance company lost many thousands of dollars, but because men of our profession failed in their service to their employers and to mankind. By making this statement, I do not mean to cast discredit on any person, nor to criticize them because ignorance of fire-prevention engineering is general throughout the profession, and is not considered vital enough to be taught in our colleges. I do feel that our profession must concern itself in the future with the engineering of fire-prevention and -protection.

"To begin with, engineering students should be taught the theory and practical application of this subject. We who are practising will be benefited greatly by lectures such as the one which we have just heard and others presenting various phases of the subject. Whenever we are called upon to design buildings and groups of buildings, we should bear the fire-hazard in mind as an important factor, and, if we are not competent to solve the problems involved, consult with specialists."

Committee on Fire-Protection—American Society of Mechanical Engineers. 5B7

Is composed of members who have had experience in the subject and are particularly interested in it, the chairman of which is John R. Freeman, president of the Manufacturers' Mutual Fire Insurance Company.

The Committee has not been especially active for the past three years, awaiting results from the investigation of column-protective coverings in progress at the Underwriters' Laboratories in Chicago, but several papers by its members have been presented and published in form for distribution. These will be found listed under appropriate subdivisions in this issue. A recent canvass of the Society shows 390 members engaged in fire engineering.

Other Engineering Societies. 5B8

(a) *The American Institute of Consulting Engineers* (1A2e) has, among others, a special Committee "on the National Fire Protection Association," represented by A. M. Feldman and Mason R. Strong.

(b) *The Western Society of Engineers* issues the *Journal*, the index to which contains references under the classifications "Fire," "Fireproofing," "Fire-Protection."

(c) *The "Proceedings of the American Society of Civil Engineers"* (1A2a1) contain numerous papers and discussions, many of which are applicable. Each issue of the "Proceedings" also contains a "List of Recent Engineering Articles of Interest."

STRUCTURAL SERVICE DEPARTMENT

(d) The activities of the American Institute of Electrical Engineers and other organizations interested in the electrical and other phases of fire-prevention will be described in succeeding Serial Numbers.

Reports on Fire-Tests of Materials and on Buildings under Fire. C5 Second Report on the Work of the Underwriters' Laboratories, by the Committee of the American Institute of Architects. 5C1

The report, dated May 1, 1918, brings up to date the work first reported on March 7, 1917, in these columns. The essence of this report is:

The whole subject of fire-prevention, judged from the basis of the enormous annual losses, is a most fitting one for national legislation and complete control, but in the absence of that, the only avenue left open for accomplishing any comprehensive reform seems to be by appeal to the people, and of course the most available way to reach them is through the architects who build their buildings.

In the face of these awful annual losses it seems clear that the architect should not have to be forced to save his buildings from fire, but he should realize that he is in a position, if he will only take advantage of it, to do more than anyone else in making our future buildings safer and better to live in and occupy and much less destructible by fire than they are now. If the architect, when he plans and designs his building, would only give more thought to how a fire might be stopped or retarded when once started, and how all the occupants might find safe and trustworthy means of exit, many a life might be saved that would otherwise be lost, and the fire and casualty lists of this country would gradually and surely diminish until they would compare favorably with those of any nation in the world.

Every architect, therefore, is appealed to by the American Institute of Architects to make a special study of each new problem for the purpose of providing safe exits and all possible resistance to fire, whether the law or the insurance authorities require it or not.

Information:

For the purpose of assisting the architects in this most worthy endeavor, there has been included in the Structural Service Department of the *Journal of the American Institute of Architects* a most complete and up-to-date list of all the authorities and literature on this subject. Any architect can secure, with little or no expense, full information on all those features and equipments of buildings that have been found by experience to be most effective against fire. In addition to this, all the information and data which the Underwriters' Laboratories have been gathering for years from their tests and experiments are open and free to the architects if they will only use them.

Among the tests which the Laboratories have been making recently are two which are of very great importance to architects. They are the tests on building columns and new designs of fire-retardant windows.

Tests of Columns and Coverings:

Realizing that the fate of a building, and often of its occupants, depends on how well the columns supporting it will resist the effects of fire, the tests of columns have been made the most scientific and complete of any that have ever been undertaken. The United States Bureau of Standards, the Associated Factory Mutual Fire Insurance Companies, the National Board of Fire Underwriters, and the Underwriters' Laboratories decided to combine forces and try out and settle, once and for all, by real fire-tests, the relative merits of all kinds of building columns. The question of the relative merits of fireproofing for columns came up after the Baltimore fire and the San Francisco earthquake, and was discussed throughout the country by the press and leading magazines. It is now being settled by carefully prepared scientific methods. Over two years ago the preparations were begun, and all the different kinds of columns and all the various ways of fireproofing them were carefully considered, with the view of selecting for test a full representation of all the different types. Accordingly, one hundred specimens were prepared, and the work of testing started about a year ago. Among those made during this year were the metal unprotected types of columns, which it is intended to describe in this report in rather a brief manner and leave the more complicated fireproofed columns for a more complete subsequent report. It is planned to provide the architects ultimately with a table of records and data so that they may at once select any kind of a column for any sort of a building with full and definite assurance of what it would do in case of a fire.

The Furnace:

In order to prepare for the testing of these columns under the same conditions that would exist in a building, a great furnace was erected that would take a column 12 feet high and impose upon it during the test a load of 256 tons. The furnace was built for applying a maximum heat of 2,300° Fahr. Provisions have been made for measuring temperature of furnace and test column and for measuring the deformation and deflec-

tion of the latter. Means have also been provided for applying streams of water under pressure to the heated column.

Unprotected Columns:

Of the unprotected metal columns tested, three were of cast iron and eight of various combinations of steel shapes. The cast-iron columns stood up longer than the steel columns, although the failure was more abrupt and complete. The temperature was raised gradually to about 1,300° Fahr. at 10 minutes, and 1,500° at 30 minutes. One of the cast-iron columns failed in 34 minutes and 13 seconds, while one of the steel columns failed in 11 minutes and 10 seconds, and another in 19 minutes and 13 seconds.

These tests on the unprotected metal columns show how quickly they will fail and cause the building to collapse, even in an ordinary fire, thus proving conclusively that unless the architect takes the precaution to fireproof such supports, his building may collapse, even in a fire of very short duration. The great difference in the endurance between these columns and the protected types became at once apparent in the tests, and when the tables and data are finally completed for all of the tests, the resistance to fire of the various kinds of fireproofing for columns will be fully determined.

Tests of Windows:

The tests of newly designed fire-windows established certain facts not previously known which have enabled the laboratories to put their approval and seal on certain windows which the architects will undoubtedly be very glad to utilize instead of the ones formerly used for certain locations. This test has demonstrated that for certain exposures the architects need not provide for great wide fireproof mullions between units of these windows, but, instead of that, in certain locations may use mullions as narrow as 2 inches wide, thereby increasing the light 75 per cent and doing away with wide mullions which were in some cases very objectionable features.

They will also be glad to know that certain windows have been approved for certain locations, in which there may be no muntins used at all and where one entire single sheet of glass may be used in the sash. The limits of the size of these windows, and the area of the glass and the various details of the construction, may all be had in detail by application to the Laboratories. It is probable that later on all the information concerning all of the different types of fire-windows may be tabulated and sent to the architects in convenient form for their ready reference in determining the kind of windows to select for any situation.

In the next report of this Committee it is the intention to present complete data and conclusions reached by the Laboratories in regard to the relative merits of all the various columns which they are now testing.

The Committee meanwhile solicits suggestions from architects as to any further or specific service which it can render them individually or collectively. Respectfully submitted,

The Committee on the Work of the Underwriters' Laboratories,
ELMER C. JENSEN, H. WEBSTER TOMLINSON, GEORGE C. NIMMONS,
Chairman.

Report of the Director, U. S. Bureau of Standards, to the Secretary of Commerce. 5C2

The following extracts are from the current report, 1917.

(a) Fire Tests of Reinforced Concrete Columns:

The program of cooperative tests, now under way at Chicago (just described), includes but six columns of the reinforced concrete type of construction.

Whatever action may finally be taken with respect to the preparation of an elaborate program of fire-tests of reinforced concrete columns, the Bureau concluded that the preparation of such a program, when it is finally taken up, would be very greatly facilitated if there were available fire-tests of a number of such columns of representative types of construction. Accordingly, during the present year, the panel furnace at the Pittsburgh laboratories of the Bureau has been modified to adapt it to such tests, a 600-ton hydraulic ram has been installed to apply a continuous follow-up load to the column in the furnace, and about 30 reinforced concrete columns have been cast. The columns include square and round sections, 16 by 16 inches, and 18 inches diameter, respectively, by 8 feet in length, aggregates of different types, and different methods of reinforcement.

During the last few weeks of the fiscal year, several successful preliminary fire-tests were made on some extra columns that had been cast for the purpose, in order to test the new equipment and to standardize the procedure.

(b) Thermal Efficiencies of Column Coverings:

A comparison of the thermal efficiencies of the materials commonly used for column coverings has been completed at the Pittsburgh laboratories of the Bureau during the year. A short paper, giving a summary of this work and entitled "*A comparison of the heat insulating properties of materials used in fire-resistive construction*," was communicated by W. A. Hull to the annual meeting of the American Society for Testing Materials in June, 1917. (See Proceedings A.S.T.M., Part II, 1917, pp. 422-452.) This comparison of the materials themselves was

preliminary to the investigations relating to the fire-resistive properties of structural units.

(c) *Panel-Testing Furnace:*

This furnace, together with its accessories, designed to test wall and partition structural units as large as 12 by 16 feet, was installed last year.

Steps have been taken to secure the cooperation of prominent engineers, representatives of engineering and technical societies, and manufacturing associations in the formulation of a comprehensive program of tests of the fire-resisting properties of various types of partition and wall construction.

Other Reports.

5C3

(a) For detailed data on types of columns, materials, methods of tests, tables, etc., in the Fire Tests of Building Columns, just described, see:

1. Annual Report of the Director, Bureau of Standards, for fiscal year ended June 30, 1917 (1A5b1), pp. 40-43, from which the following is quoted:

"Witnessing Tests: Underwriters, engineers, architects, and others having a proper interest in the subject are cordially invited to visit the laboratories, when in Chicago, and witness one or more of the tests in progress. The time for the tests is scheduled each week in advance and may be ascertained through inquiry by letter, telegraph, or telephone addressed to Underwriters' Laboratories, 207 East Ohio Street, Chicago."

2. "Fire Tests of Building Columns." Underwriters' Laboratories, issued by N.F.P.A. (5K2d29).

3. Article, with same title, illus., in *Quarterly*, N.F.P.A., Jan., 1918.

(b) For complete list of reports on fire-tests of materials and construction, and reports on buildings under fire, including those of the U. S. Geological Survey, and other publications concerning, also, conflagrations, see 3E1, 2, and 3 in the Structural Service Book, Vol. 1, to which should be added the two publications of the N.F.P.A. listed under 5K2/13 and 14 in this Serial Number.

(c) The Portland Cement Association also issues publication No. 104,

(d) The N.B.F.U., through its Committee on Fire-Prevention, issued a Report on the Atlanta Conflagration (5K3e).

(e) For illustrated description of Fire-Tests of Doors and Windows at Underwriters' Laboratories, see *Quarterly* of the N.F.P.A., July, 1917, pp. 62-71, and see, also, page vi in the *Industrial Section* of this issue.

(f) See, also, references to "time temperature curve for fire-tests" under 5D2a1 and 5E2a.

Fire-Protection and Fire-Prevention: Buildings in General. **5D**

For separate features of construction, see subdivisions which follow this.

Under this heading it is not intended to make specific references to various materials of construction, other than their protection, as they have been treated previously as follows:

- Structural Iron and Steel, 1G, Serial No. 1.
- Cement and Reinforced Concrete, 2B, Serial No. 2.
- Lime and Stone Masonry, 2C and D, Serial No. 2.
- Building Stones in General, 3A to 3G, Serial No. 3.
- Brick, Hollow Tile, and Terra Cotta, 3H, Serial No. 3.
- Lumber and Wood Construction, Serial No. 4.

In the Structural Service Book, Vol. 1: Electrical and Gas Installations, Serial Nos. 6 and 7; Metal Lath, Metal Windows, Metal Doors, and Metal Products, Serial No. 11; Gypsum, Asbestos, Stucco, and Plastic Products, Serial No. 11; Wire Glass, Serial No. 12.

Information Obtainable.

5D1

(a) The U. S. Bureau of Standards (1A5b) has issued:

1. "Safety for the Household," Circular No. 75, contains section on Fire Hazard in the House, pp. 82-107, Jan. 10, 1918. 15 cts. from Superintendent of Documents, Washington, D. C.
2. Annual Report of the Director, 1917 (1A5b1). See extracts under various subdivisions.
3. "Durability of Stucco and Plaster Construction," Technologic Paper No. 70, Jan. 31, 1917. Described under 11D6c, in Structural Service Book, Vol. 1.
4. For "A Comparison of the Heat-Insulating Properties of materials used in fire-resistive construction, see 5C2b.

(b) The U. S. Geological Survey (2A1) has issued the several publications referred to under 5A2a.

(c) The U. S. Bureau of Mines (2A3c) has issued "Magazines and Thaw Houses for Explosives," Technical Paper No. 18. 34 pp.

(d) The National Fire Protection Association issues literature fully listed on pp. 43 and 44 of the Structural Service Book, Vol. 1, additions to which, since March, 1917, will be found in this Serial Number under 5K2. For additional information it is recommended that the "Index" to all subjects covered in the printed records (under (h) on p. 44) be consulted, as therein all papers, addresses, dis-

cussions, reports of committees at conventions, and all articles in the *Quarterly* are fully indexed and cross indexed for reference.

See among the various publications and articles the following:

1. "Fire-Prevention: Its Object and Possible Results," C. Heller.
 2. "Fire-Prevention Through Adequate Power and Common Sense," C. J. Driscoll.
 3. "Debarment of City Conflagrations," Albert Blauvelt.
 4. "Fire-Hazards on the Farm."
 5. "Factories and Their Fire-Protection," F. H. Wentworth.
 6. "Fire-Resistive versus Fireproof," "Proceedings," 1904, p. 235, and *Quarterly*, April, 1910.
 7. See, "The Architect and Fire-Protection," address by I. K. Pond, "Proceedings," 1910, p. 117.
 8. "Warehouses, Construction and Protection," C. H. Patton, "Proceedings," 1910, p. 125.
 9. "The Status of Schoolhouse Construction in the United States," address by Frank Irving Cooper, "Proceedings," 1915, lists requirements for construction and fire-protection.
 10. "Planning of School Buildings for Safety," illustrated address by Wm. B. Ittner, "Proceedings," 1916.
 11. "School Buildings—Better and Safer Fire Protection in Schools," J. R. Young, Insurance Commissioner, Raleigh, N. C., who has developed the application of the Philadelphia smokeproof tower to schoolhouses for use as service stairways.
 12. For other data on schoolhouse construction, see, also, Structural Service Book, Vol. 1, 12G.
 13. For "Theatres, Construction and Equipment," see several references in N.F.P.A. "Index" and Round Table discussion on "Safeguarding Life in Theatres" in Proceedings, 1917.
 14. For "Fire-Retardant Materials," see N.F.P.A. "Index." In the *Quarterly* see the following:
 15. "Summer Hotels: Hazards and Protection," G. Dana, October, 1909.
 16. "The Architect and the Fire Waste," C. M. Goddard, 1912.
 17. "Fireproof Construction. What It Is and What It Ought to Be," E. T. Cairns, July, 1913.
 18. "Fireproof Building, Its Advantages and Its Weaknesses," H. W. Forster, April, 1914.
 19. "Safe and Unsafe Uses of Wood in Buildings," S. J. Williams, April, 1917. 6 pp. (Address arranged by Northern Hemlock and Hardwood Manufacturers' Association.)
 20. "Hollow Tile as a Factor in Fire-Prevention," W. A. Hull, October, 1917. 8 pp.; illus.
 21. "Fire Prevention and Fire Protection During Construction," with notes on construction of fire cut-offs and installation of fire-extinguishing equipment, H. L. Miner, April, 1918.
 22. "Installing Equipment in Concrete Buildings"—The Use of Inserts; Providing for Heating and Water-Pipes, Sprinkler Systems, Sanitary Plumbing and Machinery, H. L. Alt, April, 1918. 6 pp.; details.
- (e) *National Paint, Oil, and Varnish Association.* See Reports in "Year Book and Membership Directory," 1917-18, of the Committee on Fire-Prevention and Fire-Prevention Ordinances and Committee on Fire Insurance. The latter includes report of Paint Trade Mutual Fire Insurance Company, with statistics and causes of fires in this industry.
- (f) "Official Record" of the First American National Fire-Prevention Convention, Philadelphia, 1913, contains papers and discussions, among others on Building Construction, Building Codes, Protection Equipment and Insurance.
- (g) See "A Five-Year's Fight Against Fire-Waste," by Powell Evans. Copyright 1912. 180 pp.
- (h) See "School Houses and the Law," address by F. I. Cooper before the Fifth Congress of the American School Hygiene Association, for lists of requirements for construction and fire-protection.
- (j) See the writings variously published of Edward Atkinson, Ex-Chief William Croker, and Charles T. Main.
- (k) See "Fire-Prevention," Joseph McKeon. 1912.
- (l) See "Natco Hollow Tile Fireproofing as Used in the Construction of Standard Steel-Frame Fireproof Buildings."
- (m) See "Modern Practice in the Design of Bank Vaults," *The Brickbuilder*, May, 1916, "Protective Principles and Constructive Methods," June, 1916, "The Requirements of Small Banks."
- (n) "Building Construction that Resists Fire," The Results of Exhaustive Tests on Various Methods of Fireproof Construction—H. M. McMaster, *House and Garden*, Jan., 1914; illus.
- (o) "Constructing the Unburnable House," B. H. Smith, *House and Garden*, Feb., 1917; illus.
- (p) *Among Handbooks, Pocket-books, and other references:*
1. See "Crosby-Fiske Handbook of Fire Protection," 1914, for "Fireproof Construction" and "Improvements for Existing Buildings."
 2. See "Fire Prevention and Fire Protection," J. K. Freitag, 1912. (Chapters listed in Structural Service Book, Vol. 1, under 4B1e, 4C1b and d, 4D1a.)
 3. See, also, "The Fireproofing of Steel Buildings," J. K. Freitag. 1909.

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4. See "*Kidder's Pocket-Book*," 1916, among other sections the following: (a) "Fireproofing of Buildings," Rudolph P. Miller. (b) "Reinforced Concrete Factory and Mill Construction," Emile G. Perot.
 5. See "*Trautwine's Civil Engineer's Pocket-Book*," 1913, for general notes and details of construction and for "Price-List and Business Directory."
 6. See "*Building Construction and Superintendence*," F. E. Kidder, 1914, Part 1, "Masons' Work:" (a) "Fireproofing of Buildings," Thomas Nolan. (b) "Form of Specifications" (for all parts of a building).
 7. See "*Mechanical Engineers' Handbook*," Lionel S. Marks, 1916: (a) "Building Construction," Lionel S. Marks, p. 1264. (b) "Industrial Buildings," Charles Day, p. 1317.
 8. See "*Mechanical Engineers' Pocket-Book*," William Kent, 1916, for "Construction of Buildings," pp. 1385-1394.
 9. See "*I.C.S. Building Trades' Handbook*," 1914, for "Fireproofing" and "Metal Furring and Lathing."
 10. See "*Cyclopedia of Fire Prevention and Insurance*," in 4 large volumes, by American Technical Society, 1914. Copyright, American School of Correspondence. Covers inspection, fire-losses, construction, codes, policies, settlements, etc.
 11. See "Universal Safety Standards," Workmen's Compensation Service Bureau, N. Y. 1914.
 12. See "*The Building Estimator's Reference Book*," Frank R. Walker, 1917, for "Hollow Tile Fireproofing."
 13. See "*Practical Cost Keeping for Contractors*," Frank R. Walker, 1918, for "Hollow Tile Fireproofing."
 14. See "*Handbook for Architects and Builders*," Illinois Society of Architects, Vol. XX, 1917, for "Fire Limits" and "Fire-proof Construction."
 15. "*Insurance Engineers' Handbook*," Wm. D. Matthews. 1916. 720 pp.
 16. "*Fire Prevention and Fire Protection*," revised by A. C. Hutson, 1916. Handbook of 768 pp. issued by Spectator Company.
 17. See various technical periodicals and those devoted to specific materials of construction for a wide range of application.
 - (g) For further information of interest, applicable to subjects under this heading, see pages in the *Industrial Section*, as follows:
 1. Engineering service in connection with reinforced concrete construction, Corrugated Bar Company, p. xx.
 2. Suggestions, industrial buildings, the publication of the Atlas Portland Cement Co. described on pp. xiii, and, Color Tones in Stucco, p. xxiv.
 3. Illustrated references to concrete in construction, Portland Cement Association, p. v.
 4. "In Enduring Stone," Indiana Limestone Quarrymen's Association, p. xxxi.
 5. "Mill Construction" illustrated and described, Southern Pine Association, p. xvii.
1918. A pamphlet is issued in which the reports of 1913 to 1917 inclusive are revised and consolidated into one publication. All duplicate or unnecessary matter has been omitted, and the subjects have been rearranged in logical sequence, irrespective of chronological order. This revision became necessary because of the completion in 1918 of the new **Standard Specifications for Control of Fire Tests, and Classification of Materials and Construction as Determined by Test**. These Standard Specifications, which constituted the report of the Committee for 1918, will be included in the pamphlet as printed for distribution. They were adopted by the N.F.P.A. at its annual meeting in May, and will doubtless be adopted by the other organizations represented in the Conference, above mentioned, which drafted them. They will then become a **National Standard**.
- Recommendations for Emergency Housing:* The 1918 Report also contains **Recommendations for Improving the Fire-Protection in Existing Cantonments and Emergency Buildings of Wooden Construction**.
2. For report of the **Committee on Uses of Wood in Building Construction**, see complete summary under 4E3c1. At the N.F.P.A. annual meeting, May 7-9, 1918, the final revised report was adopted and there is now an established **Standard for "Mill Construction"**, for publication of which see 5K3e.
 3. The work of the **Committee on Nomenclature** should be followed, and constructive criticism of terms to be used in describing construction is invited. Among the definitions adopted in 1918 are:

Fireproof. The use of the term "fireproof" is recommended to be discontinued. This general term has been erroneously applied to buildings and materials of a more or less fire-resistive or incombustible nature. Its indiscriminate use has produced much misunderstanding and has often engendered a feeling of security entirely unwarranted.

Fire-resistive. The term fire-resistive applies to materials and constructions which will satisfactorily resist fire in accordance with the specifications established by the Joint Conference on Fire Tests. (See 5D2, 1918, and 5E2a.)
 4. See reports of the **Committee on Manufacturing Risks and Special Hazards** in Proceedings and the following separately printed:
 - (a) **Cold-Storage Warehouses—Suggestions for Their Improvement as Fire-Risks.**
 - (b) **Shoe Factories—Suggestions for Their Improvement as Fire-Risks.**
 - (c) **Tanneries—Suggestions for Their Improvement as Fire-Risks.**
 - (d) **Structural Defects—Suggestions for Their Elimination and Protection.** (Particularly with reference to safeguarding existing features.)
 5. The **Committee on Field Practice** is responsible for the **Handbook of Field Practice** issued by the N.F.P.A., bound in leather, at \$1.50. This is replete with information representing the latest thought of leading fire-prevention engineers and should be closely followed by all those charged with responsibility in safeguarding life and property against fire.
 6. See, also, the following among publications of the N.F.P.A. separately issued:
 - (a) **Dwelling-House Hazards—How to Prevent Fires in the Home.**
 - (b) **Schoolhouses, Fire-Protection of.** 16 pp.; illus.
 - (c) **Fire-Prevention Work in Small Cities and Towns.**
 - (b) **National Board of Fire Underwriters:**

See all four of the "Suggested Codes" listed and described under 3A4d and under various subdivisions in Serial No. 3 of the **Structural Service Book, Vol. I**, particularly the two following:

 1. "**Building Code**" which will be found to offer invaluable suggestions and assistance on all features of construction, both generally and specifically. In addition to buildings in general and all parts of their construction, the following are separately treated:
 - (a) **Construction and Equipment of Theatres.** Illus.
 - (b) **Construction of Moving Picture Theatres Having Capacity of Three Hundred or Less.**
 - (c) **Assembly Halls: Requirements for Public Safety.**
 - (d) **Tenement-House Law.**
 2. "**Dwelling Houses**" contains concise and explicit recommendations on all forms of residence construction, including: General Discussion of Defective Construction in Dwellings and Its Relation to Their Fire-Hazards; Quality of Materials Suitable for Construction Work; Major Structural Requirements to Protect Life and Prevent Spread of Fire; Fire-Stopping; General Precautions for Fire-Protection; and Safety to Life. (Price 10 cts.)
 3. **To Regulate the Installation, Operation, and Maintenance of Motion Picture Machines** and the Construction and Arrangement of Picture Booths and Audience Rooms.
 4. **To Govern the Construction and Operation of Laundries.**
 5. **Vaults, Specifications for.** Intended for banks, trust companies and others having large values to protect. Drawn primarily from the point of view of fire-protection, but many of the provisions have a bearing on protection against burglary.
 6. **Hose-Houses for Mill-Yards, Construction and Equipment.**

Practice Recommended and Standards Adopted.

5D2

(a) National Fire Protection Association.

1. The work of none of its committees is more important in connection with building construction in general than that of the **Committee on Fire-resistive Construction**. Its reports in the Proceedings, some of which are also separately printed, are listed below in the order of their presentation, beginning with 1913, all of which will be followed with interest, including the discussions.
 1913. **Specifications for Construction of a Standard Building.**
 1914. This report grouped fire-resistive materials and completed structures into three classes, according to degree of protection afforded. It defined these in terms of test performance measured by time and temperature (see tables in "Proceedings" of 1914) and gave tentative test requirement specifications for various structural parts of a building. It also classified buildings according to occupancy and gave recommendations regarding furniture and fixtures.
 1915. **Recommendations for Construction of Private Residences. Recommendations for Construction of Places of Amusement—Theatres and Opera Houses—Assembly Halls—Motion Picture Halls—Amusement Pavillions, Exposition and Fair Buildings, Skating Rinks, etc.**
 1916. This report established three Grades of Construction for the classification of buildings as a whole in each of several occupancies, designating these as Grades A, B, and C. It illustrated their application to the previous report on Private Residences and contained: **Specifications for the Construction of an Office Building of Grade A.**
 1917. **Specifications for Construction of Hotels, Apartment Hotels, and Club Houses, Grade A. Specifications for Construction of a Department Store, Grade A.**

This report also describes the work of a conference of technical organizations (referred to under A.S.T.M., 5E2a) which completely revised the 1914 recommendations of this Committee as related to classification of fire-resistive construction and test specifications.

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7. **Standpipes and Hose Systems.**
- (c) *Inspection Department, Associated Factory Mutual Fire Insurance Companies:*
1. **When Putting in Fire Protection—Things to be Considered.**
 2. **Dry Rot in Factory Timbers.** 107 pp. illus.
 3. **Fires in Cotton Mills.**
 4. **Report on Slow-Burning or Mill Construction,** issued under direction of Boston Manufacturers' Mutual Fire Insurance Company, described under 4E3g.
- (d) See "*Proceedings*" *American Society for Testing Materials*, 1917, Part 1, for Report of Committee C-5 on **Fireproofing**, referred to in detail under 5E2a.
- (e) *The American Society of Mechanical Engineers* (5B7) through its **Committee on Fire-Protection**, has published the following:
1. **Safeguarding Life in Theatres,** John R. Freeman. An exhaustive study of the hazards of theater construction and suggestions for remedying them. 10 cents.
 2. **Allowable Heights and Areas for Factory Buildings,** Ira H. Woolson. A compilation and discussion of the opinions of 117 fire-chiefs in the principal cities of the United States. 10 cents.
 3. **Life Hazards in Crowded Buildings Due to Inadequate Exits,** H. F. J. Porter. Is a plea for the use of the horizontal fire-escape exit and other features of building construction with respect to safe-guarding life and industry. 10 cents.
- (f) *The National Lumber Manufacturers Association*, in addition to publications listed under various subdivisions, has issued "**How to Build Fire-Safe with Wood**," Technical Letter No. 10, by R. S. Whiting, Architectural Engineer, September, 1917. Describes and illustrates "some of the most practical and economical methods which, when applied to wood construction, will make it as 'fire-safe' as this term will apply to combustible material."
- (g) *The National Education Association* has a **Committee on Standardization of Schoolhouse Planning and Construction**, of which F. Irving Cooper, architect, Boston, is chairman. This Committee will present to the Association certain definite standards in connection with details of construction and minimum requirements of space for stated school activities.
- (h) *New York Chapter A.I.A.* and the *N. Y. Board of Fire Underwriters:*
1. **General Information Regarding Fire Insurance Requirements with Particular Reference to Fire-Prevention.** Pamphlet. 1914.
- (j) *The International Association of Fire Engineers:*
1. **The Safeguarding of Existing School Buildings against Fire.** See Report published in *School Board Journal*, February, 1917.
- (k) **Building Codes.** The mandatory provisions of all codes, state or municipal, must **first govern construction** in each locality, as mentioned under 1A5e, where quotation is made from Document of the American Institute of Architects about coöperation in observances and improvements.
- In addition to the "Building Code recommended by the National Board of Fire Underwriters" which is a proposed standard that has been widely distributed and copiously copied throughout the country as well as used in educational institutions, it is suggested that, as an example of the latest printed word on this important subject, the Building Code of New York City, March 14, 1916, be read, and that its development, through changes officially adopted, be followed. Bulletins giving these changes will be sent to those who register requests for the same.

Vertical, Horizontal and Sloping Features of Construction. 5E

This section deals with **Walls, Chimneys, and Flues; Columns, Partitions, and Enclosures; Beams, Girders, and Floors; Cellings and Roof Construction; Doors, Windows and Shutters; Wire-Glass and other Retardants; Roofs and Roof Coverings.**

Information Obtainable. 5E1

- (a) This section combines the vertical structural features and horizontal and sloping features under 4C and 4D in the Structural Service Book, Vol. I, in which may be found, if desired, detailed descriptions of the contents, by chapters and sections, of the many publications which have been listed in this Serial Number under 5D1p1-13, all of which treat of the separate features enumerated at head of this section.
- (b) See, also, the following subdivisions in the Structural Service Book in Serial Numbers which followed No. 4 last year and will be again treated later this year.
1. **Chimneys, Flues and Fireplaces,** Serial No. 10, H.
 2. **Windows, Doors and Metal Trim,** Serial No. 11, B7.
 3. **Floor Systems, Partitions, Furring, etc.,** Serial No. 11, D3.
 4. **Lathing and Plastering (Metal Lath and Stucco),** 11 D6.
 5. **Wire-Glass, Roof Openings, and Vault Lights,** 12 F2.
- (c) Bulletin No. 25, "*Public Works of the Navy*," under the cognizance of the Bureau of Yards and Docks and the Corps of Civil Engineers, U. S. Navy, January, 1917, gives:

1. "Report on Inspection of Installation of Gypsum Slab Construction for Roofs and Floors," Geo. A. McKay, U. S. N.
 2. "Report on Loading Test of a Composition Floor Made by the U. S. Bureau of Standards, Nov. 14, 1916," E. B. Rosa. Illus.
- (d) See the *Quarterly* of the National Fire Protection Association:
1. "Enclosures for Floor Openings," January, 1915.
 2. "Unit System of Wood Flooring for Fireproof Manufacturing Buildings," July, 1914.
 3. "Waterproofing Floors," April, 1914.
 4. "Asbestos Roofing," October, 1912.
 5. "Roof Covering Tests," July, 1910, and April, 1917.
 6. "Roof Coverings and Their Fire-Resisting Properties:" Part I, "Introductory," W. T. Colyer; Part II "Methods of Testing Roof Coverings at Underwriters' Laboratories," G. W. Riddle and B. E. Blanchard. April, 1917. 16 pp.; illus.
- (e) For "**Classification of Roofs and Roofings**," "**Fire-Protective Coverings for Window and Door Openings**," and all other references applicable, see N.F.P.A. "*Index*."
- (f) For information on the subject of **fire-wall divisions in buildings**, read Mr. Porter's paper mentioned under 5D2e3.
- (g) See "**Fire Tests of Floors in the United States**," Ira H. Woolson and Rudolph P. Miller. A completely illustrated paper giving detailed drawings and descriptions forming a record for the International Association for Testing Materials of all fire-tests obtainable upon all kinds of floors. 1912.
- (h) For much valuable information on **suggested construction and floor-load developments**, read 1916 progress report of Committee on Basic Building Code A.I.A. (1A2b7).
- (j) In *Journal of the Society of Constructors of Federal Buildings* (1A2d1) for May, 1915, is an address by Charles F. Hennig, describing "**Gypsum Plasters**," which includes reference to **floor-domes and partition-blocks**.
- (k) The California Redwood Association has published "**Redwood for the Engineer**" and "**Specialty Uses of Redwood**," containing information on their fire-resistance, and use in **fire-door cores and slow-burning construction**.
- (l) See "**Notes on Leakage of Air Through Windows**," Bulletin Building Data League.
- (m) See "*Index*" to *Lefax Data Sheets* for information on these subjects.
- (n) The Committee on Fireproofing of the American Concrete Institute reported progress at annual convention, 1917, while awaiting results of the tests at the Underwriters' Laboratories.
- (o) In connection with this section it will be of interest to read also the Section 5C, **Reports on Fire Tests of Materials and on Buildings under Fire**.
- (p) For other information, see pages in the *Industrial Section* as follows:
1. **Industrial Housing and Efficiency**, Hydraulic-Press Brick Company, 2d cover.
 2. **Industrial Housing, Metal Lath construction illustrated**, Associated Metal Lath Manufacturers, p. xi.
 3. **Metal Lumber and Metal Lath Construction**, The Berger Mfg. Co., p. xix.
 4. **Rolling Steel Doors and Shutters**, The J. G. Wilson Corporation, p. x.
 5. **Steel Sash Counterbalanced Type**, David Lupton's Sons Company, p. xxvii.
 6. **Metal Window under Test**, illus. and data, Underwriters' Laboratories, p. vi.
 7. "**Almetl**" **Fire Doors**, construction detail, Merchant & Evans Co., p. xix.
 8. **Wire Glass** and illustration, Mississippi Wire Glass Co., p. xxii.
 9. "**Keystone Copper Steel**," American Sheet and Tin Plate Company, p. xxiv.
 10. "**Target and Arrow**" **Roofing Tin**, N. & G. Taylor Company, p. xix.
 11. **Asbestos Roofing**, H. W. Johns-Manville Co., p. xxiii.
 12. **Barrett Specification Roofs**, illus., The Barrett Company, p. vii.

Practice Recommended or Suggested by: 5E2

- (a) *The American Society for Testing Materials: Committee C-5 on Fireproofing* reported to the Convention, June, 1917, two conferences which it had held with other technical societies for the purpose of **classifying fire-resistive construction and standardizing methods of conducting fire-tests**. Organizations represented were: A.S.T.M., N.F.P.A., U. S. Bureau of Standards, National Board of Fire Underwriters, Underwriters' Laboratories, A.F.M.F. Ins. Co's., American Institute of Architects, American Society of Mechanical Engineers, American Society of Civil Engineers, Canadian Society of Civil Engineers, American Concrete Institute. These conferences originated with the A.S.T.M. and N.F.P.A., as mentioned under 5D2a1, 1917, and accomplished their important objects, as enumerated in "Proceedings" A.S.T.M., 1917, Part 1, which see for report of Committee detailing, "**Classification of Materials and Construction**," "**Tentative Standard Time Temperature Curve for Fire-Tests of Building Construction**" and "**Tentative Amendments to Existing Standards**," with diagram and details governing conduct of fire tests. In final revised form they

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will be presented for adoption at the June, 1918, meeting of the Society. When adopted they will supersede the Standard Tests for Floor Construction and Partition Construction referred to under §E3e.

- (b) *National Fire Protection Association:*
1. See reports of certain committees referred to under §D2a, which naturally cover separate features of construction. Other committees, the reports of which should be read as relating specifically to this subdivision are:
 2. Protection of Openings in Walls and Partitions.
 3. Roof Openings and Cornices (§E1b5).
 4. Read "Index to all Subjects," which is carefully cross-indexed for reference to those covered by this subdivision.
 5. Examine contents of "Field Practice" (§D2a5).
- (c) *National Board of Fire Underwriters:*
1. "Building Code." Read index to same and see all sections and clauses relating to walls, chimneys and flues, fire-doors, fire-windows and shutters, protection of openings, mill construction, fireproof construction, and fireproofing. See section on strength test for floor construction and data on slope of floors in mill construction and other floors for drainage of water. See section on skylight construction and all others applicable to this subdivision.
 2. "Dwelling Houses." Read index to same. In addition to sections mentioned under §D2b2, there are sections on walls, chimneys, flues, and fireplaces, with construction diagrams.
- (d) *Inspection Department Associated Factory Mutual Fire Insurance Companies:*
1. "Beltway Fires, experience showing the urgent need of, and suggestions for providing non-combustible, sprinkled enclosures for main belts."
 2. "Prevention of Large Loss in a Mutual Mill," treats of partitions, beltways, and protection.
 3. For drawings and recommendations, see "Anchorage of Roofs."
 4. "Watertight Floors of Mill Construction" contains also diagrams of flashings against walls and around columns.
- (e) *The American Society of Mechanical Engineers:*
- The Committee on Fire-Protection has prepared:
1. "Floor Surfaces in Fireproof Buildings," by Sanford E. Thomson. Discusses type of floor surface and method of construction for office buildings, factories and institutional buildings.
- (f) *The Associated Metal Lath Manufacturers:*
1. See *The Metal Lath Handbook* for detailed drawings of beltway enclosures, and column protections, with particular reference to details of construction recommended for suspended ceilings.
- (g) *The National Lumber Manufacturers Association:*
1. "Heavy Timber Mill Construction Buildings" contains chapter on Exterior Walls, Fire-Walls and Enclosures.
 2. See Technical Letters Nos. 4 and 5, August, 1916, "Building Code Suggestions," with text and illustrations from N.B.F.U., recommendations.
- (h) *The Elevator Manufacturers' Association of the U. S.:*
- For elevator shaftways see "Uniform Regulations for the Construction and Installation of Passenger and Freight Elevators."

Standards Adopted.

5E3

- (a) *By National Fire Protection Association:*
- See reports of committees and publications listed under §D2a, and before arranging for openings in walls or partitions, or constructing enclosures, light-shafts, roof-openings, ventilators, or cornices, a study should be made of the reports mentioned under §E2b2 and 3, in conjunction with the regulations, specifications and standards below.
- (b) *By National Board of Fire Underwriters:*
1. Protection of Openings in Walls and Partitions. The full title of this publication is "Regulations of the National Board of Fire Underwriters for the Protection of Openings in Walls and Partitions against Fire. Recommended by the National Fire Protection Association. Edition of 1913." This deals entirely with the installation of all such protection devices and does not cover the construction. The National Board of Fire Underwriters no longer issues "Rules and Requirements for the Construction and Installation of Fire Doors and Shutters," or "Rules and Requirements for the Manufacture of Wired Glass and the Construction of Frames for Wire and Prism Glass Used as a Fire Retardant," the construction being covered in the publications of the Underwriters' Laboratories.
 2. See, also, "Vaults," described under §D2b6.
 3. See, "Skylights," being the Regulations of the N.B.F.U.
- (c) *By the Underwriters' Laboratories:*
1. "Specifications for Construction of Tin-Clad Fire-Doors and Shutters."
 2. "Hollow Metallic Window Frames and Sashes for Wired Glass." These are used as the rules for such construction by the N.B.F.U. and by most of the local underwriters.

Architects' specifications (unless referring to §E3d1, which follows) should state that tin-clad fire-doors and shutters are to be constructed in accordance with the Underwriters' Laboratories' specifications and that they should comply with the rules and requirements of (name the local fire underwriters' association) and of the city of (name the city); tin-clad fire-doors and shutters should bear the label of Underwriters' Laboratories as evidence of such compliance or otherwise they must be accepted in writing by the local underwriters' association.

3. "Standard for Counterbalanced Elevator Doors," (§K1A).
 4. For mechanical appliances and materials inspected and labeled or approved, with names of the articles and manufacturers, see the following publications, also illustration of metal window-shutter under test on page vi of the Industrial Section.
 - (a) List of Inspected Mechanical Appliances (§K1b). This includes Roof Coverings, Class A, Class B, and Class C, and some thirty-three other materials, and systems.
 - (b) List of Appliances Inspected for Accident Hazard.
- (d) *By Inspection Department, Associated Factory Mutual Fire Insurance Companies:*
1. "Specifications: Tin-Clad Fire-Doors and Shutters." NOTE.—Where "sheet metal" doors are used, they should be installed to comply with these requirements for tin-clad doors.
 2. "Approved Fire-Protection Appliances."
- (e) *By American Society for Testing Materials:*
- (Concerning proposed amendments to the following Standards, see §E2a.)
- "Standard Tests for Fireproof Floor Construction," Serial Designation C2-08.
- "Standard Tests for Fireproof Partition Construction," Serial Designation C3-09.
- (f) For dividing of floor areas, types of partitions, stair enclosures, and other features of industrial buildings, see "Universal Safety Standards," 1914. Compiled under the direction of and approved by the Workmen's Compensation Service Bureau, N. Y.

Exits, Stairways and Fire-Escapes; Safety to Life, Slipping Hazards. 5F1 Information Obtainable. 5F1

The attempt will not be made to describe within the limits of this subdivision the many phases of safety to life and prevention of accidents with which all in the building industry, including architects and owners, are concerned. As mentioned under 1C25, it is the intention to present them in a later issue when the activities and publications, herein but touched upon, of important national organizations concerned solely with the subject of safety, will be mentioned at greater length.

These include The International Association of Industrial Accident Boards, American Society of Safety Engineers, National Safety Council, American Museum of Safety, which interests, with others, are also represented on the N.F.P.A. Committee on Safety to Life whose work is referred to under §F2.

- (a) National Safety Council, which has for some time past been organizing a Building Contractors' Section, issues bulletins and other publications dealing with structural practices, including bibliographical bulletins, among which is No. 371, "Safety in Building Construction."
- (b) The American Museum of Safety, which issues monthly bulletin, *Safety*, has not adopted or issued any standards relating specifically to building construction. The U. S. Central Safety Committee, on which the Museum's Director, A. H. Young, is serving as Secretary and Chief Safety Expert, is formulating safety standards for building construction and equipment which, as adopted, will be effective in the Government arsenals and navy yards.
- (c) For valuable statistics on the movement of crowds of people on stairways and ramps, and for calculations used in proportioning areas and exits in connection with the planning of the Hudson Terminal Buildings, see paper "A Terminal Station," by J. V. Davies and J. H. Wells, read at convention of the American Institute of Architects, 1909, and published, with other papers, in separate form, from the "Proceedings" of that year under the title "The Relations of Railways to City Development."
- (d) For "Entrance and Exit Calculations," see Proceedings N.F.P.A., Vol. 15, p. 257.
- (e) For "Life Hazards in Crowded Buildings Due to Inadequate Exits," H. F. J. Porter, see description under §D2c3.
- (f) See "Horizontal Versus Vertical Exits," H. F. J. Porter. Reprinted from "Proceedings," First Industrial Safety Congress of New York state, December, 1916.
- (g) See "Planning School Buildings for Safety," C. B. J. Snyder. Address before N.F.P.A., 1916. "Proceedings," Vol. 20, p. 95.
- (h) See "Fire Danger in Schoolhouses," with illustrations and descriptions of stairs, and exits, furnished through Russel Sage Foundation, *Safety Engineering*, Vonnegut Hardware Co., and

C. B. J. Synder, by Miss May Ayres and F. I. Cooper. Reprinted from *American School Board Journal*.

- (j) See description of "Philadelphia Fire Escape Tower," N.F.P.A. Quarterly, Vol. 4, No. 4, and for the application of this smokeproof tower to schoolhouses for use as service stairways, see 5D111.
- (k) For "Fire Escapes," see N.F.P.A. "Index."
- (l) See "Kidder's Pocket-Book," 1916: "Doors and Stairways, with Table of Treads and Risers," pp. 1565-1568. "Tower for Stairways, Elevators, etc.," p. 768.
- (m) See "Fire Prevention and Fire Protection," J. K. Freitag. Stairways and Fire-Escapes; Fire Drills.
- (n) See "Crosby-Fiske Hand Book of Fire-Protection."
- (o) See "Planning the Schoolhouse against the Fire-Hazard," F. I. Cooper and H. F. J. Porter. Reprinted from *Better Schools Magazine*, December, 1915. Suggestions for state regulation. 8 pp.
- (p) See "Mechanical Engineers Hand Book, 1916," Lionel S. Marks: "Prevention of Accidents," D. S. Beyer, pp. 1382-1389.
- (q) For papers, discussions, and resolutions on "Fire Escapes," "Life Hazards," "Standards," and other subjects bearing on this subdivision and others, see "Official Record of the First American National Fire-Prevention Convention." Philadelphia, 1913. 541 pp.
- (r) For additional data on subjects allied to this section, see *Structural Service Book*, Vol I, as follows:
 1. Wire-Glass Enclosures, 12F2.
 2. Schoolhouses and Equipment, 12G.
 3. Workmen, Industry, Safety to Life, 12J.
 4. Stairways, Fire Escapes, Slipping Hazards, 11B14.
- (s) Also in the *Industrial Section* of this issue, see:
 1. Data and illustration, "Feralun" Anti-Slip Treads, American Abrasive Metals Co., p. iv.
 2. See references to data in the Industrial Section on Doors, Windows, Wire Glass, etc., under 5E1p.

Practice Recommended and Standards Adopted.

5F2

- (a) *National Fire Protection Association*:
 1. In connection with the planning of new buildings and altering old, attention naturally centers upon the important work of the **Committee on Safety to Life**. The reports of this Committee and discussions printed in the 1914, 1915, 1916, and 1917 "Proceedings" should be carefully read.

Perusal of the reports, which are also separately published by the N.F.P.A., will disclose recommendations, calculations, statistics, and other data of great helpfulness, the 1917 report and discussion consisting of sixty-five pages, including diagrams and tables embodying the principle of **regulating occupancy** of buildings by **stair capacities**, and **class of construction** was tentatively adopted for final disposal at the 1918 meeting. Read 1918 Report as revised, shortened, and finally adopted.
 2. See, also, "Exit Drills for Factories, Schools, Department Stores and Theatres."
 3. Also "Fire Protection in Schools," in which are illustrations of smokeproof school stairway with wired glass in metal frames, plans, diagrams, and rules of the New York Board of Education for safeguarding lives of school-children.
 4. For other structural features, see "Specifications for Construction of a Standard Building," "Stairways and Smokeproof Towers," and other reports of committees under 5D2a.
- (b) *National Board of Fire Underwriters*:
 1. "Building Code." Read index for all sections applicable.
 2. "Dwelling Houses." "Necessity for Secondary Exits," and "Structural Requirements for Protecting Stairways and Shafts."
 3. For *Suggested Codes and Regulations* relating to other kinds of buildings, see 5D2b.
 4. For "Protection of Openings in Walls and Partitions" and other standards for structural features see 5E3b.
- (c) *National Safety Council*:
 1. Article "Preventing Accidents on Construction Work" from the *Safety News* of the California Industrial Accident Commission.
 2. Article "Standardized Safety Principles in Factory Buildings," from *Preventive Appliances* for September, 1916.
 3. Booklet embodying the **Safety Rules** issued by the Erection Department of the McClintock-Marshall Construction Co.
- (d) *Workman's Compensation Service Bureau, New York*:
 See "Universal Safety Standards" for diagrams of stairways, exits, fire-escapes, and runways.
- (e) *Navy Department Specification "Safety Treads,"* Serial Designation 12T4a, March 1, 1916.
- (f) **List of Appliances Inspected for Accident Hazard** (5K1d).
- (g) See *Building Code, New York City*, referred to under 4D2k.
- (h) See *Building Code, City of Philadelphia*, with provision for the original smokeproof tower.

Serial No. 5

Contents, Sprinklers and Other Protection Equipment. 5G
Current Activities; Information Obtainable. 5G1

- (a) *Report of the Director, U. S. Bureau of Standards, 1917*:
 1. The Bureau is cooperating with the National Fire Protection Association in **developing standard requirements** for the design and installation of **automatic sprinkler equipments**, including "dry pipe" systems which are used in buildings when the temperature falls below the freezing-point of water, and chemical sprinkler systems in which liquids other than plain water are used as the extinguishing agent and whose operation involves chemical reactions. The Bureau is also cooperating with this Association in establishing **standard specifications for pipes and pipe fittings**, and in encouraging the general adoption of the **National Standard Fire Hose Couplings**.
 2. A revised edition of *Circular No. 50, "National Standard Hose Couplings and Fittings for Public Fire Service,"* has been published and there is evidence that municipal fire departments throughout the country appreciate more fully than ever before the advantages of **fire-fighting equipment** that is made **inter-changeable** by the use of standard connections.
 3. A report has been made to the Steamboat Inspection Service, embodying the results of an **examination and test** of seventy-five different makes of **hand fire extinguishers**, in compliance with a request from that Bureau. Included in these different makes were extinguishers of the **dry powder, soda and acid, and carbon tetrachloride types**. The various devices submitted have been classified, and the limitations and particular fields of service of each type have been outlined.
- (b) The U. S. Bureau of Mines (2A3c) has published *Technical Paper No. 127, "Hazards in Handling Gasolene."*
- (c) Much information pertaining to **sprinkler systems, piping, fittings, and water-supply features** will be found in the publications of American Water Works Association, which has a Committee on Private Fire-Protection Service, of New England Water Works Association, and others, the publications of which are described in the *Structural Service Book, Vol. I, Serial No. 9*, in which will also be found a complete Section on "Water-Supply, Storage, Utilization, and Incoming Pipes."
- (d) For other information on all phases of sprinkler and other protection equipment, read *Index to all Subjects, N.F.P.A.*, and read reports of committees in "Proceedings," referred to under 5G2b.
- (e) See "Water Distribution Systems and Fire-Protection," by G. W. Booth, descriptive of public water works and valves, fire hydrants, service connections, and fixtures, including those which furnish supply to sprinkler equipments and standpipes, N.F.P.A. Quarterly, July, 1917.
- (f) For "Sprinkler System and Heating, Combined," see N.F.P.A. Quarterly, Vol. 6, No. 3, also "Heating Buildings with Sprinkler Systems," October, 1917.
- (g) See "Fire-Prevention and Fire-Protection," J. K. Freitag. Part VI.
 1. **Auxiliary Equipment and Safeguards.**
 2. **Sprinkler Systems.**
 3. **Automatic Fire Alarms and Sprinkler Alarm and Supervisory Systems.**
 4. **Simple Protective Devices, Fire-Pails and Extinguishers, Paints and Solutions.**
 5. **Watchmen, Watch-Clocks and Manuals.**
 6. **Standpipes, Hose-racks and Roof-nozzles.**
 7. **Inspection and Maintenance of Fire-Protective Devices.**
- (h) The "Crosby-Fiske Hand Book of Fire-Protection" will be found replete with **data, statistics, and suggestions**.
- (j) In "Mechanical Engineers Pocket Book," Lionel S. Marks, see "Fire Protection," H. O. Lacount, pp. 1390-1393.
- (k) Concerning jurisdictional matter involving **Underground Piping for Sprinkler Installation**, see 9K1 in *Structural Service Book, Vol. I*.
- (l) The subject of **corrosion of pipe** is completely covered in the same book under "Corrosion and Treatment of Metals" (11B2).
- (m) "The Fire Alarm System of the City of New York," Putnam A. Bates, "Proceedings" of the Municipal Engineers of the City of New York, 1914. 18 pp.; illus.
- (n) **Automatic fire-alarm systems** for the detection of fire have been devised and should be given consideration in connection with the installation of protection equipment.

Practice Recommended and Standards Adopted.

5G2

- (a) *By the U. S. Navy Department*:
 The Navy Department issues **specifications** in large number for materials, **installations, extinguishers** and other **apparatus and devices**. These include iron, steel, and wood and their

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protection, mechanical systems and appurtenances, **metal furniture and lockers**—all of which are of interest and value in connection with buildings and their equipment. Read the "Index to Specifications" referred to in Structural Service Book, Vol. 1, under 3A1a1 for titles and Navy Department serial numbers.

(b) *By the National Fire Protection Association:*

The work of its committees, chiefly those mentioned below, should be followed, and the reports and discussions printed in the "Proceedings" should be read and observed in connection with the Regulations of the N.B.F.U. recommended by the N.F.P.A.

1. On Safety to Life, referred to under 5F2a1.
2. On Fire Resistive Construction, see 5D2a1.
3. On Manufacturing Risks and Special Hazards.
4. On Field Practice, see Field Practice (5D2a5).
5. On Automatic Sprinklers.
6. On Standardization of Pipe and Pipe Fittings.
The report in the 1917 "Proceedings" is entitled "American Standard Sprinkler Pipe Fittings" and is completely illustrated with diagrams; contains tables and all data.
7. On Private Fire Supplies from Public Mains.
8. On Standard Hose Couplings and Hydrant Fittings.
9. On Standpipe Systems.
10. For tanks and scuppers, see 5G3 and 5G4.
11. For discussions on occupancy of buildings and recommendations for licensing, see "Proceedings," 1916, pp. 195-201.

(c) *By the National Board of Fire Underwriters, which have been adopted by and are also distributed by the N. F. P. A. Among them are:*

1. "Sprinkler Equipments—Automatic and Open Systems."
2. "Fire Pumps (Steam)."
3. "Fire Pumps, Rotary and Centrifugal, and Electrical Driving of Fire Pumps."
4. "Steam Pump Governors and Auxiliary Pumps."
5. "Signaling Systems Used for the Transmission of Signals Affecting the Fire Hazard."
6. "Tanks (Gravity and Pressure), Concrete Reservoirs and Valve Pits."
7. Standpipes and Hose Systems.
8. See "Building Code." Section 193 treats of "Standpipes for Fire Department Use;" Section 194 of "Standpipes for Private Protection;" and Section 195 of "Sprinklers."
9. See, also, *Dwelling Houses*, using its Index.

(d) *By Underwriters' Laboratories:*

For mechanical appliances and materials inspected and labeled with names of the articles and manufacturers, see "List of Inspected Mechanical Appliances" (5K1b).

(e) *By Inspection Department, Associated Factory Mutual Fire Insurance Companies. Among them are:*

1. "Rules for Installing Sprinkler Equipments."
2. "Approved Fire-Protection Appliances" which see for all appliances or materials stipulated as approved.
3. "Specifications for Rotary and Centrifugal Fire Pumps."
4. "Specifications for Underwriter Steam Fire Pumps."
5. "Rules for Dry Pipe Systems of Automatic Sprinklers."
6. "Specifications for Fire-Hose, Play-Pipes and Hose-Houses" from which is quoted:
"For outside service the 2½-inch cotton rubber-lined hose should be used, and for inside the unlined linen, the 2½-inch for standpipe work and the 1½-inch for small-hose equipment."
7. "Specifications for Valves, Indicator Posts and Hydrants."
8. "Specifications for Gravity Tanks and Towers."

(f) *By American Society for Testing Materials:*

1. Standard Specifications for Welded Steel and Wrought Iron Pipe (Serial Designation A 53-15).
2. Standard Specifications for 2½-inch Cotton-Lined Fire-Hose for Private Department Use (Serial Designation D 14-15).
3. Standard Methods for Testing of Cotton Rubber-Lined Hose (Serial Designation D 15-15).
4. Tentative Specifications for 2½-, 3-, and 3½-inch Double-Jacketed Cotton Rubber-Lined Fire-Hose for Public Fire Department Use (Serial Designation D 26-16 T).
5. Tentative Tests for Cotton Fabrics for Use in Hose, Belting, and Similar Articles (Serial Designation D 32-16 T).

(g) *By The American Society of Mechanical Engineers:*

1. See Index to A.S.M.E. Standards in "Condensed Catalogues of Mechanical Equipment," 1917, published by the Society. In this will be found a descriptive review and enumeration and abstracts of all standards, many of which, on pipe, threads, unions, gages, couplings, etc., are applicable here.
The Committee on Fire-Protection has issued:
 2. "National Standard Hose Couplings and Hydrant Fittings for Public Fire Service," F. M. Griswold. It describes the necessity for such standardization and the great benefits to be secured.
 3. "Control of Automatic Sprinklers," Fred J. Miller.

(h) *By The National Association of Master Steam and Hot Water Fitters:*

See description of illustrated chart, "The 1915 Standard Schedule of Flanged Fittings and Flanges" under 10J5 in Structural Service Book, in which section, as well as under 9D, will be found sources of data on pipe of all kinds.

(j) *By The Workmen's Compensation Service Bureau:*

1. See "Universal Safety Standards." A reference book of rules, drawings, tables, formulae, data and suggestions with particular reference to occupancy, fittings and protection equipment in industrial buildings.
- (k) See "Report of Committee on Reinforced Concrete Standpipes" in "Proceedings" of American Concrete Institute, Vol. 13, 1917.
- (l) See "Vaults," described under 5D2b6.

Scuppers, Inserts and Devices. 5G3

- (a) For descriptions and detailed drawings of scuppers, see N.F.P.A. *Quarterly*, July, 1910; also see *Quarterly*, October, 1915, and 1915 "Proceedings," as illustrating progress in the development of this feature of construction. In the 1917 "Proceedings," in report of Committee on Tanks, will be found several pages of "Suggestions for the Installation of Scuppers," with diagrams of exterior and interior scuppers. The Report to the 1918 convention is submitted in the form of Specifications for Scuppers.
- (b) See, also, *Field Practice*, Inspection Manual N.F.P.A.
- (c) For detail drawings of scuppers see "Watertight Floors of Mill Construction," A.F.M.F.I. Co's.
- (d) Other details and description of scuppers, "Kidder's Pocket Book."
- (e) For information on scuppers, data as to sizes and requirements relative to floor area, see "Building Code," N.B.F.U.
- (f) See "Installing Equipment in Concrete Buildings" (5D1d20).
- (g) For "suggestions on wall fastening devices" see paper with that title read by Carrington McFarland before Society of Constructors of Federal Buildings in *Journal* (1A2d1) for March, 1916.
- (h) For "Devices and Materials" see N.F.P.A. "Index."

Tanks, Containers, and Reservoirs. 5G4

1. The "Regulations of the National Board of Fire Underwriters for the Installation of Gravity and Pressure Tanks, Concrete Reservoirs and Valve Pits" contain diagrams and standard specifications for wood tanks, frostproof boxing of pipes, steel tanks and supports, reservoirs, tables of capacities, and, throughout constitute valuable and trouble-saving standards to follow.
2. The same applies to the *Standard Specifications of the Inspection Department Associated Factory Mutual Fire Insurance Companies, "Gravity Tanks and Towers."*
3. See reports in N.F.P.A. "Proceedings" of Committee on Tanks.
4. See, also, "Elevated Tanks, Their Improved Design and Construction," N.F.P.A.
5. See, also, "Field Practice," N.F.P.A., for installation suggestions.
6. See, also, "Building Code," N.B.F.U., pp. 105, 195.
7. See "Crosby-Fiske Handbook of Fire Protection," for Pressure Tanks; also tables giving the Capacity of Circular Tanks; Horizontal Pressure Tanks; Pressure Tanks (air and water); Height of Water in Pressure Tanks; Relation of Water and Pressure in Pressure Tanks; and, Weight of Cedar Tanks, Emptied and Filled with Water.
8. For similar information, see, also, *Freitag, Kidder*, and others listed under 5D1p.
9. For tanks, containers, etc., for the storage of gasoline and liquids other than water, see:
Standard Regulations, N.F.P.A. and N.B.F.U.
10. "Dip Tanks, Construction and Installation."
11. "Fuel Oil, Storage and Use, and Construction and Installation of Oil-burning Equipments."
See, also, Pamphlets, Associated Factory Mutual F. I. Co's.
12. "Hazardous Liquids, Containers for Storing and Handling."
13. "Installations for Handling Gasoline and Similar Oils."

Lightning Protection. 5H

- (a) See Complete Section with this title in the *Structural Service Book, Vol. 1*, under 4G, p. 55.
- (b) In *The Farm Journal*, April, 1917, see "Rods that Really Save Buildings," by C. E. Pim.
- (c) See "The Value of Lightning Rods," *Technical Letter No. 11 of the National Lumber Manufacturers Association*, December, 1917. Eight pages of recommendations, completely illustrated, also list of references and authorities, including many state fire marshals.
- (d) The National Board of Fire Underwriters issues, "Suggestions for Protection against Lightning," as recommended by the N. F. P. A.
- (e) See "Standard (Tentative) for the Construction and Installation of Materials for Lightning Rod Equipment," listed with other publications of the Underwriters' Laboratories under 5K1.

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(f) The "List of Inspected Electrical Appliances," mentioned on page vi of the Industrial Section, contains the names of manufacturers of materials for lightning-rod equipment whose standard products are regularly inspected at the factories and labeled under the Underwriters' Laboratories' service.

Fire Insurance.

5J

1. The following paragraphs relating to fire insurance comprise Article 21 of the 3d edition, Standard Documents of the American Institute of Architects (1C1a), one of which consists of standard form for Bond of Suretyship (1C1b).

Art. 21. *Fire Insurance.*—The Owner shall effect and maintain fire insurance upon the entire structure on which the work of this contract is to be done and upon all materials, in or adjacent thereto and intended for use thereon, to at least 80 per cent of the insurable value thereof. The loss, if any, is to be made adjustable with and payable to the Owner as Trustee for whom it may concern.

All policies shall be open to inspection by the Contractor. If the Owner fails to show them on request or if he fails to effect or maintain insurance as above, the Contractor may insure his own interest and charge the cost thereof to the Owner. If the Contractor is damaged by failure of the Owner to maintain such insurance, he may recover under Art. 39.

If required in writing by any party in interest, the Owner as Trustee shall, upon the occurrence of loss, give bond for the proper performance of his duties. He shall deposit any money received from insurance in an account separate from all his other funds, and he shall distribute it in accordance with such agreement as the parties in interest may reach, or under an award of arbitrators appointed, one by the Owner, another by joint action of the other parties in interest, all other procedure being in accordance with Art. 45. If after loss no special agreement is made, replacement of injured work shall be ordered under Art. 24.

The Trustee shall have power to adjust and settle any loss with the insurers unless one of the contractors interested shall object in writing within three working days of the occurrence of loss and thereupon arbitrators shall be chosen as above. The Trustee shall in that case make settlement with the insurers in accordance with the directions of such arbitrators, who shall also, if distribution by arbitrator is required, direct such distribution.

2. It is the common experience of owners of buildings which have been damaged or destroyed by fire that, in the adjustment of their insurance, they have been obliged either to forego competent expert advice or to pay the cost of such advice themselves.

Through the efforts of the Louisiana Chapter of the American Institute of Architects, owners in that section of the country are now generally insisting that the following clause shall be attached to and form a part of all fire-insurance policies:

ARCHITECT'S OR ENGINEER'S FEE CLAUSE

"It is understood and agreed that this insurance also covers assured's liability for necessary fees for architects and engineers employed by them as a result of loss to the property insured, but in no case shall the loss and said fees combined exceed the amount of this policy, nor shall said fees exceed 6 per cent of the amount of the loss in case of a total loss, nor shall said fees exceed 10 per cent of the amount of the loss in case of a partial loss."

3. See, also, pamphlet "General Information Regarding Fire Insurance Requirements," referred to under 5D2h; also distributed by N.F.P.A.

4. See "Prevention Measures in Buildings versus Fire Insurance," F. S. Baker, N.F.P.A. "Proceedings," 1910.

5. See "Self-Inspection by the Assured," N.F.P.A. "Proceedings," 1900.

6. "The Influence of Fire Insurance upon Buildings and Their Architecture," Sir Aston Webb, from an address before the Insurance Institute of London, England, in N.F.P.A. *Quarterly*, April, 1918. 8 pp.

7. See "Risks of the Lender on Mortgage in Fire-Hazard," Article by D. Everett Waid, architect, in *Fire Prevention and Control Supplement*, *The Evening Post*, N. Y., April 20, 1918.

Publications Available in the Files of:

Underwriters' Laboratories.

- (a) Organization, Purpose and Methods, 1917.
- (b) List of Inspected Mechanical Appliances.
- (c) List of Inspected Electrical Appliances.

- (d) List of Appliances Inspected for Accident Hazard.
- (e) Electrical Data.
- (f) Specifications for Construction of Tin-Clad Fire-Doors and Shutters.
- (g) Procedure for Inspections at Factories and Labeling Rubber-lined Fire-Hose.
- (A) Standard for Counterbalanced Elevator Doors.
- (J) Standard (Tentative) for the Construction and Installation of Materials for Lightning Rod Equipments.
- (k) Code for Electrical Appliances, consisting of eleven standards, which will be enumerated in the next Serial Number (on electricity). Other standards are now in mimeograph form.
(NOTE.—(a) and (f) sent upon request; (b), (c), (d), and (e) revised semi-annually, sent upon request; (g), (h), and (i), also Nos. 1 to 11, inclusive, under (k), separate publications, supplied at \$1 per copy; (k) complete, supplied at \$10.)
Changes in, and additions to, publications listed in the *Structural Service Book, Vol. I*, under 3A3, 3A4, and 3A7, respectively, pp. 43-45, are as follows:

National Fire Protection Association. 5K2

- (a) *Standard Regulations for Fire-Protection and Safeguarding of Hazards.* Add:
 - 25. Standpipe and Hose Systems.
- (b) *Suggested State Laws for Regulating Fire-Hazards.* No changes or additions.
- (c) *Suggested Municipal Ordinances for Regulating Fire-Hazards.* No changes or additions.
- (d) *Educational.* Add:
 - 5c. Fire Prevention and Fire Protection During Construction, H. L. Miner. 5 cents.
 - 5d. Safeguarding Industry, National Board of Fire Underwriters.
 - 17c. Roof Coverings and their Fire-Resisting Properties. 5 cents.
 - 23a. Water Distribution Systems and Fire Protection, George W. Booth. 5 cents.
 - 23b. Flow Capacity of Water-Pipes, C. F. Wagner. 5 cents. Omit Nos. 29 and 38 and substitute the following:
 - 29. Fire-Tests of Building Columns, Underwriters' Laboratories.
 - 38. Spontaneous Combustion, G. H. P. Walker. 5 cents.
- (e) *Special Bulletins.* Add:
 - 3a. Chimney-Cleaning and Extinguishment of Chimney Fires.
 - 9. Are You a Patriot? Special bulletin urging the duty of every citizen to act as a fire warden of the nation.
 - 10. Precautions against Freezing of Fire Appliances.
- (f) *Special Fire Reports.* Add:
 - 13. Pittsburgh, Pennsylvania, Conflagration, Jan. 27, 1917. 8 pp.; illus.; map. 5 cents.
 - 14. Quaker Oats Co. Fire, Peterboro, Ontario, Dec. 11, 1916. 38 pp.; illus. 10 cents.

National Board of Fire Underwriters. 5K3

- (a) *Suggested Regulations of the National Board of Fire Underwriters for the Installation of Devices, Recommended by the N.F.P.A.* No changes or additions.
- (b) *Suggested State Laws.* No changes or additions.
- (c) *Suggested Separate City Ordinances.* No changes or additions.
- (d) *Suggested Codes.* No changes or additions. To the above add:
 - 1. Safeguarding Industry—A Wartime Necessity. A 24-page book prepared for the Council of National Defence, replete with practical suggestions for reducing fire-loss.
 - 2. Safeguarding Grain.
 - 3. Safeguarding Cotton.
 - 4. The Truth about Enemy Fires.
 - 5. The Watchman Evil.
 - 6. Safeguarding the House against Fire. A pamphlet intended as a textbook for children, and endorsed by the U. S. Commissioner on Education.
- (e) Illustrated Report on the Atlanta Conflagration, May, 1917.
- (f) As the Report of the N.F.P.A. Committee on Uses of Wood in Building Construction was adopted at the Convention on May 7-9 and covers Standard Specifications for Mill Construction, it will be printed by the N.B.F.U. for distribution as one of its publications.

Inspection Department, Associated Factory Mutual Fire Insurance Companies. 5K4

- (a) *Pamphlets.* No changes or additions.
- (b) *Leaflets.* Add:
 - 50. Fire Hazard of Cutting Oil.
- (c) *Reports.* No changes or additions.

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Serial numbers will be published as subjects are covered. For complete classified index, see Structural Service Book, Vol. I

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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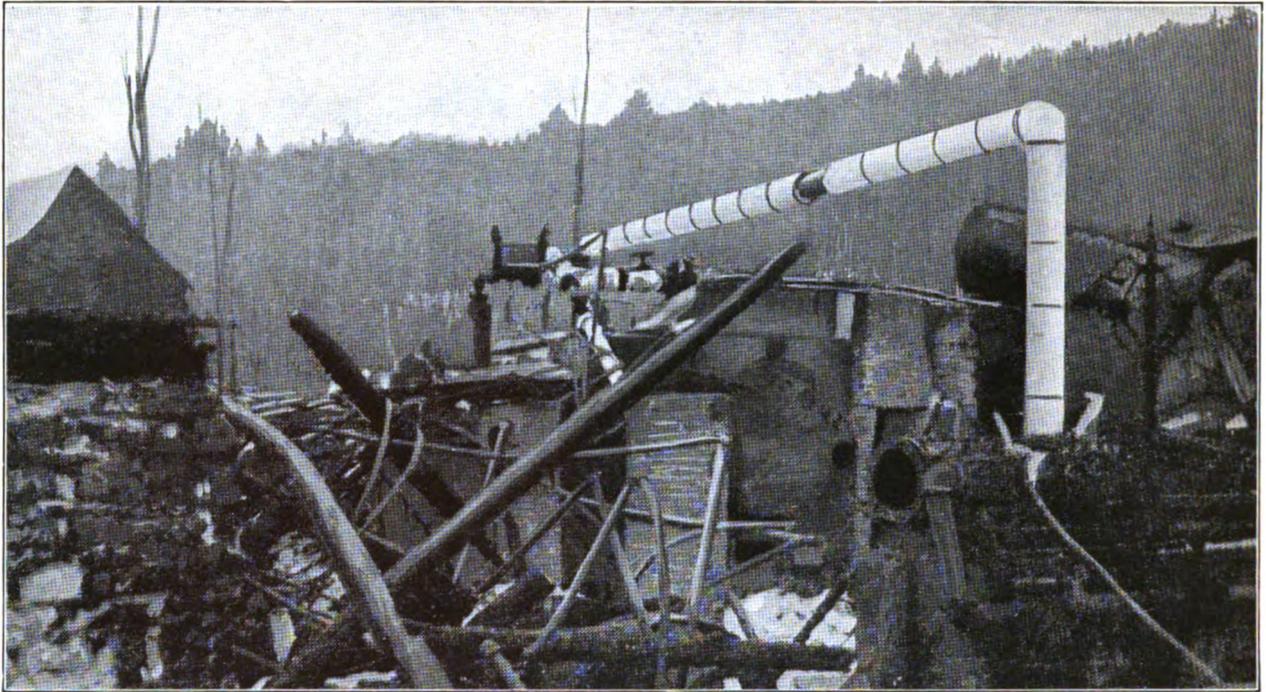
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Fire Didn't Affect "85% Magnesia"

This is an actual picture of the remains of a factory fire in a New England textile-mill.

The building was entirely demolished. The boiler-house went with the rest. Even big steel beams were twisted and collapsed in the intense heat. It was, as the fire underwriters say, a "total loss."

The only thing worth salvaging was the Pipe-Covering.

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THE GOSSIPS OF ST. SEVERIN.—After the etching by Henry Winslow

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Vol. VI

JUNE, 1918

No. 6

What Is the Price of a Life?

HOW SHOULD AN ARCHITECT BE PAID when employed by the Government in war construction work?

There is no answer!

There would be an answer if we could convert ourselves into a complete and perfect Democracy, if only for the period of the war.

WHAT IS THE PRICE OF A LIFE? How can there be any other standard of payment for any human service in war than the PRICE OF A LIFE?

What right has the ABLEST MAN in the United States to be paid any more than General Pershing? What right has the riveter to be paid more than the private in the ranks?

WHAT IS THE PRICE OF A LIFE? How can there be any other standard of payment for any human service in war than the PRICE OF A LIFE?

How can a nation founded on the ideal of equal opportunity continue the ancient system of accepting the sacrifice of earnings by millions of men who accept a small wage and risk their life, while others remain behind and gather in profits which in some cases amount to scandalous fortunes? How can you establish any just basis of paying any man or woman for any service in wartime, no matter how or where rendered, except upon the basic premise that he or she shall receive no more for that service than the equivalent scale of wage in the army or the navy?

WHAT IS THE PRICE OF A LIFE? How can there be any other standard of payment for any human service in war than the price of a life?

And the question is not, what was the price of life yesterday nor what will be its price tomor-

row? What is its price today, now? What other price has any life than its actual price at this moment? What price do you place on the life of a soldier when he goes over the top? What do you think of him for doing it? How can you take more for your services than you give him for his life? How can any man look upon war profits except with a feeling of disgust? What else can he do with them except give them away? How can he keep them and meet the wondering gaze of the fatherless, the husbandless, the brotherless, or the sonless?

WHAT IS THE PRICE OF A LIFE? How can there be any other standard of payment for any human service in war than the price of a life?

Life has different values in times of peace, we may say, according to what it may contribute to human betterment. But the only difference in life value in time of war is that which is measured by the difference in pay received by the General and the private, or by the Admiral and the jackie. They risk their lives, and the only wage they get is what they are paid for taking the risk. And these men do not think of the price when they go "over the top" or when they face the mine and the submarine. In risking their life, setting no price on it, they have been made free. It is the only way to be made free. To them comes the thrill of a complete abandonment to the service of the nation, pure and undefiled.

We who stay at home cannot risk our lives. Most of us would like to. But we have to content ourselves in giving up the privilege by making our utmost contribution in service of another kind. A perfectly safe kind, for most of us. We are ashamed to take a profit for that service, most of us, and shame on those who are not ashamed.

BUT SUPPOSE THIS: That all those who stay at home, men and women, were organized into a civilian army, with privates, corporals, lieutenants, majors, colonels and generals, with the same scale of pay that prevails in the army and the navy. That we were all fed and clothed and housed as they are in the army and the navy. That we were promoted for merit as they are in the ranks and on board the ships. That we, too, were made free to serve without hope of profit, and only given the joy of knowing that it was made possible for us not to take a profit for our labor while our fellows were risking their lives for ours.

Then we could establish an equality of national service. Then we could suspend all equality of opportunity for profit and be able to look our fighters in the face, conscious that we had made the utmost contribution that was possible for us to make. We had given our all and received no more than we pay for theirs.

WHAT IS THE PRICE OF A LIFE? How can there be any other standard of payment for any human service in war than the price of a life?

In such a civilian army there would be little need for money. All service and all effort would be commensurably rewarded. We could even carry the principle of democracy to the end and do without money at all. The war would be paid for with labor. We would emerge from it without any indebtedness and in a perfect state

of organization. Problems of reconstruction would have no terrors. Relieved of the terrific load of debt and interest, we could restore our equality of opportunity, as far as we cared to, after the war.

But we would have made such strides toward Democracy that the whole world would have seen the value of the lesson. We would look upon life differently and be unwilling to permit that disgraceful form of profit which is the curse of modern nationalisms, and the chief monetary wastage of war.

WHAT IS THE PRICE OF A LIFE? How can there be any other standard of payment for any human service in war than the price of a life?

Until we meet that question fully and fairly there is no answer to the question as to what any man should be paid for his services to the nation in time of war. All attempts to fix a fee or determine a rate are only subterfuges. They beg the question. They dodge the issue. They make patriotism a word of little meaning and they raise questions in the minds of men which we must some day answer. Why not now?

WHAT IS THE PRICE OF A LIFE?

THAT IS THE QUESTION.

If we cannot answer that, then the question of what an architect should be paid, or what any other man should be paid for wartime service, is nothing more than dust in our eyes.

The House by the Sea

III. SPRING

THE inevitable has happened, as usual. Day by day, all through the stormy, snowy, rainy April, spring has been coming, and in spite of the east wind blowing cold off the Atlantic, she is here. The fairy ring shows green on the brown marsh; birds, buds, grass, soft-coming colors, all proclaim it, but

"I, singularly moved
To love the lovely that are not beloved,
Of all the season's most
Love winter"

and to reward my rare devotion, winter, day before yesterday, sent me one more snowstorm in farewell. It was most spectacular—the snow

began fine and thick, then big and heavy. For hours it whirled down, obliterating all paths, grass, crocus blooms, the "lifted spears" of the tulips, every sign of spring; it covered the trees with white to their topmost twigs. The fog horn blew and the thick night shut us in. But early in the morning I had the joy of looking out when the spring sun was rising and the disgusted robins were protesting vigorously their damp nests. Again that snow-purified air, so still and clear, and on the marsh once more those lovely colors, white, blue, violet, amethyst, with yellow of the last year's reeds; once more the beauty of the bare trees against the blue and white of sky, sea and snow. Look your fill; it will not last! By noon the conquering sun

THE HOUSE BY THE SEA

had not left so much as would make a snowball, the birds were happy again, and the green grass showed greener than before.

Ever since I came, except when covered by beneficent snow, the desolate vegetable garden has given me the blues. Stalks of last year's brussels sprouts, cauliflowers and corn standing in the wet are far more depressing than any last year's nest; but now that is all changed and the big garden is the center of interest. First the men gathered the rubbish into heaps and burned it; I envied them that task, and the pungent blue-gray smoke looked and smelt so good. Then they manured it and plowed it. The plowing was beautiful; row by row the velvety brown earth was turned up to the sun and air, the men and horse stepping deftly in the furrows. Then they harrowed it and searched it for Indian arrow-heads, and began planting it to the satisfaction of the blackbirds and grackles who mean to have the peas as soon as they are up.

I can lie in bed and watch the blackbirds taking their dip in the marsh pools. You would be in ecstasy to see one swoop down on sure wing, poise, alight and sway buoyant on a single slender reed.

All this wonder of the spring revives an experience of last year, of inland spring rushing into leaf and flower, not reluctant like this by the sea. I was ensconced in a long chair on the little lawn, too absorbed by the beauty, too listless to read or sew. I had not been in the country in May for years and all my senses were keen for its joys. Big maples in flower, red and yellow, stood on either side, elms with feathery tops towered above me, a lilac bush sent out its fragrance, an old apple tree showed points of pink blossom. The highway ran by the edge of the lawn and dipped sharply down the hill on the left, where between the trees at its foot the lake gleamed and glistened. Directly across the road a low stone wall, broken by tall gateposts, swept in a welcoming half-circle to receive a smooth driveway; a little stone cottage stood on the right hand, backed close upon the hillside, up which climbed a wood of big oak trees in that exquisite state when their budding leaves seem like a faint pale green and pink mist caught in the branches. To the left of the gate a little path led down a grassy slope set with flowers like the sward of a Fra Angelico

picture, and the drive itself passed between tall trees till it too turned down the hill and was suddenly lost in a black cavern of big hemlock trees.

It was all so fresh, so fragrant, so flecked with sun and shade, so full of tender color. Only enough air to send whiffs of sweet-smelling things and to move the little white clouds across the high blue sky. And, as if that were not enough, my ears were enchanted with the songs of the birds and my eyes amazed with clear flashes of vivid color; orange and black, a swift streak of pure blue, a brilliant scarlet, unbelievable—I crossed the road to watch him calmly hopping in an oak tree.

Then—I noticed the first one. She walked swiftly, with free light grace through the gate and turned into the litle flowery path. The sunshine glowed on her golden head, bound with a white fillet; the breeze blew back her thin white dress, showing the lovely line of her slim young body; her white-shod feet danced down the slope, and she was gone. They came singly, in twos and threes, in little laughing groups, unloitering; all with that grace of youth and health and freedom, with the spring in their veins—clad in white, in soft blues, rose, violet, deep orange, a yellow like a crocus bloom. The light touched their bare heads, fair, pale gold, glowing red, dusky brown, black, smooth, curly, bound with fillets.

Dryads, nymphs, young goddesses—Greek things alive!

For hours I watched them until, fairly exhausted with it all, I went into the house to rest. Just before sunset I heard again their footsteps and their gay voices and from my window watched them, as in some well-planned masque or pageant, go through the gate down the hill into the black cavern of the hemlock trees. But beyond there was sunlight and the gleaming lake, and soon came the sound of singing and laughter and again and again a joyous rhythmic call, anchored by the altos, low and true, while the sopranos mounted to a clear high note with a little drop at the end. At last, in the stillness and the fading sunset, they emerged from the melancholy hemlocks like a Greek chorus. They did not stop to sing a tragic tale of horror and relentless fate, but with their swift tread of young goddesses, their slender figures gleaming white, they vanished

among the trees. The young May moon and the evening star hung for a little in the pale sky.

I got up stiffly from the window. I suppose I should have felt unutterably sad and old. Tears were in my eyes. But what mattered it if I were as old as Hecuba, and as dead? Spring, youth, beauty, loveliness, would be eternally renewed.

Of course you will shake your head and say: "Oh, no; oh, no! Her black and orange birds are orioles—bluebirds, perhaps; and she may have had the good luck to spy a scarlet tanager; but wood nymphs and young goddesses—oh, no."

IV. DRUMS

My early spring has slipped away into June, June into midsummer, and here I am still. Remember, it was January when I came. What have I now to write of the long weeks? So much, that I will not go beyond the aspect of things, the surface of this strange life I am leading. The depths are there as well as the treacherous shallows; some are horrible, some wonderful; struggles shorn of dignity, the depressing littleness of life and those mystic things like pain, renunciation, death and self-victory that only great poets may put into words.

I have emerged somewhat from my room and mingled more with others, and when you come into touch with people things begin to happen. You perceive those shallows and depths in relation to others as well as to yourself. Your personality in friction with your neighbor's strikes sparks of humor, interest, sympathy, antipathy; you are keen to exchange ideas, impressions, aid, or to run like a frightened rabbit into your hole again. However, the glad thing in being more like folks is that I have begun to weave! I have longed to do it ever since I first saw the looms. You know of old my passion for woven things; how brocade and embroideries, lace and linen delight my soul; how a skein of silk, a hank of yarn, a spool of thread with a bit of stuff, sets my mind at work with stitches and designs, combining colors and textures.

Just imagine a machine that somehow suggests a musical instrument. It has strings and pedals; you pull a thing with a gesture like pulling out an organ stop, and your shuttle

flies back and forth with a gay little trill. Best of all, as your excitement and awkwardness abate, you discover that the loom has a distinct rhythm and when things go smoothly you feel as you do when singing a melody that lies just right in your voice. But things don't go smoothly! How long has weaving been used as a simile for the trials of life? Since before Homer wrote the Iliad, I'm sure—knots, tangles, broken threads, jarring colors, things too loose or too taut, mistakes in following the pattern, to be undone and done over again with tribulation. You begin to have a respect for the meanest piece of woven stuff; you realize how great an art weaving is, that you are the most abject of novices, and you become quiet as a child while its mysteries are being explained. There are intricacies of setting up the looms, unwinding the gleaming skeins of sea island cotton onto the big wooden pegs to make the warp, the patient threading of the reeds and knotted heddles for the many designs that date back such hundreds of years (this seems to involve higher mathematics), then the dyeing of great skeins of cotton, wool, linen and silk, enchanting masses that hang drying and dripping color—blue, green, gold, scarlet.

I think I must have had an ancestress who was a finished weaver, I feel such a call to learn all of it. I lie awake planning things white and useful or gorgeous with colored silks and gold and silver thread. The Lady of Shalott must indeed have been accomplished to weave the mirror's magic sights and her web a fairy one to escape from the strong embrace of the loom and fly out of the window.

But alas! I too am accursed—weaving is forbidden—I am a prisoner again looking out of the two windows from my bed.

Pain and monotony have rather broken down my philosophy. I am in rebellion. The beauty from my windows begins to be detestable; the elm trees, like gigantic jailers, imprison one; their heavy foliage shuts out the air, the sky and its stars. Am I to see a year from these two windows? Will the autumn color steal over the marsh before I get my liberty? I envy everything walking by with free step—birds, dogs, cats, the fleet of white boats on the blue sea, the throbbing airships.

"Prisoners and captives!" How often have I

THE HOUSE BY THE SEA

heard that in church, vaguely thinking of criminals shut up for their crimes, and have with indifferent heart asked pity for them—and I, with these gifts of love, skill, comfort, exquisite cleanliness, rage because I do not belong to myself, because for a few months I cannot rise and go. Prisoners and captives! Think of them by the tens of thousands, prisoners of war, “prisoners and wounded,” languishing in strange lands, amid pain and discomfort unthinkable! Like a horror, the thought of every kind of prisoner overwhelms me, and if ever I prayed a true prayer of compassion, I have prayed it these summer months.

It still seems unbelievable that I have exchanged the big elms, the marsh, the beach, and the sea for these long-loved pine trees, the mountain, the river running by, the wide valley. It is still so new that at night I think the wind in the pine grove is the sound of the waves on the beach.

The journey, of course, was a great adventure. We started early, provided with everything the most exacting invalid could need. I had a terrible constriction of the heart at leaving, everyone from Elizabeth up had been so more than good to me; but, as the motor turned the corner that had been the limit of my longest walk in all those months, I began to “look forward and not back.” The fresh morning air, the swift motion of the car were exciting. A tipsy Irishman waved us on our way gaily. A little boy on a big farm-horse grinned at us and we grinned back. All the road to town was full of interest; the great beaches were covered with people escaping the great heat; hundreds of half-naked children played delightedly in the sea. As we neared the city, we began to realize what the white haze meant. We crossed the bridges by the ever-romantic ships at their docks and saw them down the glistening harbor and, as the car was caught in the heavy traffic, crowds of hurrying people, great motor-trucks, straining horses, sweating men. In spite of the heat and noise, my spirits rose; it was so good to see all that world of business and labor and men strong enough to do it.

At the station, I sat in the car, on the shady side of that wretched side-street, while the baggage was seen to, and studied the opposite row of dilapidated old dwelling-houses, with greasy steps, battered doors and broken blinds.

It was so hot that the blazing street was deserted and the shabby shutters were closed to shut out the fierce sun. At one of the windows was a window-box with a little trellis carefully made of string, and on it grew and bloomed morning-glories, the exquisite, tender flowers of clear blue, pale pink and lavender, flawless white, standing out in purity and delicacy against the ugly background. . . .

What was that land of thought that Kilmeny went to? I feel that I have been to one. Since the day nearly a year ago when the breath of the ether conquered mine and I awoke to a world of pain, I have truly lived in a land of thought. Like Kilmeny I have experienced things horrible and beautiful. Unlike her, it is my home and I wish to remain, that I may love and serve, enjoy the things of earth, beauty and mirth, “books and my friends,” to envisage the sadness of this war-distracted world with faith and proportion. I am glad of freedom and happiness in this beloved house. It is such fun to live again with people of all ages and both sexes, but I cannot always connect with the stirring life they lead. My fuse burns out, I suppose. I am content when I can lie these still autumn nights, thinking, listening to the sounds in the valley, the throb of the engine as the train strikes the up-grade, the trot of a horse resounding in the covered bridge over the brook, a late step on the garden path, the rare call of a bird, the constant murmur of the poplars by the gate, and the thud of the little apples dropping on the grass as the breeze stirs the old apple tree by the house door.

But such peace is gone. Last night, as I lay unthinking, near to sleep, broke suddenly into my consciousness the distant throbbing of drums. Nearer, louder they came; with the sound of shouted orders, and by the high road, past the gate came marching men. The terrible, insistent, onward rhythm of the drums urged them by, under the trees. From the window I could see their dim files pass, and could hear the strong sound of their feet upon the road, the creaking of shoes and equipment, almost the sound of their breathing. And then came the crash of music filling the quiet valley. Down the hill they marched, over the bridge into the distance. The band stopped; the cries died away: Only the drums beat on, and my heart with them, “Lives, lives, lives o’ men.” S. W. H.

The Circean Shadow!* IV

By RICHARD WALLACE TUDOR

HOW shall we educate the architect? In brief, the problem may thus be stated: The education of the architect, be it formal or otherwise, should be so organized and so staged that the true aims of the profession shall, from the very outset, be perfectly obvious to the student.

In attempting to translate the aims and suggestions previously made into a program of action, one is confronted with an almost insurmountable barrier in that we now think of education in terms of subjects, courses, curriculums, examinations, degrees, certificates, diplomas, prizes, and scholarships. With these terms are associated groups of *standardized* ideas relating to formally arranged classrooms, lecture-halls, studios, draughting-rooms, textbooks, paper programs, and methods—cold, academic, static. *Of such is education, the process, and not the organization of experiences.*

Therefore, if we hope to really deal with this matter in a constructive manner, we must abandon, not only the use of these *purely academic* terms in our discussion of the question, but the formulation of a program.

Throughout what follows it must be clearly kept in mind that we are not dealing with “subjects” or “courses”—formal, pre-arranged, imposed, *but with actual personal experiences resulting directly from the stimulation of inquisitiveness in the student.* Precisely what these experiences be named is of little value; that they be actual experiences is essential; this is the all-important matter, for *the stimulation of real inquisitiveness is the beginning and the end of education.*

It is not my intent to arrange a catalogue or time-table of experiences composed to fit everybody and to cover a definite period of years. It is quite sufficient to attempt to open up new vistas—suggest new directions and new avenues of approach.

But how shall we start? What must we consider first? Shall we consider the question in terms of university courses or atelier systems? No indeed! Let us forget all about these—brush them aside—and consider merely an organized

activity which we will term simply the Education of the Architect. From now on we are not dealing with universities, systems of ateliers, or conditions of apprenticeship—*we are dealing with experiences pure and simple which must take place in the student's life.*

If these experiences can center in the university, there they may be organized; the same may be said of the atelier or the office. Where they should be organized is a question which I do not propose to answer, for the very essence of education is experimentation.

But we have experimented. Our university courses, our ateliers, our correspondence schools are experiments gone stale—they have been found wanting—they have not provided the student with the essentials of education which we have discussed. Which of these schools can provide the essentials is in itself a subject for experimental demonstration.

So, our problem is clearly defined: We must first state the conditions that shall obtain in the education of the architect and then judge of the fitness of the various kinds of organizations to carry on the work *by the degree in which they actually produce the conditions and yield the desired results.* But what *are* the conditions which should obtain? Let us return to the “first step.” Keep in mind that we are now dealing with the boy who has decided (let us assume through his own inclination) to become an architect. He is a real live boy, inquisitive as to his future and the work of his chosen profession, without a very wide experience. What should we do with such a boy? Turn him over to a post-graduate student, a young instructor fresh from the school, with no experience whatever in the world? or to some well-meaning professor who delves into the archives of the past and argues endlessly over terminology and names and who has utterly lost contact, if he ever had any, with the world in which he lives? Shall we set him to doing the “orders” and descriptive geometry and calculus? Most emphatically we should not. Such a boy is neither interested in the “orders” nor theoretical rigmarole, for we assume that he is alive. What such a boy needs

*Continued from the last issue.

THE CIRCEAN SHADOW

is contact with forward-looking men who have had experience in the world, who know through professional association what are the real living aims of that element in the profession which has come to sense its function in a liberal democratic society. *And his work—if it is to interest him—must bear a very intimate relation to what he has already experienced in his world of reality. For education is a growth, a development, and not a coat of paint.*

Therefore we must focus this boy's attention upon "situations" in which it is reasonable to assume that he has some personal knowledge through contact, and hence some vivid personal interest. Such a situation would be expressed in the "home" and its associate interests and activities. Concerning the home he has taken much for granted, and he has not been particularly inquisitive, but that is no reason why the theme would not awaken an interest were the subject first approached from the angle of the social significance attached to the forms expressive of the home which we see about us. By suggestion and inductive methods he will inevitably be led more keenly to observe the curious cramped structures of our cities and industrial communities, the inappropriate and inadequate expressions in small communities and in our rural districts, as well as the more elaborate expression; and if his studies be made in the field (*no other have any value*), he inevitably will begin to search for reasons or causes for the blight which has spread over America.

His introduction to the region of architectural thought must be through contact with social and economic conditions surrounding situations relating to where and how men live and conduct their activities in the world today! This contact with reality will make clear to him that architectural forms are the resultants of complex forces and not merely architectural fancies rendered in materials.

He will become rebellious; but through such rebellion he will recognize, though he may not have acquired the technique of creation nor the sense of final judgment, that by and large the architectural expression of the home in America is a stupid inadequate expression; that as such it not only fails to express a rational life, but it also fails to express the ideals, vague and nebulous though they may be, which actuate the lives of the mass of men. The resulting impulses

arising out of his spirit of rebellion will be the desire to create something better; and he will be extremely inquisitive and desirous of acquiring the technique of creation. But the technique of creation, as he will conceive it after his contact with conditions of reality, will be of quite another sort than that of the draughting-room or studio; he will realize, above all, that with all the graphic technique which he may acquire, he will be perfectly impotent unless he also possesses the technique of dealing with the social and economic problems likewise related to the situations with which he has to grapple. "Solving the problem" will be conceived in terms of collective action into which there will enter a group of social and economic factors now utterly ignored by the school.

This first step will be the act of opening the student's mind and of directing it toward developing an ability to formulate a statement of conditions related to actual and not to imagined situations, a statement so phrased as to express a rational ideal, in terms of rational living, and hence in terms of rational indigenous architecture. Then will be the time to consider the technical phases of expression.

For though he may deal, at this stage, with a single element—a single building—in the background of his mind, there will be ever present the relation of that building to other buildings, to the people who are to occupy them, and the social and economic forces out of which they are created and made elements of the world of reality.

And, in dealing with the technical phases of expression, we shall not focus his interest upon the past, nor confine his efforts to graphic expression. The past he will draw upon if he so chooses; his graphic effort will be guided, but we will direct him *away* from academic routine, away from the walled-in room. The real problems of dealing with forms, materials, methods of construction, labor, and the vital-to-art processes of fabrication *will be studied and examined in the field of reality*; and wherever collaborative effort is required to effect a result—as it is in every actual problem—there we will introduce actual collaboration with students in other fields and also actual, intimate, personal contact with the men with whom we are today going through the make-believe gestures of collaboration.

One asks how this can be reduced to courses and labeled with letters and numerals and confined to hours and, at the end of the term, marked in percentages. I do not know—nor do I care—whether this scheme be so reduced to schedule and label. Possibly it would be better (very, very much better, perhaps) if such labeling and scheduling were completely omitted.

Following the inquisitive and constructive study of the conditions related to how men live and of the resultant architectural forms, we should expand the circle of interest until the situation includes the more complex community. Here, as in the case of our study of the more intimate circle, we must use the world as the field for observation. Against the actual conditions will be thrown a concept of a more rational life, and this concept will be conceived in terms of a possible program of action.

Our educational purpose is to develop a dynamic force, not to crystallize a static condition; therefore, the attitude of mind which we must develop is that which will comprehend the varied purpose for which men live in communities and also the nature of physical environment which will be expressive of that purpose and, at the same time, possible of attainment.

But what has all this study of economics and social politics to do with architecture and art and the aims of the profession? Well, what have pseudo-dipteral temples and sexti-partite vaulting to do with the conditions, and, hence, the architecture, of the present day?

Answering the first question, a study along lines suggested will afford the student an opportunity to comprehend the true relation between human needs and architectural expression, for it is this relation which determines the value of architecture. It is alone through such study that the student will grasp the essentials of the problem relating to the creation of a truly adequate environment. He will see the environment as a unit—a single factor to be dealt with; he will understand better the forces to be dealt with; he will, above all, grasp the full force of the fact that his functions and the functions of his profession must be made to extend over a far wider field of interest. He will gain—and this is really the aim of his education—sufficient perspective to appraise the relatively small value of purely graphic effort as a factor in attaining the desired result.

Lest this still appear vague and nebulous, consider what is actually being done in the School of Civic Design in the University of Liverpool, England. It is not that this expresses the attainment of the ideal—it does not—but rather it is an experiment in the right direction. The essential facts are that architects, engineers, and town-planners are brought into extremely close contact. Much of the work relates to real situations; contact is actually made with the world of reality.

Take a problem, by way of illustration: Ten years hence it is known that the industries of a certain mining town are to vanish because of the exhaustion of the coal-fields. What should be done? This is the problem. Out into the field are the students sent to make the needed surveys, physical, social, and economic, and to confer with the local authorities, engineers, and citizens. The purpose of the problem is to develop a program suggesting what action should be taken; the students are to present their solutions in the form of statements with graphic illustrations. Town-planning, architecture, and engineering are the terms in which the suggested program of action is to be presented.

The results of this particular study were obvious; there was a mutual expansion of concept of function on the part of the various students and government officials. The school, the community, and the state were brought into close contact; a mutual understanding of aims and purposes was established. There was thus formulated a suggestion which now serves as an axis around which all individual and collective action in this community revolves. As I understand it, the local authorities are actually developing a program of political action based upon the suggestions formulated by the students.

This is a suggestion which is headed in the right direction. And it has to do with architecture and art, though with our rather limited concept of what constitutes architecture it may seem to us far-fetched.

Another interesting example of the possibilities of developing this theory of architectural education is the competition announced in the last number of the Journal. It is, to my mind, the first effort ever made in this country to introduce all the vital factors into an architectural competition.

(To be concluded.)



Drawn by Felix Benoist. Lithographed by I. Arnout. Figures by A. Bayot

PARIS IN 1620

General View from the Butte Chaumont, after Mérian

See page 291

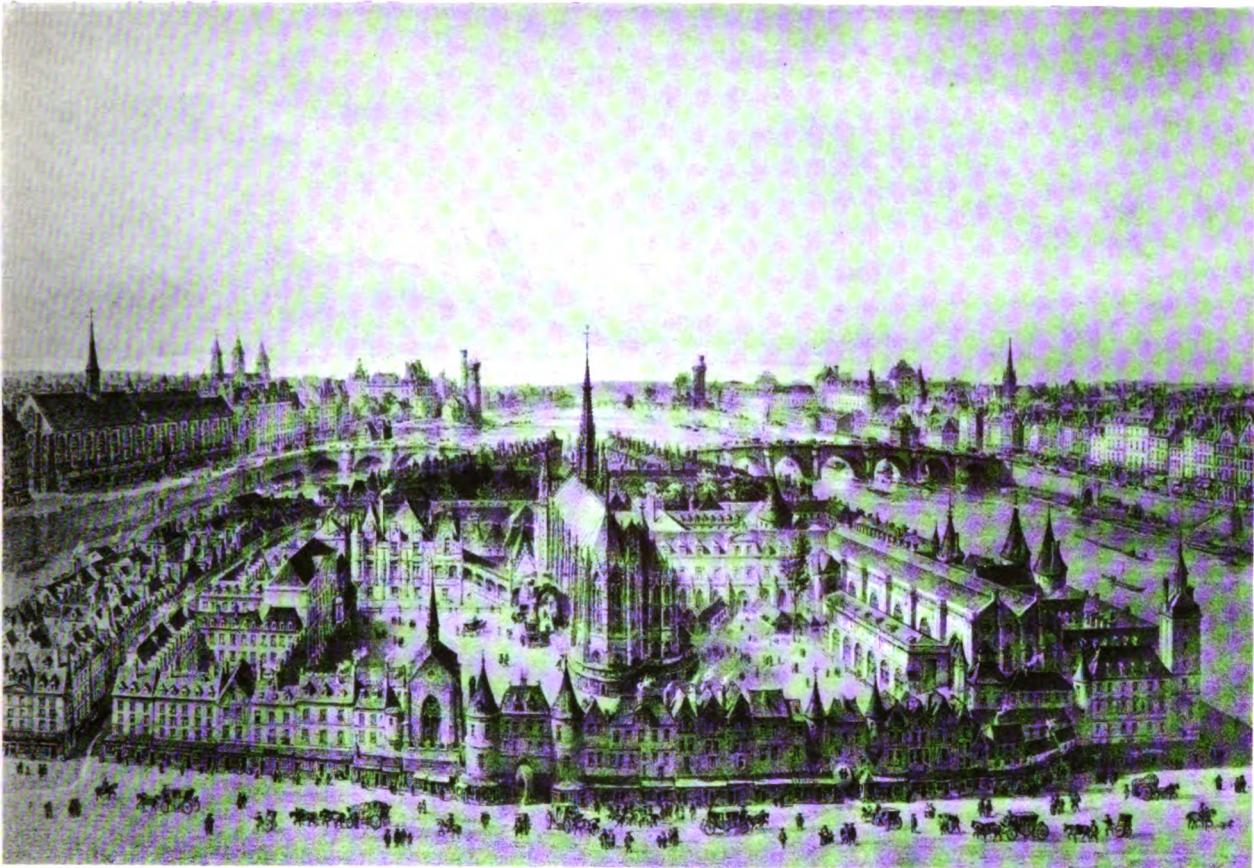


Drawn by Felix Benoist. Lithographed by Eugene Ciceri. Figures by A. Bayot

PARIS UNDER LOUIS XV

View from near the Arsenal, after an engraving of 1730 by J. Chafourier

See page 291

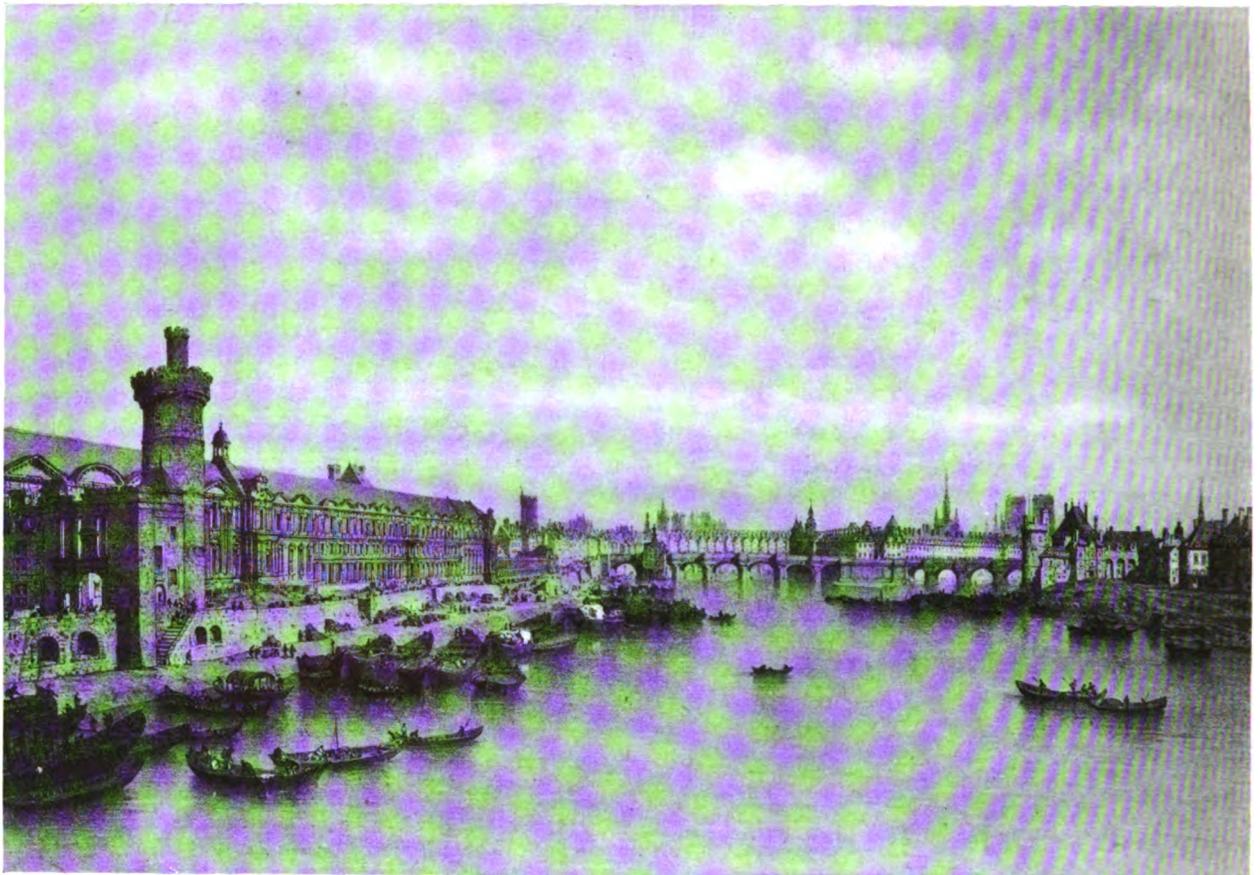


Drawn by Felix Benoit. Lithographed by I. Arnout. Figures by J. Gaildrau

PARIS IN 1650

The Palace of Justice and the Seine, after Boisseau, Israel Silvestre, and others

See page 291



PARIS IN 1650.—After an engraving by Israel Silvestre
See page 291

Lithographed by Ph. Benoist

The Plan of Paris

THE DETERMINED PROLONGATION OF THE RUE DE RENNES AND OF THE BOULEVARD HAUSSMANN, AND OTHER INTENDED MEASURES, SEEN IN THEIR CONNECTION WITH THE TRANSFORMATIONS BY NAPOLEON AND HAUSSMANN

By NILS HAMMARSTRAND

IN the year 1914, shortly before the outbreak of the current war, the city of Paris raised a loan of 900,000,000 francs, intending to spend about half of this sum on extensive changes in street circulations. He who visited Paris about that time could scarcely have failed to observe that regulative measures on a large scale actually had begun to be carried into execution in different parts of the city; walking about in the dense central quarters nearest the Seine, one often met with hideous gaps, cut right through a block, and indicating the future course of a new street, or plowed along an existing street to make it wider.

Moreover, accounts and discussions in the press called one's attention to the many problems and questions that are involved when a "glorious," large and old city undertakes to rejuvenate itself, endeavoring to balance its progressive aspirations with its obligations to tradition. Esthetic questions arise which are of the most delicate nature. It is not sufficient to respond in the cheapest and quickest possible way to the requirements of utility and traffic. It is especially not sufficient in the case of such a city as Paris, upon which the whole world looks as the "city of cities"—the representative city.

More keenly than ever, cities at the present time are alive to the delicacy of such improvements. For the last few decades have certainly developed our esthetic conceptions, as regards architecture, toward a more just, a more shaded appreciation of the artistic ideals and the corresponding creations of widely different ages. The nineteenth century worshiped and imitated the different architectural styles according to their letter, one after another in transient succession; the beginning twentieth century shows, while striving to express or at least to define architectural ideals of its own, a growing capacity to grasp the spirit of the historic styles and to estimate, in a more unprejudiced way, their individual artistic qualities. This makes us more concerned when new schemes are planned whose execution will entail the destruction of recognized architectural creations. And, moreover—and this is the real gain—we are no longer ready blindly to accept schemes of improvement that seriously endanger the effect of artistically prominent buildings by awkward alterations likely to create a new and defective relation to their surroundings.

The city of Paris has in the past seen too many instances of such rash encroachments not to be on its guard at the present date. No longer does one enjoy "the stately appearance" that Napoleon I, and after him Napoleon III and Haussmann, were aiming at when clearing away those structures, close to Notre Dame, which formerly enhanced the towering effect of the wonderful building. Nor is one apt to remember without regret the loss of

those marvelous groups of buildings that once formed the monasteries of St. Germain des Prés and of the Temple and the destruction of which was a consequence of the great revolution. Paris has seen a terrible devastation of its medieval monuments ever since that date. To a great extent this has been unavoidable. The present generation feels it as an obligation, not to the Middle Ages, but to itself and its descendants, to try and obviate the execution of designs that may involve irreparable artistical losses. And it extends its care to everything, deriving from modern or ante-modern times, the knowledge with which to protect and, if possible, to preserve, in the interest of the city, the country, and humanity.

These introductory, somewhat retrospective, reflections on esthetic questions of general interest connected with city improvement may be justified, considering the intention chiefly to deal in the following with some schemes whose esthetic and historic aspects are especially interesting.

The intended prolongation of the Rue de Rennes and its connection with the north bank of the Seine through a new bridge, is one instance. The Rue de Rennes is, as all who are acquainted with the present topography of Paris well know, one of those important diagonal streets, the creation of which by Napoleon III and Haussmann, was due to the necessity to connect the newly established, acentric railway terminals with the inner parts of the city. One of these diagonals, the Avenue de l'Opera, is particularly important from the viewpoint of traffic and, moreover, enjoys world-wide reputation on account of its distinguished esthetic qualities. The Rue de Rennes is perhaps less important and surely less famous. But during the year preceding the outbreak of the war it was an object of interest, attracting attention through the discussions concerning various schemes for its prolongation. For years this measure has been an urgent necessity in consequence of the growth of traffic. Originally meant to continue to the Seine embankment, the Rue de Rennes now extends only from the Gare Montparnasse to the Boulevard St. Germain. Its interruption at the latter point has long caused serious inconveniences to communication. All intercourse between the Gare Montparnasse and the great railway terminals north of the Seine—the Gare St. Lazare, the Gare du Nord and the Gare de l'Est, has been forced to find an outlet, either through the east and west branches of the Boulevard St. Germain, reaching its destination by wide circuitous routes, or, more directly, through the narrow, obstructive Rue de Bonaparte and Rue des Sts. Pères, both quite insufficient for quick transit.

Nevertheless, the extension of the Rue de Rennes has been unduly delayed, being a problem which presents



THE RIVER SEINE, SHOWING THE BRIDGES AND THE INSTITUTE OF FRANCE IN THE MIDDLE DISTANCE

unusual difficulties. The necessity for constructing a new bridge across the river has been one crucial point of the question, involving, as it does, many practical and esthetic considerations. But the proposed disengagement of an important monumental building, l'Institut de France, also has caused serious trouble.

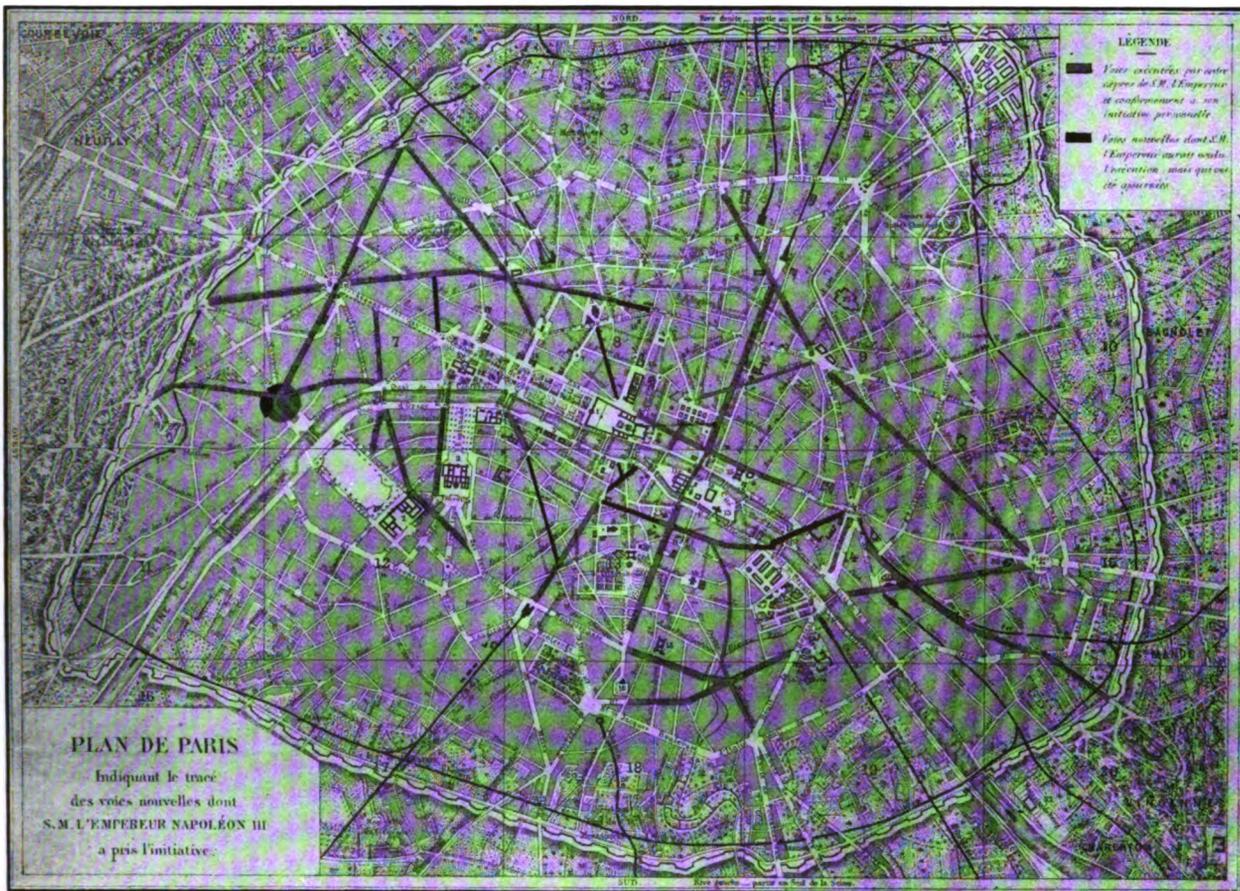
The proposal to disengage l'Institut de France in connection with the prolongation of the Rue de Rennes was originally due to Napoleon III and Haussmann, who hailed the possibility to disencumber this building—dégagements of monumental buildings being one of the main objects of the transformations. This disengagement has, however, met with opposition from many sides, as it would involve the destruction of the rear wings of the building partly added during the time of Napoleon I, who let the architect Chalgrin enlarge the original structure erected by Le Van during the reign of Louis XIV. But, unfortunately for the advocates of this preservation, the prolongation of the Rue de Rennes, as proposed by Haussmann and Napoleon, follows the shortest possible line of communication and, besides, has been adhered to by a mighty group interested in its execution. The originators of the project wanted to prolong the Rue de Rennes along a straight line from the Place St. Germain des Prés to a point on the embankment between l'Institut de

France and Hôtel des Monnaies, intending to provide a new bridge from this point to the opening of the Rue du Louvre on the north bank. The traffic through the Rue de Rennes must find its most immediate outlet on the north bank this way, because the Louvre structures block the whole distance between the Rue du Louvre and the Rue des Tuileries, offering only narrow passages through *les guichets des Saints Pères* that lead to the Place du Carrousel.

On viewing the project by Napoleon and Haussmann a little closer, we find that it disengages l'Institut de France by forming outlets, of which the Rue de Rennes is one, symmetrically to the east and west side of l'Institut. These forking streets embrace a considerably extended regular area that in its entirety would belong to the owners of l'Institut, providing them—as an indemnity for the loss of the demolished rear wings—with an extensive additional building plot, highly suitable for the enlargement of the original regular building.

This compensation was in fact considered so advantageous that the French Academy, which owns and occupies the building, far from opposing these alterations, has considered them highly desirable and supported a disengagement according to this project. The troubles only began when the authorities of the city, some years ago, pro-

THE PLAN OF PARIS



THE "PLAN COLORIÉ" OF PARIS

pounded another scheme, framed by the present "Service du plan de Paris." This plan differs inasmuch as it traces the streets, not along straight, but along slightly curved lines, and leaves a smaller, available building area adjoining l'Institut. In order to compensate for the ground loss, the city offered the Academy adjacent building plots along the new streets, but the Academy objected, its majority regarding the matter only from the viewpoints of economy and convenience. Some of its members invoked, however, the names of Napoleon and Haussmann and argued in favor of the original project as being, in their opinion, superior from an esthetic viewpoint.

But it was exactly esthetic considerations that induced the "Service du plan de Paris" to make its proposal, which also won the support of the city authorities. To the rigidly stiff original project, they preferred this more flexible scheme which promises a variety of aspects and to make l'Institut de France an effective feature in an interesting vista. Thus, the esthetic interests of the city, as interpreted by the "Service du plan de Paris," were in this case opposed to the material interests of the Academy—and the question probably still awaits its final solution.*

*In this connection, a proposal by M. Eugène Hénard may be mentioned, aiming at the prolongation of the Rue de Rennes, straight to a point on the Seine west of l'Institut, and the construction of two bridges crossing each other and forming together a composite structure of X-like shape. See, Eugène Hénard: *Etudes sur les transformations de Paris: Projet de prolongement de la rue de Rennes avec pont en X sur la Seine.*

A more conclusive result was attained by the city in the even more delicate question concerning the erection of a new bridge across the Seine. Napoleon and Haussmann planned the new bridge to be constructed in a position between Pont Neuf and Pont des Arts, having in view a composite structure formed of two bridges, one across the north and one across the south branch of the river, linked together at their common point of support on the west extremity of the Ile de la Cité and forming an obtuse angle with each other. This project certainly provided a very direct line of communication but, nevertheless, raised serious objections. It was considered that such a bridge would encumber and obstruct the magnificent view from the Pont des Arts and the embankments toward the Pont Neuf and the Ile de la Cité—that highly admired view which so splendidly and peculiarly combines monumental dignity with picturesque charm. The desire to preserve this beautiful prospect proved, in fact, stronger than those practical reasons which recommended a choice of the shortest possible line. A solution was found in the reconstruction of the Pont des Arts, first officially suggested by M. Felix Roussel, member of the city council, but in reality corresponding to a long prevailing general desire. The Pont des Arts, an ugly iron structure raised above the levels of the embankments and, thus, only to be used by pedestrians, is both by its charac-



GENERAL VIEW OF THE PALACE OF THE INSTITUTE OF FRANCE.—From "L'Institut de France" by Franklin and Perrot

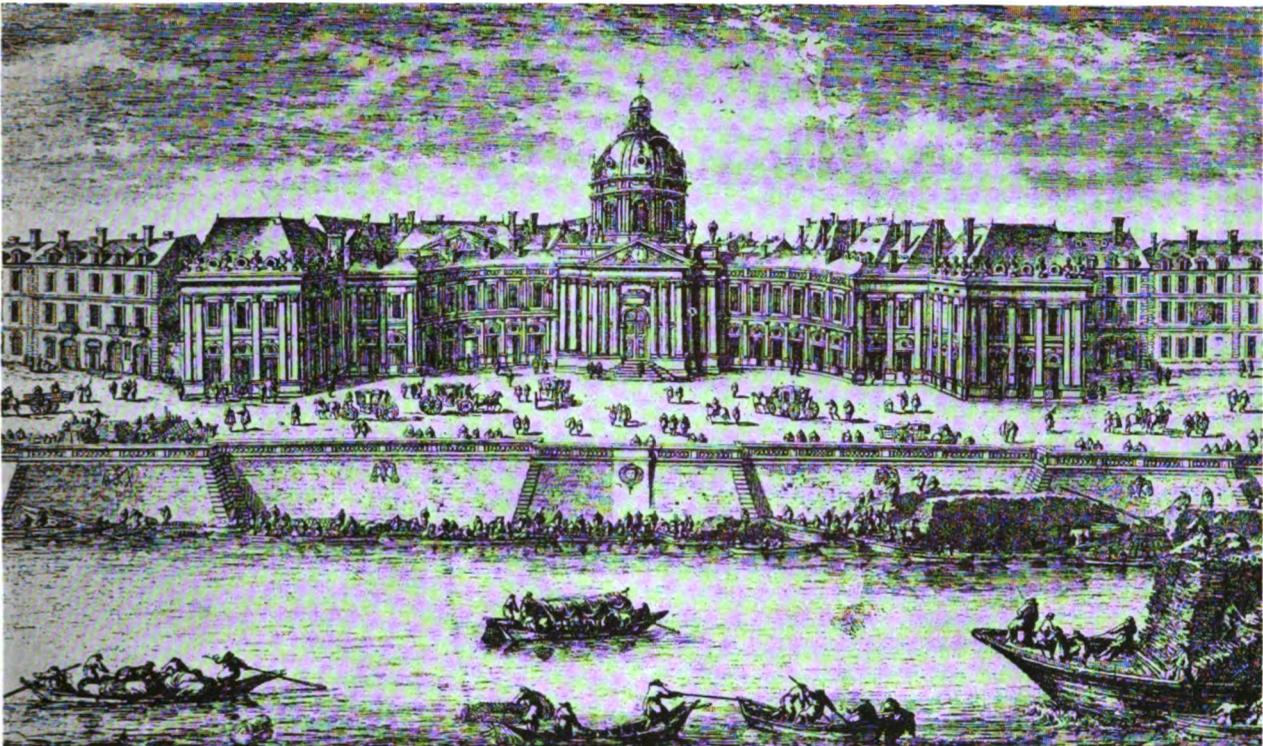
ter and its height, disturbing to the effect of its architectural surroundings. The bridge, constructed on the initiative of Napoleon I at the beginning of the last century, is interesting as one of the first iron bridges erected. The circumstances connected with its origin also are interesting. The community of Paris had nothing to do with its erection. Napoleon, reviving the tradition of *l'ancien régime*, was, practically, a dictator in matters concerning improvement of his capital as he was in matters of state. By law of March 15, 1801, the emperor ordered three new bridges to be built in Paris; one of them was the Pont des Arts. For the financial management of these works private companies were formed, licensed to tax the traffic across the bridges during a limited period. But the construction had to be supervised by the state; it had to take place *sous la direction immédiate des ingénieurs des ponts et chaussées*. Among men of esthetic judgment the Pont des Arts caused displeasure from the first moment. The project was thus severely criticized by the architects of the emperor, Fontaine and Percier: "*il était à craindre qu'un pont en fer produisît un effet de contrast mesquin auprès de monuments tels que le Louvre et le Collège des Quatre Nations (Institut de France)*." Even the emperor himself, with whom a predilection for the new-fashioned iron constructions had occasionally manifested itself, seems later, when seeing the bridge completed, to have raised objections, finding it ridiculous to erect a structure of this

kind at this place—in a country abounding in the most excellent building-stones—an observation expressing sound practical judgment and very characteristic of the emperor.

Nowadays, few will deny that the bridge is out of place and has served its time. From an esthetic point of view the advantage of a bridge replacing the Pont des Arts would, thus, be twofold: it would provide the desirable and more dignified connection, across the river between l'Institut and the Louvre, and, at the same time, save the Seine perspective from being obstructed. All esthetic considerations support this proposal. In favor of the other alternative, a bridge in the prolongation of the Rue de Rennes, there lies, on the other hand, a practical advantage—its directness. Thus, the question to be answered was, whether the possibility of shortening the road by two hundred yards would constitute a gain great enough to outweigh the factors on the other side of the balance. When answering this question in the negative, the planning authorities of Paris offered, it seems, an example of sensible judgment, worthy of being imitated in similar cases, where considerable esthetic values are at stake or to be gained. Those opportunities are, under all circumstances, so few that it seems as if we ought to be able to afford such a generosity in this age of swift vehicles.

The chief aim as to traffic seems, at all events, to be the attainment of the greatest possible convenience and security. These factors work practically, in our overcrowded monster cities, to the advantage of the greatest

THE PLAN OF PARIS



THE PALACE OF THE INSTITUTE OF FRANCE AFTER AN OLD WOOD-CUT.—From "L'Institut de France" by Franklin and Perrot

possible speed. Arrangements aiming at a rational distribution of traffic are the most important of all measures to be taken in the interest of rapid communication. It is, then, interesting to note how excellently such ends will be served by the reconstructed Pont des Arts in combination with the proposed arrangement of the Rue de Rennes. The traffic along the embankment is comparatively small, but yet there lies a great advantage in the possibility of distributing the intersecting traffic to both sides of l'Institut, allowing on each side only traffic in one direction. Through such an arrangement the mutual obstruction of streams of traffic intersecting each other at right angles would be greatly diminished.

In the construction of a new monumental bridge, for all sorts of regular street traffic, in the position of the Pont des Arts, this project seems thus to offer a very happy solution. The costs for the extension of the Rue de Rennes and the construction of the new bridge are estimated at 38,000,000 francs.

The efficiency of these measures will, however, partly depend on the realization of other intended steps on the north bank of the Seine. It has already been hinted that the planned part of the Rue de Rennes and the projected Pont des Arts are largely meant to facilitate communication between the Gare Montparnasse and the great railway centers in northern Paris. One of these, the Gare St. Lazare, is situated so far to the west that its chief communication with the Gare Montparnasse follows, and will continue to follow, the route via the Place de la Concorde, passing through the Rue Royal, Boulevard St. Germain and Boulevard Raspail. It is the communication between, on one hand, the Gare Montparnasse, and, on the other

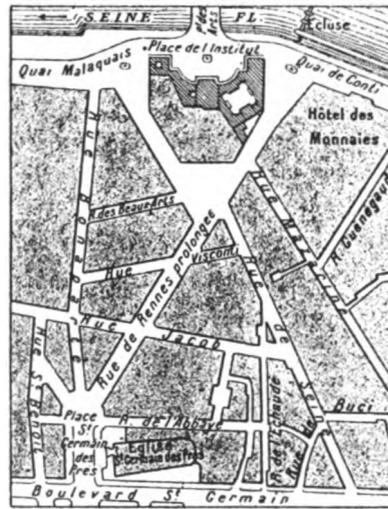
hand, the Gare du Nord and the Gare de l'Est that will reap great advantage from these improvements. This traffic will, at least for the greater part, cross the river over the new Pont des Arts instead of directing itself, as hitherto, over the Ile de la Cité by the Pont St. Michel and the Pont au Change. It will naturally avail itself of the connection across the new Pont des Arts, provided certain planned regulations on the north bank of the river are carried out. These measures, aiming at a radical transformation of the quarters around Les Halles, will conveniently connect the Rue du Louvre with the Rue de Turbigo, Boulevard Sebastopol and Boulevard de Strassbourg, that great north to south thoroughfare that was projected by Napoleon and completed by Haussmann, in order to give the Gare du Nord and the Gare de l'Est easy access to the center of the city.

The quarters between the river and the great inner boulevards will, on the whole, be the scene of most significant changes in circulation—measures which the development of traffic and hygienic needs have necessitated and which, at the same time, for a great part, are the direct logical continuation of the transformative work of Napoleon and Haussmann. Such a measure is, for instance, the planned extension of the Rue du Louvre to the Rue Montmartre, intended to effect a junction with the inner boulevards and thus promising to greatly increase the value of the Rue du Louvre as a north to south thoroughfare.

At the present moment the Rue du Louvre terminates at the Rue Etienne Marcel. This last mentioned street, extending east to west from the Boulevard Sebastopol to the Place des Victoires, was, like the Rue du Louvre



PRESENT CONDITION



ORIGINAL PROJECT FOR EXTENSION OF RUE DE RENNES AND DISENGAGEMENT OF THE INSTITUTE OF FRANCE.



ALTERNATIVE PROJECT BY THE "SERVICE DU PLAN DE PARIS"

between the Rue de Rivoli and the Rue Etienne Marcel, projected by Haussmann. Its continuation to the west, beyond the Place des Victoires, is the narrow Rue des Petits Champs that intersects the Rue de la Paix near the Place Vendôme and, under the name of Rue des Capucines, reaches the inner boulevards at the junction of the Boulevard de la Madeleine and the Boulevard des Capucines. In order to make this east to west thoroughfare more effective, it is intended to widen the Rue des Petits Champs and the Rue des Capucines and to continue the Rue Etienne Marcel east of the Boulevard Sebastopol as far as the Boulevard Beaumarchais, thus duplicating that east to west line of communication which Haussmann created, somewhat more to the north, in the Rue du Quatre Septembre and its continuation, the Rue Réaumur. This scheme, for the execution of which a long time is calculated, is especially interesting inasmuch as it affects the destiny of the Place des Victoires—Mansard's creation from the end of the seventeenth century—that already has suffered badly through transformations and neglect and the whole existence of which in reality seems threatened through the proposed enlargement of the Rue des Petits Champs and the planned disengagement of the adjacent Banque de France.

It is also interesting to note how the creation of these east to west thoroughfares, combined with the opening up of diagonal streets to run right through dense quarters, tends to radically change the topographic character of this section of the city. The same transformation gradually announces itself also on the south side of the river—though there far less pronounced—the direction from east to west being of less importance from the viewpoint of traffic. Ever since the Renaissance got a real foothold in France, this transformation has, first vaguely, then more distinctly, asserted itself within the central region of Paris now circumscribed by the inner boulevards. Its topographic appearance at the time of the Revolution may, however, be mainly characterized as "radial and concen-

tric." As to the general structure of its plan it gave, at that date, chiefly an enlarged picture of the fortified city of the Middle Ages. Isolated modern features within the enframing polygon of the inner boulevards—as the Place des Vosges, Place Dauphine, Place des Victoires, Place Vendôme, some embankments, some narrow, but straight streets, either rectified or wholly modern, like the Rue de Richelieu—could not, as little as the boulevards themselves and the Place de la Concorde, relieve the central regions of Paris from their medieval density and general impression of haphazard growth. But some of these elements—foremost the inner boulevards, Place Vendôme and Place de la Concorde—were to be joined into a comprehensive system of more radical modernization, forming some of its most important links and joints like, also, those more peripheral modern features already existing at that date: the framework of the outer boulevards only just beginning to form, along the "mur des fermiers généraux," the Avenue des Champs Elysées and the Place de l'Etoile, Avenue de Vincennes and the Place du Trône, Champ de Mars and les Invalides with their adjoining systematically laid out roads. The nineteenth century was to link up and weld together these scattered elements, many of which originally were features of garden design, making them effective, cosmic members of a systematic whole.

It is this synthetical process that has actually formed the modern Paris of today, beginning with those comparatively very radical transformations that opened the Rue de Rivoli from the Place de la Concorde to the Rue des Pyramides and which did away with the seclusion of the Place Vendôme by opening the Rue Castiglione and the Rue de la Paix, and started to recast the topographic mold of the Ile de la Cité—to mention some of the achievements during Napoleon I, all according to or at least inspired by the projects contained in that much-discussed document, the *Plan des Artistes*, which so palpably illustrates some aspects of the history of the Revolution. Haussmann mentions the *Plan des Artistes* in his *Mémoires*,

is a measure originally planned by Napoleon III. The emperor's part in the transformations after the middle of the last century, more than generally is realized or admitted, was a creative one. In reality, the Boulevard Haussmann itself forms part of a most important line of communication, the whole extent of which was devised by the emperor. Beginning at the Place du Trône (now Place de la Nation) on the east, it extends, on a wide curve to the north, to the Bois de Boulogne on the west. The plan shows how ingeniously Napoleon utilized some of the old boulevards—St. Martin, St. Denis, Bonne Nouvelle, Poissonnière, Montmartre—as links in this chain, adding Boulevard du Prince Eugène (now Voltaire) from the Place du Trône to the Place de la République, Boulevard Haussmann and its continuation to the west, Avenue de Friedland, between Boulevard Montmartre and the Place de l'Étoile, and finally the Avenue de l'Impératrice (now the Avenue de Bois de Boulogne) from the Place de l'Étoile to the Bois de Boulogne. If the great railway terminals on the north are compared to great reservoirs, this line of communication represents an enormous compound main that in a very direct way conducts east- and west-bound streams of traffic.

In this conception we recognize that admirable logical consistency that, on the whole, is a distinct keynote of the modern transformations of Paris—it may also be called an infallible feeling for style; so harmoniously are logical thought and spontaneous sense of beauty in reality amalgamated, that the city as a whole, medieval and modern, seems an infinitely varied, but harmonious unit. Thus, there is a striking clearness and simplicity, as well as an accomplished formal beauty, in the general tenor of Napoleon's scheme for this great traffic artery. It constitutes, in a way, a key to an understanding of some leading ideas underlying the methodical conception of these transformations and seizable in the composition of some of their most essential and most remarkable features. When framing this wide-reaching line of communication, Napoleon created, on an extended and magnificent scale, a standard that he repeats when tracing, on the south bank, the Boulevard St. Germain, extending in a wide curve between two points on the river, and a similar, but more peripheral "main," of old and new boulevards linked together in a chain from the Pont d'Austerlitz on the east to the Pont de l'Alma on the west. These two varieties of the type are only, according to different requirements on account of various local conditions, less pretentious as to their extent, as well as to their articulation.

In fact, this document seems, when its various aspects are scrutinized and its different qualities weighed, to entitle its author to a distinguished place among men of formative genius who have utilized artistic city planning. The memory of the emperor, obscured in consequence of unfortunate political events, seems admirably perpetuated through this achievement in a field that nowadays perhaps has a less pronounced relation to state politics.

The decision to complete the Boulevard Haussmann has given us an impulse to express such an estimation. The intended extension of the Boulevard Haussmann means the final accomplishment of one of the main schemes

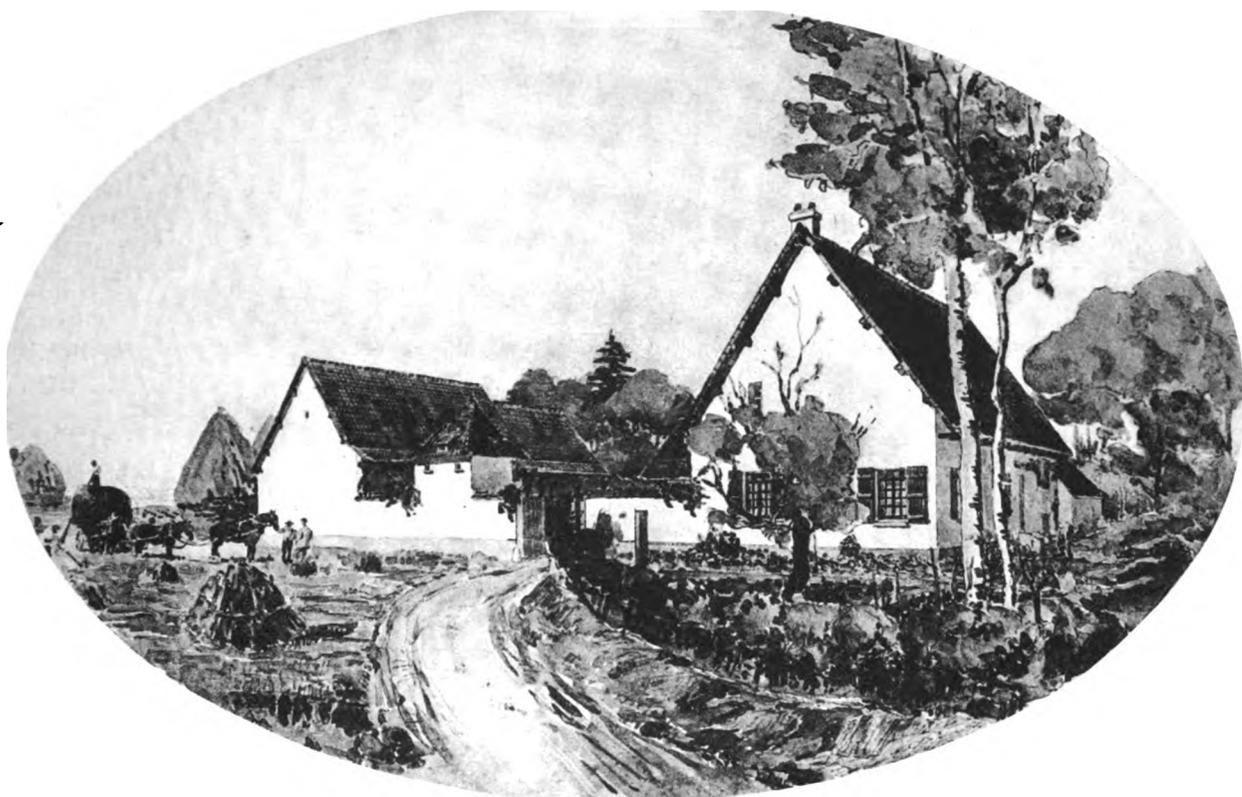
evolved in the "*plan multicolor*." But here, as in the case of the Rue de Rennes, the execution will possibly not exactly follow the lines of the original project. In this instance, as in the other one, the deviation is very characteristic of a lately prevailing tendency in Parisian planning toward more flexible form whenever its elaboration seems advantageous and possible. We recognize this flexibility in the architect Louis Bonnier's alternative project for the prolongation of the Boulevard Haussmann and its connection with the Boulevard Montmartre at the junction of this boulevard and the Boulevard des Italiens. Such a solution as this project presents would scarcely have been tried in the days of Haussmann, not even in a case like this, where the sinuous lines most perfectly answer the purely practical purpose to increase the traffic capacity of the junction through a more spacious arrangement. The treatment of this irregular space, slightly regulated in a quite unforced manner, has a piquant charm and an artistic ease mostly looked for in vain in the conception of details by Haussmann and his collaborators. A certain careless rigidity, characteristic of their plans, is surely largely due to a rash execution, but, apart from this, the spirit in which they conceived their schemes was somewhat different, less devoted to that careful study of details which produces shades of effect, more "classically broad," but also a trifle doctrinal, more bound by traditional maxims and, on the whole, more ready to "line along along the rule."*

Thus, a new aspiration for more variety of expression may be recognized. But this does by no means signify any departure from the course of tradition. Both in practical and esthetic respects the planning of today and the planning of two generations ago are closely connected. For in a practical respect the transformative work of Napoleon and Haussmann, in its farsightedness, systematic thoroughness and irresistible grasp of the problems, was at least fifty years ahead of its time. Esthetically, as to its general formal aspect, it was and constantly is in good harmony with the special practical spirit of contemporary purposes. More recent endeavors within the field of town-planning, however worthy of observation and capable of stimulation they often may be, are not able to controvert the fact that the city plan of Paris, in its modern traits, is a standard creation of its kind, wonderfully adapted to contemporaneous needs, never attained elsewhere and, far less, surpassed. But in this art, more than in most, the "model" is to be worshipped without absolute devotion and to be imitated with intelligent discrimination—something that town planning of the nineteenth century too often forgot when "working under impressions from Paris."†

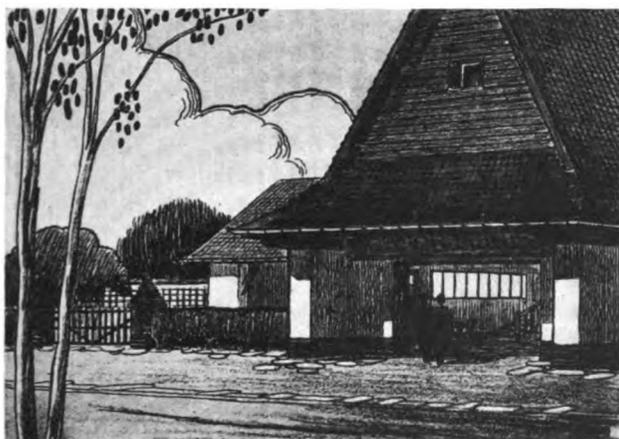
*There have been made several suggestions aiming at the solution of this problem; among them is a proposal by M. Eugène Hénard to form an enormous circular place at this junction. See Conseil Municipal de Paris: Rapport au nom de la 2^e commission sur la circulation générale des voitures et des piétons à Paris. Présenté par M. Emile Massard, conseiller municipal.—Concerning the project by Louis Bonnier see: Conseil Municipal de Paris. Memoir No. 14. 1909.

†For a complete list of the works now planned in Paris and additional text we refer the reader to:

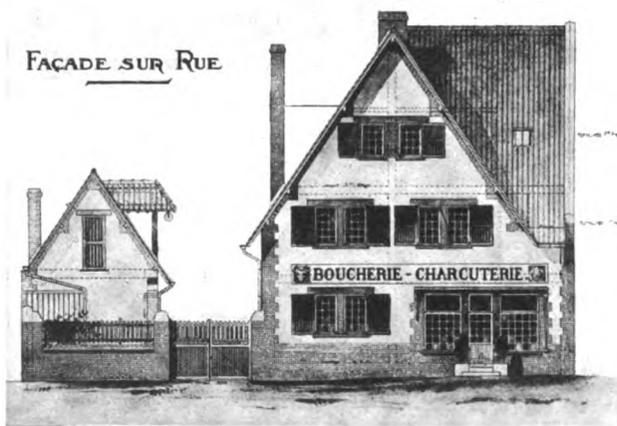
Conseil Municipal de Paris, 1910: Rapport au nom de la 5^e Commission sur le plan de campagne d'opérations de voirie à engager sur la première fraction de l'emprunt de 900 millions. Présenté par M. Adolphe Cherioux, conseiller municipal.



An Isolated Farm of Medium Size

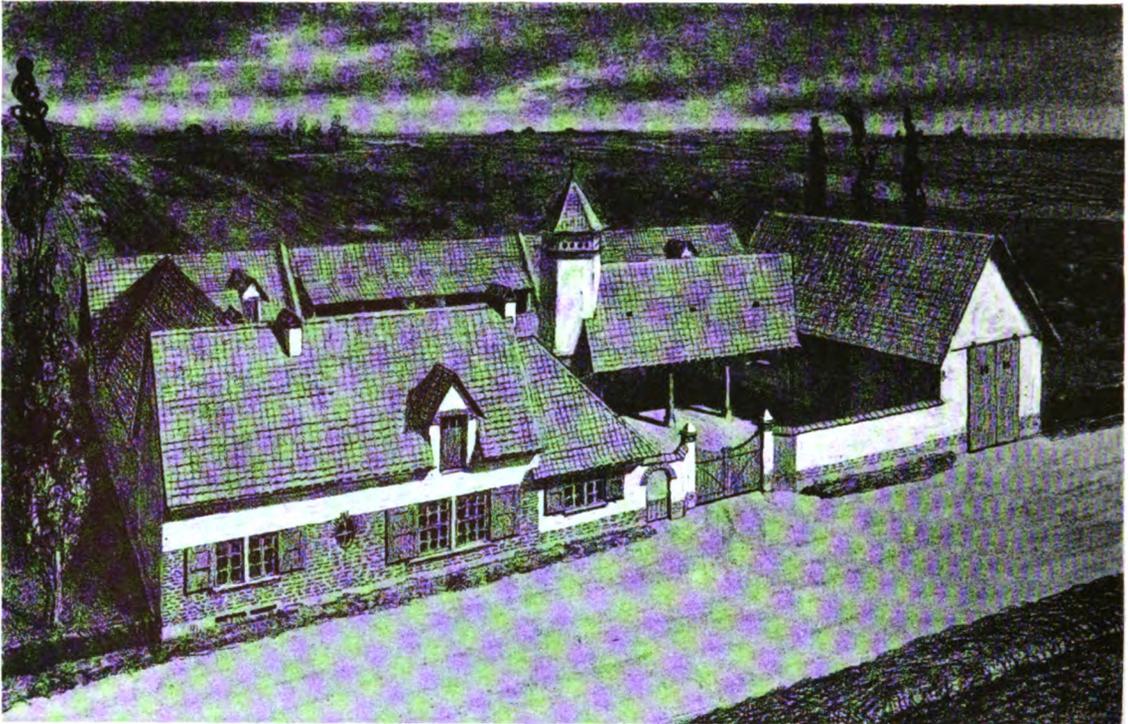


The Horseshoer's House

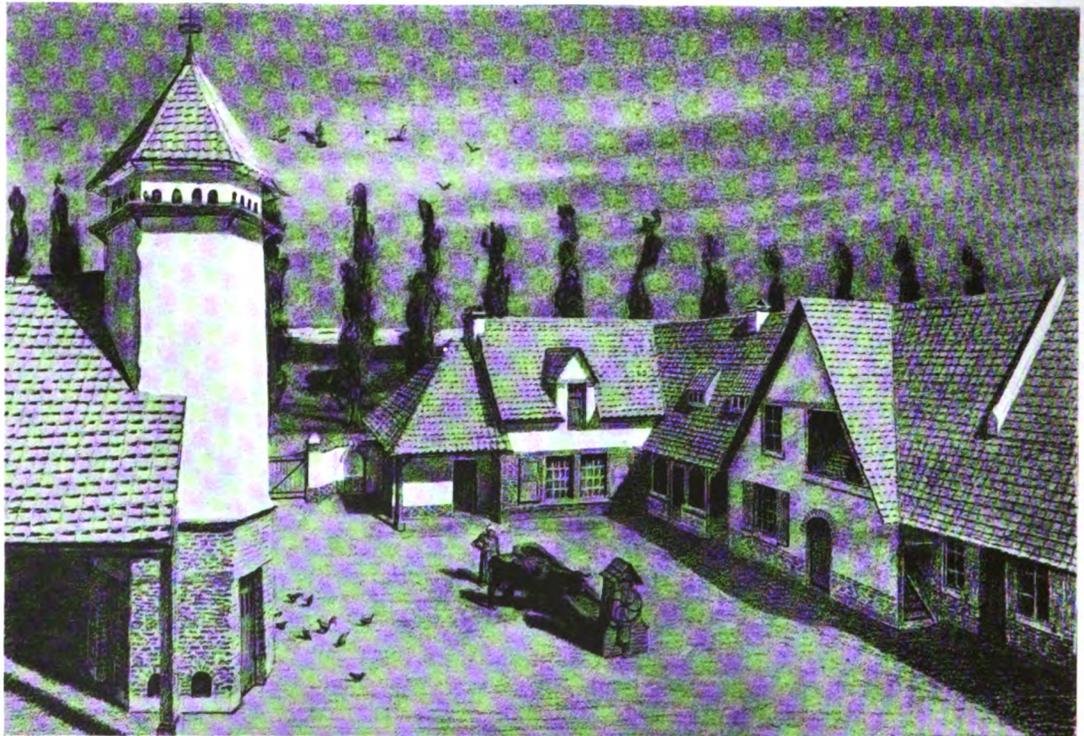


The Butcher's House

PLANS FOR THE RECONSTRUCTION OF FRANCE. (SUBMITTED IN THE RECENT COMPETITION INSTITUTED BY THE FRENCH GOVERNMENT)

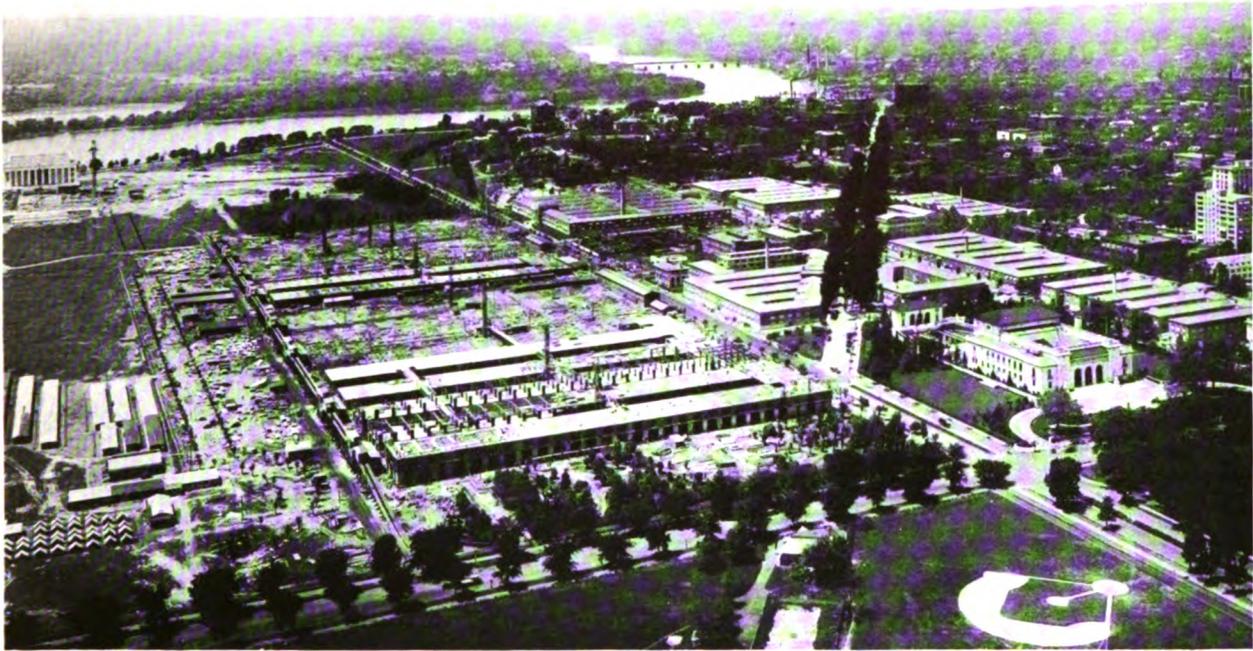


View from the Road



View of the Court

AN ISOLATED FARM OF MEDIUM SIZE.—M. Sezelle, Architect
PLANS FOR THE RECONSTRUCTION OF FRANCE. (SUBMITTED IN THE RECENT COMPETITION INSTITUTED
BY THE FRENCH GOVERNMENT)

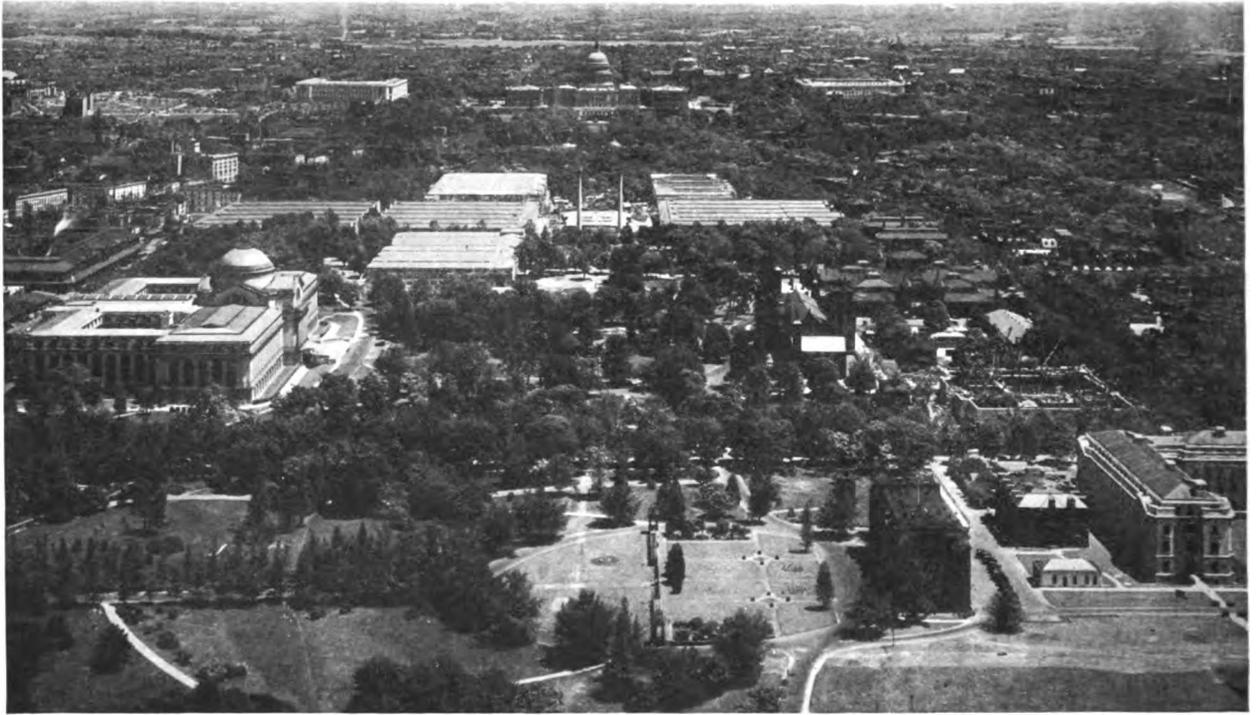


SOME OF THE NEW WAR BUILDINGS IN WASHINGTON

Photograph taken from the top of the Washington Monument, looking westward toward the Potomac, showing the group of new temporary office buildings in Potomac Park near the Lincoln Memorial. The row of trees in the foreground indicates Seventeenth Street. The diagonal street from left to right through the center is North B Street. At the intersection of these is the Pan-American Building. To the right are the frame buildings for the Council of National Defense and the Food Administration, with that of the Fuel Administration directly in the rear. Other buildings are those of the War Trade Board, Ordnance Department, and Quartermaster General.

In the center foreground is the group of reinforced concrete buildings now being built for the Navy Department, while farther back toward the river are the group for the War Department. These structures for the Navy and War Departments are vast in size, are of reinforced concrete, and have involved an enormous expenditure for piling.

Photograph by courtesy of the Commission of Fine Arts



SOME OF THE NEW WAR BUILDINGS IN WASHINGTON

Photograph taken from the top of the Washington Monument, looking eastward toward the Capitol. In the center are the very extensive group of buildings for the War Department, including the Surgeon General's building, which is the nearest one of the main group. Fortunately, in planning these groups, the main vistas were preserved.

To the left center is the New National Museum building. At the right is one of the wings of the building of the Department of Agriculture, with the uncompleted building for the Freer Art Museum directly behind it.

These buildings, as well as those on the opposite page, are avowedly temporary and to meet a war emergency. In the legislation providing for their erection, the Government is morally pledged to their removal after the war. This will be done, without doubt, since the plan for permanent buildings, reported to Congress by the Public Buildings Commission, contemplates the use of all the area occupied by the temporary buildings in this illustration.

Photograph by courtesy of the Commission of Fine Arts

Governmental Mobilization of the Building Industries

IN THE April Journal the Institute announced its intention to call a conference to discuss the possibility and advisability of federating the building industries of the United States. In the May Journal there was published the formal call which had been sent to the representative national organizations in the field.

In the last few weeks the officers of the Institute have been occupied with a serious study of the conference. As the time drew near for the conference itself, however, the small number of acceptances appeared to indicate either a lack of interest, or that the effort of the Institute seemed to many to be a duplication of work which was being done by the Government itself. The latter indication seemed to be so strongly corroborated that it finally was judged that the conference was not only unnecessary, but would be as unwise as it would be purposeless.

Undoubtedly the work in mobilization of the building materials interests that has been done and is planned for by the War Industries Board now leaves little need for a federation such as the Institute and its advisors had in mind. Many of these groups are now in such close contact with the Government's agents that any further duplication of that contact would be unnecessary. To those who are aware of the scope and details of the planning of our resources as vital to the successful conduct of the war, it must appear that the Government has made a very appreciable progress.

In spite of the multiplicity of avenues of communication which exist in this country, it is impossible to let public information keep pace with the rapid and ceaseless progress of the Government. As a result of this lack of public information, and also because of the murmurings which are heard from the various businesses and industries which seem to feel themselves discriminated against, there do arise serious misunderstandings and criticisms.

The publicity given to the correspondence between Senator Calder and Secretary McAdoo has, to many, made it appear that the building

industry was being unwarrantably injured, that its interests were being needlessly sacrificed, and that the Government had acted unwisely and was now penitent and ready to right all wrongs in this direction. But again we call attention to the only possible factor which can influence a decision as to whether or no a building should be built at the present time. Will it retard or impair our prosecution of the war? If it will, it must not be built; if it will not, then it should go ahead.

But into the answering of that question there enter more factors than can yet be assimilated, except by the few men in Washington who are daily made aware of the serious shortages of this or that material, the serious congestion of this or that line of transportation, the serious shortage of labor in localities where it is needed. Perhaps there is no man who can try to relate all these factors and give a perfectly just answer as to whether a building operation should proceed or not. The man on the spot can help a great deal. If the architect and the client discuss the project from a purely unselfish and patriotic point of view, they are very likely to come pretty near to the right answer themselves. If, after a conscientious survey on their part, they feel justified in going ahead, their case may be sent to the War Industries Board with the certainty that it will receive an equally conscientious consideration at its hands.

In line with the Government's steady perfection of organization, there seems to be no reason for doubting that all our industries will be more and more thoroughly mobilized, that there will be an accompanying mobilization of manpower, and all kinds of industrial projects, including building, will require governmental sanction ere they are allowed to proceed. More and more the seriousness of war is being realized; more and more do we become aware of the paramount necessity for perfecting our industrial organization as the only means of attaining the end we seek. To ignore that fundamental would be to commit the nation to a policy of squandering not only its resources but the lifeblood of its defenders.

“Haasenstein & Vogler”

THE Convention authorized the Board of Directors to redraft the clause in the Circular of Advice which relates to advertising, and the Board has referred the question back to the Special Committee on Advertising, the report of which was published in the April Journal.

We do not wish to complicate their labors, for they are already complicated enough. If evidence in that direction were needed, we would like to point out one or two little episodes which brighten these present days of serious consecration to larger things. For example, in an important newspaper which serves a vast community not more than a thousand miles from Marcus Hook, we recently noted the following item:

“——, the architects have completed the plans and are asking for bids on —— houses to be erected at —— for the United States Shipping Board. . . . As was expected, the plans are, perhaps, the best that have been turned out as yet by any architectural or engineering firm for community houses. They combine both beauty and usefulness, and, unlike numerous plans for governmental housing, they have a tendency to be permanent.

“Mr. ——, who had charge of the designing, has made good use of his study of the housing problem, which took him to the allied countries abroad and throughout the United States.”

Now there are many interesting phases to this little announcement, which indicate the unusual intelligence of the reporter and the shining perspicacity of the city editor. While one might at first feel that the Department of Justice should take note of the fact that someone has discovered that we have allied countries throughout the United States, it is perhaps well to inform such persons that the inverted phrase is in reality a singularly well designed arrangement of words. We understand, for example, that Mr. ——’s studies in housing took him a great deal to Germany, some years ago, but as this would not be a desirable fact to display at the present moment, the allied countries are alone mentioned. This makes it appear, and without harm to Mr. ——, that he has recently visited the lands of our Allies, a state-

ment well calculated to emphasize his broad conception of the housing problem, as explained in the statement that the houses combine beauty and usefulness, for one could not know the necessity of such a combination without having been graduated recently from the school of European housing!

But there is a delicate fraternal spirit in the statement which augurs well for the benefits to be conferred upon the profession through the abolition of the Institute’s Canon of Ethics which once defined advertising as unprofessional. The whole article is permeated with a generous recognition of the loftiest professional attitude and glows with that modesty which the world so highly esteems.

In bespeaking the further consideration of this exemplar, by the Special Committee, we cannot refrain from adding one word more in respect to the advisability, in statements of this kind, of explaining that the houses have a tendency toward permanence. We know of no assurance by which the client is more likely to be gained.

While we are on this subject, to which we hope seldom to return, we invite our readers’ attention to the illuminating article in the *Atlantic Monthly* for June, wherein is revealed the extensive and sinister operations of the German Government through the advertising agency of Haasenstein & Vogler. Of all the kinds of German serpents which the world has nourished in its bosom, none reveals itself with uglier fangs than this. But in reading this amazing revelation, we could not forget the architectural catalogue of a great American university, published recently and before the abolition of the Canon to which we have referred.

A study of the methods by which this catalogue was financed brings up the somber retrospect of architectural catalogues, yearbooks, programs, and other devices which have in the past been used to trick manufacturers into the support of a school, or a group of architects, or, in some cases, a single individual. When time and a clearer perception of the dishonesty of these methods have almost done the practice to death, it seems pathetic to find a great university still permitting its use.

"HAASENSTEIN & VOGLER"

Can the Special Committee on Advertising prepare a clause which will meet the approval of the Board of Directors and which will set such a lesson in manners and taste, if not in ethics, that the profession may be spared these public exhibitions and that the Department of Architecture of this university may be led to alter some of its ways? Can the Committee in

some way inspire advertisers to look upon these appeals to their purse with the loathing which every decent man should feel for such methods. Are they not too intimately related to the method of Haasenstein & Vogler, advertising agents of his imperial highness, Kaiser Wilhelm II?

The Self-Ownning Community Idea

MR. Leo Day Woodworth, secretary of the Advisory Council of Real Estate Interests of the city of New York, according to an article in the *Public Ledger* of Philadelphia, has put forward an analysis of the self-owning community idea which seems to deserve a passing attention. At least there are some among the friends of the principle who believe that it cannot be so flippantly dismissed as with a phrase such as this: "If the idea of the self-owning town is practical, that fact has not yet been shown. In short, when it is we will probably find an answer to the riddle of how one may lift himself with his boot-straps."

It is easy to imagine with what glee that phrase was turned off. It falls as trippingly from the pen as this: "One of the notions on which valuable space has been wasted recently seems to be that of 'self-owning' towns," or this: "Speculative profit is the reason for all human advancement." Of such are the generalities which indelibly brand the unscientific mind and the selfish advocate, although at a moment when the United States has embarked upon a cause which will require an expenditure greater than history has known and which holds out no hope of profit, one would think that men would be a little more careful in assigning profit as the source of all human advance.

However, let us recognize at once that Mr. Woodworth has feelings which have been hurt; that he admits that speculative profit is the law which has governed the question of land-development and house-building, and that in spite of the frightful, hideous, and death-dealing blight which it has sown relentlessly in all the towns and cities of our land, and even in the tinier communities and the far-away places, impeding and even strangling that industrial activity on which so much now depends (ask the investigators for the new housing departments of our war administration), he desires very much to see the system continued. We imagine that it will be, and for some time to come. The self-owning town has only appeared on the horizon, but it is an idea which has come to stay. Its progress will be as slow as the banishment of piracy from the seas, or slavery from America, or hanging people for debt, or burying live men under the four corner-posts of the king's house. On its journey it will be often ambushed and left for dead because of such generalities as we have chronicled, but, like other things which are for the good of all men and not for the good of the few, this idea will revive and will arise, and will some day prevail, for it is founded upon the principle of justice!

The Competition for a Solution of the House Problem

The detailed announcement of this competition, for which \$2,000 is offered in prizes, appeared in the May number of the Journal. The complete program has now been printed, and will be mailed on receipt of request.

Professional Ferment*

NOTE.—We reprint the following article as perhaps the best analysis which has yet come to our attention, although many have essayed the task. The reasons which it cites as to the futility of the conference from which the Institute withdrew offer an admirable support—had such support been necessary—to the action of the Institute in the withdrawal which the writer did not anticipate.

The article contains so much that is true that we regret the greater good it might have done had it been written more carefully. Generalizations are always a poor means to an end, and while there are far too many architects who are guilty of that professional attitude which Mr. Comstock so justly condemns, there are far too many who have a higher perception of their duties and responsibilities to warrant their inclusion in so sweeping a statement. They will resent that condemnation, and with justice.

As to the really great questions which the profession of architecture is facing now and will face to an even greater extent after the war, we believe that the new Committee on Reconstruction, now in the making, will be the best answer which the Institute can make to those who have offered their many opinions as to what ought to be done but who have, in most cases, so signally failed to grasp the full scope of the problem.

There are, even in this day and hour, architects who have business of considerable volume on their boards, and many of our contractors can hardly be said to be starving for lack of work. Yet the architects as a body, and with them many in the construction industries, view the present situation with concern, and well they may.

Building construction methods are in a period of mutation; new species bid fair to be created, and the old order is on the wane. Not that this condition is a sudden development—as some may think—for the odor of it has been in the air for many moons. Building conditions, like a huge structure founded in a quagmire, have courted disaster until, with a precipitation of an earthquake, they are now suddenly engulfed, and the architectural profession, with many of its satellites, finds itself floundering—and wondering why.

The world war is the immediate cause of this cataclysm, and, as usual, the immediate cause receives the blame though the structure has long been showing dangerous settlement cracks caused by the improper foundations laid down in the past. Good foundations are a necessity in all good building, and the architect knows this better than anyone else, yet in his very life-work has he neglected the precepts he has made to others.

With lofty thoughts and stilted ethics he has strode along without an appreciation of the progress about him, ever changing, searching, specializing. Business—life—is a continuous revolution. New precepts rule to be superseded by even other newer precepts. The professional practice

*William Phillips Comstock, in *Architecture and Building*, April, 1918.

of architecture has not kept pace and is therefore doomed. It must be reborn from the ashes of the past, even as the legendary phoenix.

Art—architecture is the culmination of all arts—is undying. Architecture is inherent in the human race; the desire for it cannot be destroyed, and it will rise with a spirit of victory above all sordidness. This idealism is immortal. It is the soul of the phoenix which shall inspire the new body of a rejuvenated professional practice.

All have not been blind. Some—many even—have seen the light and remodeled their course to meet the modern trend. These are the successful architects and busy builders of today who have met the demands of current development and from them won a deserved return. Chance or accident has not been an element in their progress which has been based on the sound business principle of true service rendered for value received.

The famed architects of antiquity were master builders. They designed freely and wrought wonderfully with the clay in their hands. They lived in the heyday of the artisan and craftsman; they were the leaders who rose above their fellows by the sheer might of their gifted prowess. Times have changed.

This is the age of standardization, machine-made quantity production, rule by the multitude not by the few, and yet our art lives on and reaches ever higher levels of attainment. Let our architects read the signs of the times and rise to new pinnacles based on our modern productiveness.

When our country went to war there was a sudden and enormous demand for construction on a vast scale: the Quartermaster's Corps of the Army had to provide housing for the new armies; extensive additions were necessary to existing manufacturing plants, and even greater new factories were built over night as it were; office and executive buildings of great extent were demanded to house the ever-extending executive departments of the Government; housing for operatives became a crying need in our great industrial centers; construction on a vast scale was necessary to meet the needs of our colossal new war machine, to build our ships, and supply the materials of war.

To make possible this accomplishment, in all its ramifications vast to the extent of being almost incomprehensible, the organization of our Government Departments was extended manyfold; the personnel increased with a rapidity which was marvelous, and an organization of professional talent created which today, after a year of war, is perfected and efficient in a remarkable degree. What is the status of this organization? How is it made up? And how was it possible for the Government in its hour of need to immediately get assistance?

It was the trained engineers of the country who became the technical advisers of the Government on planning, design and construction, utilization of existing facilities to the utmost, expansion of them and creation of new utilities. It was our trained engineers, already well organized in our great building construction firms into harmonious working

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units, companies, even regiments, who were ready in the hour of need to do the deed.

Professionally as such, our architects have not been a factor in the greatest building emergency the country ever saw. Individually, to many the greatest praise is due. They have donned the uniform, striven at home and fought abroad, and given of their best in ability, effort, and resourcefulness. But as a profession, in the oft-vaunted position of autocrats of the building industry, they have been wanting. And the reason is not beyond discernment; it is an inheritance from the past; architectural practice has not kept pace with the times.

The call just issued by the American Institute of Architects to a conference seems like an effort to jump the back platform of the speeding express, as far as lending assistance to the Government is concerned. The United States Government now has an organization of building, of industry, of men, the unity of which is now evidenced. The mailed fist of this giant body is extended abroad, and its effectiveness causes confusion in the councils of our enemies.

Belated is the effort of the Institute; a year ago organized effort would have been of timely assistance to our Government, but others have done the work and now our industries are federated, our construction forces coördinated in competent hands. New construction proceeds with precision and expedition, and the enlargement of our cantonments to house our increasing armies will be accomplished with even greater efficiency than was displayed in their original construction.

The need of federation in the building industry as a wartime need has been met. Why not face the truth squarely and hold a conference to reorganize the outworn system of professional practice?

The after-war period in the building industry will be a time of great enterprise and expansion. In this the architect should play a prominent part, but his days of autocracy are over, and his success will depend on his ability to coöperate, not to dictate. Now, when the architect secures a job, he calls on the foundation builder to figure his footings, he depends on the steel contractor to design the structural members, he depends on the plumbing contractor to draw up his plumbing layout, he expects the electrical contractor—but why go on?—and when the building is finished he zealously, often belligerently, demands exclusive credit for its entire design and construction.

The day for this is past—and why? The architect has been losing business. Others who build better, more efficiently, and more economically under the name of architectural or engineering contracting firms have taken the work from him, and they work on the principle of coöperation, not autocracy.

Let us hope that the conference called by the American Institute of Architects, to be held at the Engineering Society's Building, New York City, at 10 A.M. on June 14, 1918, will be largely attended, but that there may be those present, with chastened spirits if you will, who will have the foresight and the courage to tell the truth and lead the great and ennobling practice of architecture on to better things.

Signs of Change

A DEPARTMENT DEVOTED TO THE FUTURE OF THE BUILDING INDUSTRY

SULLIVAN W. JONES, *Associate Editor*

The New Combination

"Today the Government is requiring industrial combination which yesterday it forbade as illegal." That remark is now heard so frequently, accompanied always by the smile that says, "The Government must admit it was wrong and that industry was right," that we feel some measure of justification for pointing out that the purpose of combination makes all the difference in the world—the difference between legality and illegality—the difference between public approval and public condemnation. The fundamental question of right and wrong does not arise from the act of combination, but from the object in view. If the object is to subserve public interest, combination is both desirable and may be made legal. If the object is to subserve private interest, to accomplish selfish ends, then combination becomes conspiracy. And what is true of combinations of producers is likewise true of combinations of consumers.

The progressive coöperative organization of industry we are now witnessing is combination, with precisely the same physical characteristics as the famous "Wire Pool," but we now call it coördination and think it altogether splendid and patriotic. Our attitude has changed with the

purpose of the combination. The nation is now a party to transactions and agreements formerly conducted and made behind closed doors. For the first time in the industrial history of the world, producers and consumers, on a national scale, realize that there exists between them an indissoluble partnership; that their interests are identical and their functions reciprocal.

What the War Has Shown in Industry

The war has revealed this relationship by furnishing us a common cause, demanding common loyalty. A national and international unity of interest has developed, which must be fostered and treasured for it is the root and stem of true democracy. The exigencies of the present position have forced industrial coördination as a measure for attaining war efficiency. After the last chapter of the history of the war has been written, and the book closed, we must not turn back to the old conditions. The need for industrial efficiency will be as great, if not greater, after the war as now. How are we to find strength to carry the burden the war is placing upon us, and to reduce that burden, except through a studied economy of effort and resources, and the elimination of unnecessary, wasteful competition?

Men who were competitors before the war have been obliged to join hands, exchange surplus stocks of raw materials, and to agree upon uniform prices in order that the Government's needs might be met. Industries in which competitors have been unable to compose their differences of the past, and to agree upon a policy of sacrificing private to public interests, have been commandeered by the Government; and where the commandeer has failed to produce the necessary results, the extreme measure of Government control has been applied without hesitancy. A parallel study of the Government's procedure in the present emergency, and of the pre-war progress in industrial organization, discloses the liberalizing effect and constructive power of association in the affairs of men. Those industries in which the greatest progress has been made in organization, have found it possible to meet the demands of the present situation with the greatest ease and the least disturbance.

The Electrical Industry

The electrical industry furnishes a splendid example of efficiency and the mobility of productive power resulting from coöperative organization, even though the industry is perhaps over-organized. There are in it some associations and organizations whose activities duplicate in part the activities of other groups. There are also some organizations of questionable usefulness from the economic standpoint. But the wheels of progress are constantly in motion, and the tendency is always in the direction of simplification and consolidation. Those who have studied the development of organization in the electrical industry, hold the view that the time is not far distant when the activities of the entire industry will be coördinated through one central organization.

The founders of the electrical industry were scientists. They became competitors, but nevertheless remained scientists, and applied scientific principles to the conduct of their affairs. There always has been in the industry a free exchange of information on discovery and development, with the result that it has grown with amazing rapidity. It has assumed the leadership in research and the advancement of science. The scientific habit of mind is contagious, and we have in the electrical industry today, publicity and an exchange of opinions and ideas on matters both commercial and scientific, to an extent unknown in other industries. The electrical industry stands alone in progress on the standardization of products. And the establishment of these standards is the result of coöperative effort involving every element and phase of the industry, on both the production and consumption sides of the market.

Organization and Coöperation

The manufacturers of electrical apparatus and supplies are fully organized in every branch of production. The agencies through which the manufacturer's product is distributed and passes into service—the jobber or resale agent, and the contractor—are also completely organized. The interests and activities of these two groups of organizations are coördinated through central organizations. The consumers of electrical products are likewise organized, as in such professional societies as the National Fire-

Protection Association, the National Board of Fire Underwriters, and in such vocational groups as the Association of Electrical Railway Engineers and the Association of Iron and Steel Electrical Engineers. And, again, there is coöperation between these organizations of consumers and the organizations of manufacturers and distributors.

Cost Accounting

Coöperation among producers in the work of standardizing has led directly to a study of costs and systems of cost accounting. The advantage to an industry of a uniform cost-accounting system cannot be measured in dollars and cents. Such a system is a business barometer. The Ministry of Munitions in Great Britain installed a uniform cost-accounting system in all of the industries furnishing war munitions. The costs were reported weekly and closely followed. When one factory showed a reduction in the cost of manufacture, an investigation immediately took place to determine how the reduction was effected; and if it did not tend to lower standards, a similar change in process or method was made in other plants producing the same thing. It is one of the answers to England's enormous production of war necessities.

Exchange of Ideas

But before proceeding to a description of the organizations in the electrical industry and their functions, let us, by a single example, show how the exchange of ideas and of data on processes and costs has aided industry in meeting the Government's war needs. Shortly after this country entered the war, the Government found it required a million feet of lead-covered cable. The members of the wire and cable section of the Associated Manufacturers of Electrical Supplies, twenty-three of them, went to Washington. The Government wanted immediate delivery. No one, or two, or three of the manufacturers could have filled the order in a year. On considering the matter collectively, they decided that, by coöperating, the industry as a whole could fill the order within the time set. This group of manufacturers appointed a committee of three to represent them in the transaction, took the order, exchanged surplus stocks of materials, agreed upon a price which was considerably less than that for which any one manufacturer could have filled the order, started delivery in two weeks, and completed the order in sixty days. Team work! A demonstration of the efficiency that comes from coöperation.

Producers and Consumers

A picture of the organization in the electrical industry can be most simply presented if the participants in the industry are divided into two general groups with respect to their connections and interests, namely, producers and consumers. The organizations of the insurance companies, the Government bureaus and the organizations having charge of the preparation and promulgation of codes for fire-prevention and public safety, are classed as consumers' organizations, because, in theory, their function is that of safeguarding public interests. They are not, of course, wholly organizations of consumers, and they function, in reality, as the instruments of coöperation between the consuming and producing classes. Contractors are classed

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as producers, for their interests are more closely identified with those of the manufacturer than with those of the ultimate consumer, and there is a growing tendency in the industry to constitute the contractor a resale agent for the manufacturer. On the other hand, such a conception of the contractor's status does not fit with the theory that he ought to act as the agent of the consumer, his client or customer. This confusion merely accents the point already made, that the interests of producer and consumer are identical, and that they do not stand on opposite sides of the fence with conflicting interests and objects. That conception of the relationship between the two parties to commercial transactions has died of its war-inflicted wounds.

Evolution in Objective

The objects of the earlier organizations of producers, as stated in their constitutions, usually included a declaration like this: "Its object shall be to advance and protect the interests of the manufacturers of . . ." Later we find the broader understanding expressing itself in such statements of objects as these: "To assist in standardizing and marketing high-grade electrical products," and "To reduce the fire-hazard and to improve the quality of electrical goods," and again, "To cooperate with the National Fire-Protection Association, the American Institute of Electrical Engineers, and the American Institute of Architects, to improve the quality of electrical material and its installation, to facilitate the solution of all electrical engineering problems, and to improve electrical specifications." The leaven is working. We may face the future with confidence.

Producers' Organizations

The organizations among producers arrange themselves with respect to their importance in the following order:

- The Electrical Manufacturers' Council.
- The Electrical Manufacturers' Club.
- The Electric Power Club.
- The National Electric Light Association.
- The Associated Manufacturers of Electrical Supplies.
- The Rubber-Covered Wire Engineers' Society.
- The Electrical Supply Jobbers' Association.
- The Conference Club.
- The National Association of Electrical Contractors and Dealers.

There are many other producers' organizations of a more general character, and with less clearly defined objects; for example, The Jovian Order, which is a social organization with a very large membership, comprising manufacturers, dealers, contractors, salesmen, and advertising men. Another is the Society of Electrical Development. The latter may be best described as a publicity and propaganda bureau for manufacturers and central stations, the object of which is to increase the consumption of electric energy. Some of the largest central stations are not members of this society, and some of its manufacturer members regard its activities as superfluous. Its status is uncertain, and its usefulness is becoming questionable.

Consumers' Organizations

Among consumers there are the following organizations:

- American Institute of Electrical Engineers.
- Illuminating Engineering Society.
- Association of Railway Electrical Engineers.
- Association of Iron and Steel Electrical Engineers.

- The National Fire-Protection Association.
- The United States Bureau of Standards.
- The National Board of Fire Underwriters, with its service adjunct—The Underwriters' Laboratories.
- The Associated Factory Mutual Fire Insurance Companies.

Professional Societies

The professional societies and the producers' organizations all cooperate in the work of standardizing specification requirements and tests through the U. S. Bureau of Standards, National Fire Protection Association, and the two organizations of insurance companies. Similar cooperation takes place through the National Fire-Protection Association on the preparation and revision of the National Electric Code.

Producers' Organizations in Detail

To consider the producers' organizations a little more in detail, the Electrical Manufacturers' Council is composed of four members each, from the Electrical Manufacturers' Club, the Electric Power Club, and the Associated Manufacturers of Electrical Supplies. The Manufacturers' Council has committees on various subjects of general interest to producers in the industry, such as cost accounting. The Electrical Manufacturers' Club, the Electric Power Club, and the Associated Manufacturers of Electrical Supplies represent the interests involved in the entire line of products of the industry. The two first named concern themselves largely with matters of standardization in the design of electrical apparatus, such as motors, generators, etc.

The Rubber-Covered Wire Engineers' Society is composed of the experts from the wire manufacturers. They have rendered valuable service in revising the Code and in raising the standard of rubber insulation.

The Associated Manufacturers of Electrical Supplies is now divided into fourteen sections. Sections are created as the need arises. Each section is composed of interests producing classes of product. For example, there is a section on lamp receptacles and sockets, another on line material, another on panelboards and switchboards, another on wire and cable, another on porcelain. This association, through its committee work, cooperates with the National Fire Protection Association and the engineering societies and other organizations interested in the formulation of codes and the standardization of products. Some of its committee reports are extremely valuable documents. Among them may be mentioned "Standard Methods of Testing Molded Insulation," and the report on "Electric Wiring Systems—Concentric Wiring." There are many others, too numerous to mention here.

The National Electric Light Association concerns itself with every phase of the lighting industry and has a section for the consideration of each. It has a great many important committees, is represented on the Electric Committee of the National Fire Protection Association in charge of the electrical code. It publishes many extremely valuable handbooks and standards on electrical construction.

The Electrical Jobbers' Association has committees on code and on standardization which cooperate with the other organizations in the effort to standardize and market high-grade electrical products. At the last convention of

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the Jobbers' Association its members were authorized to become members of the National Association of Electrical Contractors and Dealers. This authorization may prove to be the first step toward a consolidation of these two organizations.

The Conference Club is an association of interstate contracting electrical engineers. This organization has no constitution. Branches of the industry other than contracting are represented by associate members. Its objects are to further the interests of the whole industry. Its function is to initiate economic and ethical reform movements. The twelve members of the Advisory Board of the National Association of Electrical Contractors and Dealers are all members of the Conference Club.

The National Association of Electrical Contractors and Dealers has a large and rapidly increasing membership. It has numerous committees for coöperating with other organizations on the preparation of the electrical code, the establishment of standards, cost accounting, etc. It publishes monthly a magazine known as *The Electrical Contractor-Dealer*.

In addition to these producers' organizations, there are now four Institutes of Electrical Contractors, created to practise the "open price" method of business. They have done much toward improving conditions in the contracting business, and will eventually effect a radical change in the contractor's status.

Referring again to the consumer's organizations, the most important is the first named, The American Institute of Electrical Engineers. The Institute has technical committees whose work touches every part of the electrical field, including a committee on code and a committee on standards. The publications of the Institute, which include proceedings, transactions, standardization rules and separate papers and discussions, are of great value. The Illuminating Engineering Society concerns itself with gas illumination and daylight illumination, as well as electrical illumination. Its work is largely educational and includes

the conduct of popular lectures on illumination with lantern slides, and the publication of many valuable works, among which the most noteworthy are the codes on school and factory lighting, theory and practice of illumination, etc. This society has a war-service committee which has made valuable recommendations to the Government on the illumination of hospitals, contonments, shipyards, and exterior detector illumination. The Association of Railway Electrical Engineers is composed of the electrical engineers in railroad organizations. The Association of Iron and Steel Electrical Engineers is composed of electrical engineers engaged in the iron and steel industry, and concerns itself with electricity as applied to that industry.

Other Activities

The picture of coöperation, publicity on industrial activities, and exchange of data in the electrical industry would not be complete without reference to the work of the General Electric Company's Research Laboratory, and the *General Electric Review*, and also to Westinghouse Electric & Mfg. Co.'s monthly publication of *The Electric Journal*. The *General Electric Review* is practically a bulletin describing the work of the General Electric Company's research laboratory. It is an important publication of a highly scientific character and of general circulation. *The Electric Journal*, published by the Westinghouse Electric & Mfg. Co., is of a more practical character than the *General Electric Review*. It deals with practical questions of the uses of electricity.

Very recently a movement has been started within the industry to form a joint conference committee of representatives of the manufacturers, the consulting electrical engineers, and the contractors, for the purpose of effecting, if possible, a re-distribution of engineering functions between the three groups represented. This movement will also make necessary the declaration and adoption of a policy by each of the three groups which will help to define its function in the industry.

News Notes

Notes from the University of Michigan

Summer Class in Draughting for Women

In view of the number of young men who are going into military service, the University of Michigan will offer a special course in tracing and elementary draughting for young women. This course will be given in the approaching Summer Session beginning on July 1, and will consist of eight weeks' intensive work, covering enough ground to enable young women to adapt themselves, on the one hand to the needs in architects' offices, and on the other in mechanical draughting.

Further information may be had regarding the first from Prof. Emil Lorch, College of Architecture; and regarding the second from Prof. H. J. Goulding, College of Engineering, University of Michigan, Ann Arbor.

Changes in Courses

In view of the conditions created by the war, some changes have been made in the regular architectural pro-

grams of the University of Michigan. The first of these is an increased requirement in scientific building construction, increasing work in this field beyond the heretofore normal requirement in architectural schools; the second consists in providing elective hours which will enable architectural students to pursue one of a number of special courses which prepare men for specific technical Government service.

A number of the architectural students are now completing the special course in ship-construction given by this University at the request of the Government. These men will thus be able to use their technical training in a most helpful way. The advanced students are just completing the planning of an industrial town, in which everything, from the plant and public buildings to the various housing types, is being worked out.

Architectural Exhibition

At the recent convention of the American Institute of Architects held in Philadelphia, a special exhibit was shown

NEWS NOTES

of drawings by Wilson Eyre, a well-known architect. Practically the entire collection is now hung in the Alumni Memorial Building, Ann Arbor, and constitutes an unusually interesting set of drawings. There are more than one hundred of these, all of which were made by Mr. Eyre himself over a period of thirty years. They show the entire range of this versatile artist. Pen and ink, pencil, black and colored crayon, water-color, and a combination of these mediums are used, as well as papers of all colors ranging from a white Whatman to the tinted papers which Mr. Eyre knows so well how to use advantageously.

The Competition for a Solution of the House Problem

Among the numerous letters which have been received by the Journal since its announcement last month of a competition, with a first prize of \$1,000 for the best solution of the house problem, none has pleased us more than that from which we quote the following:

"Your approach to this subject has such a sound sociological basis that, if the right students can only be engaged by the problem set before them by you, efficacious and beneficent results must follow. The physical plan without purpose or method will no longer exist in its airy Utopian solitude when all three requirements—architectural, social, and economic—are taken together. The timely perception of this fact would entitle you to congratulations even before the actual outcome of the contest had become evident."

New Post-Office Buildings and Additions

Under date of May 27, the Secretary of the Treasury submitted to Congress a letter making urgent appeal for an authorization to proceed with the plans for forty-five post-office projects. His recommendations are in each case based upon statements from the Post Office Department which reveal the necessities of the different offices. The request is for an authorization totaling about twelve million dollars, and includes projects for the following towns: Oak Park, Ill.; Altantic City, N. J.; Gloucester, Mass.; Lima, Ohio; Newark, N. J.; Waterbury, Conn.; Jamestown, N. Y.; Scranton, Pa.; Cumberland, Md.; Canton, Ohio; Warren, Ohio; Houlton, Maine; Findlay, Ohio; Wausau, Wis.; Butte, Mont.; Utica, N. Y.; Norfolk, Va.; Fargo, N. D.; Ithaca, N. Y.; Terre Haute, Ind.; Vincennes, Ind.; Norristown, Pa.; Erie, Pa.; Plattsburg, N. Y.; Washington, Pa.; Lowell, Mass.; Williamsport, Pa.; Savannah, Ga.; Lawrence, Kans.; Saginaw, Mich.; Alexandria, Va.; Manchester, N. H.; Hagerstown, Md.; Sioux City, Iowa; Sedalia, Mo.; Decatur, Ill.; Clarksburg, W. Va.; Macon, Ga.; Brownsville, Tex.; Wichita, Kans.; Astoria, Ore.; Columbia, Mo.; Zanesville, Ohio; Little Rock, Ark.; Reno, Nev.

In a letter to Congress from Acting Secretary of the Treasury Moyle, under date of April 12, 1918, it was recommended, among other things, that there be stricken from the appropriation for "General Expenses of Public Buildings, 1919," the item allowing \$6,000. for an architectural designer. Perhaps in view of the subsequent request for the authorization referred to, Congress may see the advisability of retaining a competent designer. It manifestly is not in the public interest to attempt a re-

trenchment which may visibly affect the character of public buildings, even in wartime.

Unsigned Communications

We are very recently in receipt of a manuscript which bears no mark of identification whatever. The envelope is postmarked Newport, Ky. We are of course obliged to lay it aside, since we cannot give consideration to anonymous communications. If the sender's name was carelessly or thoughtlessly omitted, we hope that this notice may recall the manuscript to his mind.

Anti-Earthquake Construction

A committee of the Southern California Chapter, consisting of A. R. Walker and H. F. Withey, has cooperated with the committee from the Architects and Engineers Society in drafting a building ordinance for the cities of Hemet and San Jacinto—cities which recently suffered considerable damage by earthquake. The Joint Committee visited both cities and surveyed the conditions, after which the Committee worked upon the drafting of a building ordinance which, in its judgment, would provide a form of construction that would withstand earthquake shocks, as far as it is possible to do. This service was given in the name of the Southern California Chapter.

Obituary

Frank Miles Day

Elected to the Institute as a Fellow in 1895
President of the Institute 1906-1907
Died at Philadelphia, June 15, 1918

(Further notice later)

Mrs. Aimee Rotch Sargent

Honorary Member of the Boston Society of Architects

The Boston Society of Architects records its deep regret for the death of Mrs. Aimee Rotch Sargent, one of the heirs of Benjamin S. Rotch, to whom the profession is indebted for the founding and endowing of the Rotch Traveling Scholarship. She was an Honorary Member of the Boston Society of Architects, and a Member of the Rotch Traveling Corporation. She found time to maintain a constant interest in the work of the students who went abroad, and also followed their careers after returning to this country. She endeavored to keep in touch with the activities of the Society and of the profession. Although living at a distance from Boston, she has attended many meetings of the Society, and her influence and her help were always available for the many professional demands which were made upon her. She has enriched a busy and influential life by being ever ready to help in everything which touched humanity, and her name is cherished and honored wherever her influence has made itself manifest. She leaves behind her a record in which the profession may well feel an especial pride because of her close contact with one of the most potent factors in architectural education.—*Resolution of the Boston Society of Architects.*

Letters* from an American Architectural Student in France

August 22, 1917.

I was called away while writing this letter and have been absent for several days. What days they were—never to be forgotten—the most wonderfully interesting I have ever had, far more so than any in the old sectors. And is it not funny that I had my first encounter with gas almost six hours after I wrote the first part of this letter—the old-fashioned chlorine gas? But it is all such a long story that I will devote a whole lengthy letter to it. I cannot express to you how much I owe to you for letting me come over here and thus enabling me to see the sights I have seen and do the work I have done.

I have to go back again shortly, and when things are going smoothly once more I will write you all about it. It has been wonderful. You see the French made quite an advance here, and we followed them up, so I have seen things that maybe few Americans have ever seen before—horrible sights and shells without cessation. I saw the whole business: *tir de barrage*, first prisoners, trenches, and even what was No Man's Land several hours before. I am going to take back lots of things I have said. I have seen some mighty fine Germans, worked with them, and talked much with them, at one time acting as interpreter for the French. Think of that! Most of them came from Baden, all between the ages of seventeen and twenty-three or forty and forty-five. Some were greatly interested to hear I had been to Heidelberg and gave me lots of local news.

Also, you should see the way the French treated the Germans—simply unbelievable—after what the Germans have done. They tried to outdo each other to be nice to them. There were many, many prisoners and souvenirs galore, but I did not have time to collect anything except a few buttons which one young Boche gave me.

August 23, 1917.

I had a beautiful letter planned—but “there's many a slip”—all about all sorts of things: foreign troops and the foreign Legion, of which I have seen something lately; about the trench and dugout which we built, and how we had at one time, more or less to take refuge in it; all about German aeroplanes and French *saucisses*; about the personnel of the American Ambulance; the Paris Service; French Canadians, and innumerable other things. Especially about the old *tirage* in the town, in the cellar of the house of M. N., a dealer in real estate and forests, and of our quarters in his best parlor, with the gilded carvings on the walls, the shell-holes in the roof, and of the rats that ran across our faces by night and the fleas that swarmed over and about our bodies as we slept on his hardwood floor; about the *brancardiérs* there who used to have hot tea ready for us on cold nights and, occasionally, baked apples; and a hearty priest who had a farm somewhere whence came fresh butter, with which he was most liberal; and much about the new *tirage* in the suburbs of the town—a most beautiful place—formerly a seminary, quite old and fascinating. There is a wall surrounding the place on all sides, which is penetrated on the north by a forbidding gate, and you pass through this and down a slight slope, past orderly vegetable-gardens, down into a little court enclosed on three sides by the seminary, one

*The letters of Edmund Randolph Purves, continued from the May number.

wing having been a chapel, formerly tenanted by priests, acolytes, and worshipers, but now desecrated by sacrilegious American Ambulanciers who cook hot chocolate on the chancel step and have their equipment in the altar precincts. The other wing is now used as the main sorting-room, morgue, and for other necessities for a *tirage*. Then there is the main part, with its steep purple roof and the little cupola with a clock that has long since ceased to run; and you walk into a wide door surmounted by a coat of arms, and through a hall out into a great broad lane, at the back of which is a long oblong man-made lake, bordered by shade trees, under the center of whose line there stands a little summer-house, sheltering a weather-beaten statue of the Virgin; and there are swings, horizontal bars, shinny poles, and many other before-the-war appliances scattered about.

But now the weeds have grown up all about these, and the *poilus* wash their clothes in the lake and dry them on the summer-house. There are two enormous white tents, one filled with benches for sitting cases, and the other with beds—100 of them—all ready. And beside one of the tents is a great red cross done in tiles, on a ground of white gravel, for the benefit of German aviators. It has been of some assistance to them, for the other day when we were waiting around—“whiz bang,” a German shell came hurling in and tore a great ugly black hole in the white ground.

This may have been a mistake on their part, but, nevertheless, the night before last the Boche flew over one of the large evacuation hospitals near here, dropped bombs on it, and destroyed three wards, burning alive forty *grandes blessés* who were confined to their cots. This sounds too horrible to be true, as there was no military advantage gained thereby—no possible excuse—but it happened to one of the hospitals where we carry men, and I saw it afterward.

Well, the long-awaited-for offensive has come at last, and I have had the rare privilege of seeing it as few others have, so my story is a long one. A whole life-time was crowded into twenty-four hours, during which I saw much of hell, something of heaven, and a very great deal of human nature. It still goes on, but so far we have been lucky; three wounded—two very slightly, one not seriously; but, unfortunately, our French corporal is dying at the present moment, poor fellow, but that happened last night, and I am overrunning myself.

On a glorious Sunday afternoon, another fellow and myself walked down to S. S. U. 18's camp, to pay a friendly visit. I saw Billy W. there, and, after leaving him and his section, we started back over the hills, about a three-mile walk. Our journey took us up to the top of a fairly high point—from where we could get a splendid view of the lines—the places which figured in the great French advance of August 20. Oh! it was a unique sight—the broad brown front, all tied up with trenches everywhere, with the fountains of earth and smoke rising and falling, leaving a nasty sickly looking cloud hovering above. In one part there appeared to issue from the ground a whitish yellow jet which shot along the ground, causing a cloud of dense black smoke. Of course, we were too far away to be sure, but I believe that we saw liquid fire.

Structural Service Department

D. KNICKERBACKER BOYD, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE CONTRACTS AND SPECIFICATIONS FIRE-PREVENTION
MATERIALS AND METHODS QUANTITY SYSTEM

The personnel of these Committees for the ensuing year will appear next month, together with that of the new COMMITTEE ON STRUCTURAL SERVICE (concerning creation of which see 5B1)

ELECTRICAL ISSUE

SERIAL NO. 6, JUNE, 1918

INDEX TO SUBJECTS TREATED IN THIS ISSUE

(For index of materials previously treated, see Index on page 321 and General Index to the Structural Service Book, Vol. I, 1917)

Electrical Societies, Associations, and Allied Interests	6A	Standard Symbols and Charts	6D
The National Electrical Code	6B	Electric Elevators and Dumbwaiters	6E
The National Electrical Safety Code	6C	Telephones, Signaling Systems, Bells and Clocks	6F
Electricity Within and Around Buildings	6D	Heating, Cooking, and Other Appliances and Devices	6G
Service, Installations, Apparatus and Appliances in General	6D	Vacuum Cleaners	6H
Information Obtainable and General Activities	6D	Illumination, Lighting Fixtures and Lamps	6J
Standards Adopted or Recommended and Procedure to be Followed	6D	Lightning Protection	6K
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Electrical Societies, Associations, and Allied Interests 6A

In lieu of presenting descriptions of the various bodies which are actively concerned with matters of electrical interest structurally, we are fortunate to be able to refer this month to the complete review by Sullivan W. Jones of the present status of co-operation in the entire electrical industry.

This is printed on pages 307-310 under SIGNS OF CHANGE in this issue. More detailed descriptions of some of these organizations may be found in the *Structural Service Book*, Vol. I, under 6A and 6B, the publications and coincident activities only being listed in this Section as follows, and referred to under appropriate subsequent divisions.

(e) **Standardization Rules.** These are formulated by the Standards Committee whose purpose is to standardize electrical nomenclature, the classification of electrical machinery and apparatus, methods of rating and specifications for testing, with special reference to acceptance tests. See (6D1b11) for further reference to these Standardization Rules and to *International Standardization*.

Governmental Activities and Publications. 6A1

These will be found described under appropriate subdivisions in this issue, particularly under the Section entitled "ELECTRICITY WITHIN AND AROUND BUILDINGS," *Information Obtainable, and General Activities* (6E1a), *Standards Adopted or Recommended and Procedure to be Followed* (6E1b).

Illuminating Engineering Society. 6A3
(Publications and Activities will be referred to in next succeeding Serial Number.)

Institute of Lighting Fixture Manufacturers. 6A4
Secretary: Rudolph Appel, 103 Park Avenue, New York City.
(Publications and activities will be referred to in the next succeeding Serial Number.)

American Institute of Electrical Engineers. 6A2

Secretary: F. L. Hutchinson, 33 W. 39th Street, New York City.

Publications and Standardization Rules:

- (a) **Proceedings.** Published monthly, in two sections. One contains news and notices of interest to members, the other contains technical papers, reports of committees and other matters of an engineering character. \$10 annually.
- (b) **Transactions.** Published annually, containing selected technical papers, discussions, and reports, and forming a permanent record of the progress of electrical engineering. Bound volumes to non-members, \$10 in paper, \$11.50 in cloth.
- (c) **Separate Papers and Discussions.** Most of those in the Proceedings and Transactions can be furnished at 50 cents each.
- (d) **Yearbook.** Contains catalogue and directory of membership, constitution and by-laws, and general information regarding the Institute. \$1.

National Electric Light Association. 6A5
Secretary: T. C. Martin, 29 West 39th Street, New York City.

Publications:

- (a) Proceedings, and (b) Reports, issued annually.
- (c) The N.E.L.A. Bulletin, issued monthly, for members and for distribution to institutions to be accessible to engineering students.
- (d) Handbooks, permanently valuable contributions to the literature of electricity, have received wide appreciation, not only from public utility companies and their employees, but from professors and students in colleges and technical schools.
- (e) Booklets, issued from time to time through the Commercial Section, for promoting better conditions of service to the public.
- (f) Many other publications chiefly resulting from the activities of about seventy committees, with some 500 able representatives in their membership, are also issued. Some of these will be found referred to under the various subdivisions.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

The Society for Electrical Development. 6A6

General Manager: J. M. Wakeman, 29 West 39th Street, New York City.

Public Information:

Issues no publications for general distribution, with the exception of a reprint of "Useful Electrical Information for Architects, Contractors, and Engineers," which is referred to under 6D1a40.

The Society has cooperated with the Wiring Committee of the National Electric Light Association and with H. C. Cushing in preparing a special section of over fifty pages on "House Wiring" in the "Cushing Standard Wiring Handbook."

National Association of Electrical Contractors and Dealers. 6A7

(Organized 1901 under the name *National Electrical Contractors' Association of the U. S.* Name changed in 1918.)

Secretary: Harry C. Brown, 110 West 40th Street, New York City.

Publications:

- (a) **Standard Symbols for Wiring Plans**, as described under 6D1c1.
- (b) **Standard Conduit Charts**, as described under 6D1c2.
- (c) "Electrical Contractor Dealer," the official journal, covers a wide field in the electrical industry and reviews the activities of the twenty-one committees in charge of as many subjects, among them being: Industrial Development, House-wiring, Merchandising, Central Stations, Architects, Engineers, Standardization, Statistics.

Associated Manufacturers of Electrical Supplies. 6A8

General Secretary: C. E. Dustin, 30 East 42d Street, New York City.

Publications, Committee Reports:

The activities of this Association, through its sections and committees, are recorded by means of reports, some of which are referred to in **SIGNS OF CHANGE** and may be obtained upon application to the General Secretary.

Electrical Manufacturers' Council. 6A9

Electrical Manufacturers' Club. 6A10

Secretary: Shiras Morris, Hartford, Conn.

Electric Power Club. 6A11

Secretary: C. H. Roth, 1410 West Adams Street, Chicago.

The Conference Club. 6A12

Secretary: Sullivan W. Jones, 728 Seventeenth Street, N.W., Washington, D. C.

National organizations, with important functions electrically, are:

National Fire-Protection Association. 6A13

Secretary of Electrical Committee: Ralph Sweetland, 141 Milk St., Boston.

Among the many activities of this Association (described under 5A3) the most important electrically is the work of compiling the **National Electrical Code**, the biennial revision of which is in the hands of the Electrical Committee. The contemplated 1917 revision did not take place for reasons stated in the *Structural Service Book*, Vol I, under 6A9.

As reported to the annual meeting in May, 1918, the Electrical Committee had held its meeting and made amendments to the Code, the new draft of which had been accepted by the executives of the N.F.P.A. and passed to the National Board of Fire Underwriters for printing.

The National Board of Fire Underwriters. 6A14

Publications: The June, 1918, edition of the **National Electrical Code** (187 pp. and index), is now on the press and is promised for delivery this month.

Some other publications of the N.B.F.U. pertaining to electricity are referred to under the various appropriate subdivisions. For description of the Board, see 5A4.

Local Underwriters' Associations. 6A15

For description of these and of map showing jurisdictions, see 5A5.

Serial No. 6

Underwriters' Laboratories, Electrical Department. 6A16

Publications and Electrical Standards:

These will be found referred to under the various appropriate subdivisions in this issue, a complete list being given under 6D1b9.

The Associated Manufacturers of Electrical Supplies, through section committees, cooperates with the staff of the Underwriters' Laboratories in establishing **Industry Conferences** and in joint preparation and review of the Laboratories' several **Standards** before promulgation. It is believed that the cooperation at present being had from the various sections, and from the Association proper, represent distinctly beneficial advance in securing uniform practices in the industry.

For descriptions of activities and other publications of the Underwriters' Laboratories see 1A4a, 5A4a, and 5K1. Also for further and more detailed information in this issue, including illustration of Electrical Laboratory of the New York Testing Station, see Industrial Section, page v.

Associated Factory Mutual Fire Insurance Companies, Inspection Department and Laboratories. 6A17

For list of publications and descriptions, see Serial 5A6, 5A6a, and 5K4. For the two publications especially relating to electrical subjects, see **Standards Adopted or Recommended and Procedure to be Followed** (6D1b10). Of these the "Electric Rules," which is the National Electrical Code illustrated by cuts and with explanatory footnotes, has been adopted as a textbook in several educational institutions throughout the country.

The Associated Factory Mutual Fire Insurance Companies are represented on the Electrical Committee of the N.F.P.A.

American Federation of Labor—Building Trades Department. 6A18

Secretary: Wm. J. Spencer, A.F. of L. Building, Washington, D. C.

In addition to the **Building Trades Councils** in the various states, nineteen **Internationals** comprise the **Building Trades Department**, of which those especially interested in electrical matter are:

(a) *International Brotherhood of Electrical Workers.*

Secretary: C. P. Ford, Reisch Building, Springfield, Ill.

This Brotherhood has, as noted in Report of Bureau of Standards, cooperated in the preparation of the National Electrical Safety Code.

(b) *International Union of Elevator Constructors.*

Secretary: F. J. Schneider, Perry Building, Philadelphia, Pa.

Still other Associations interested in the matter of electrical installations in connection with building construction, are:

The Elevator Manufacturers' Association of the U. S. 6A19

Committee on Uniform Elevator Regulations. Chairman, M. B. McLauthlin, Boston.

Society of Motion Picture Engineers. 6A20

Secretary: E. Kendall Gillett, 729 Seventh Avenue, New York City.

National Association of the Motion Picture Industry. 6A21

Executive Secretary: F. H. Elliott, Times Building, New York City.

The International Association of Industrial Accident Boards. 6A22

Secretary-Treasurer: Royal Meeker, Mills Building, Washington, D. C.

International Association of Municipal Electricians. 6A23

Secretary: C. R. George, Houston, Tex.

Western Association of Electrical Inspectors. 6A24

Secretary: W. S. Boyd, 175 Jackson Building, Chicago.

American Electric Railway Association. 6A25

Secretary: E. B. Burrill, 8 W. Fortieth Street, New York City.

STRUCTURAL SERVICE DEPARTMENT

Association of Iron and Steel Electrical Engineers. 6A26

Secretary: J. F. Kelly, McKeesport, Pa.

Association of Railway Electrical Engineers. 6A27

Chicago, Ill.

Canadian Electrical Association. 6A28

Secretary-Treasurer: M. C. Gilman, Toronto, Canada.

Electrical Supply Jobbers' Association. 6A29

General Secretary: F. Overbagh, 411 S. Clinton Street, Chicago, Ill.

Jovian Order. 6A30

Secretary: E. C. Bennett, Syndicate Trust Building, St. Louis, Mo.

National Association of Electrical Inspectors. 6A31

Secretary-Treasurer: W. L. Smith, Concord, Mass.

Institutes of Electrical Contractors. 6A32

In four cities: New York, Boston, Chicago, and Baltimore.

Rubber-Covered Wire Engineers' Association. 6A33

Other national associations concerned with the use of electricity in buildings are:

American Society for Testing Materials (1A5c), *American Railway Engineering Association* (1A2c), *American Society of Mechanical Engineers*, *American Society of Consulting Engineers* (1A2e), *Western Society of Engineers*, with headquarters at Chicago, maintains an *Electrical Section* administered by an Executive Committee.

In connection with research work in electricity and testing facilities in educational institutions, see 1A1.

The National Electrical Code 6B

The evolution of the Code will be found described in the *Structural Service Book*, Vol. I, under 6C. The Code, as a general standard, is herein referred to under 6D1b1, and the Sections applicable to specific instances are referred to under the respective subdivisions.

As mentioned under 6A13, the continual study of the Code and its biennial revision is now under the jurisdiction of the Electrical Committee of the National Fire Protection Association.

Copies of the Code may be obtained from the National Fire Protection Association, the National Board of Fire Underwriters, the Underwriters' Laboratories, the Associated Factory Mutual Fire Insurance Companies and from all local underwriters' associations or inspection departments. The Code is also printed in full, with illustrations and explanatory notes, in "The Electrical Blue Book."

The Code is divided into six sections under the designations Class A, B, C, D, E, and F, as listed below. The reader is referred to the Code itself for all detailed descriptions, except the General Suggestions which are here printed in full for the recommendations which they contain.

National Electrical Code—General Suggestions (quoted from the June, 1918, edition). 6B1

"The following general suggestions, as well as the fine print notes in the rules, are simply suggestions and explanations and are in no case to be considered by inspection departments as mandatory.

"In all electric work, conductors, however well insulated, should always be treated as bare to the end that under no conditions, existing or likely to exist, can a ground or short circuit occur, and so that all leakage from conductor to conductor or between conductor and ground may be reduced to the minimum.

"In all wiring special attention must be paid to the mechanical execution of the work. Careful and neat running, connecting, soldering, taping of conductors, and securing and attaching of fittings are specially conducive to security and efficiency, and will be strongly insisted on.

"In laying out an installation, except for constant current systems, every reasonable effort should be made to secure distribution centers located in easily accessible places, at which points the cutouts and switches controlling the several branch circuits can be grouped for convenience and safety of operation. The load should be divided as evenly as possible among the branches, and all complicated and unnecessary wiring avoided.

"The use of wire-ways for rendering concealed wiring permanently accessible is most heartily endorsed and recommended; and this method of accessible concealed construction is advised for general use.

"Architects are urged, when drawing plans and specifications, to make provision for the channeling and pocketing of buildings for electric light or power wires, and also for telephone, district messenger, and other signaling system wiring."

Serial No. 6

The Sections of the Code. 6B2

CLASS A, *Generators, Motors, Switchboards, etc.*: (Includes electrical equipment of Central Stations, Dynamo, Motor and Storage-Battery Rooms, Transformer Substations, etc. Rules 1 to 11.)

CLASS B, *Outside Work*: (Not including wiring for Light, Power and Heat, Protected by Service Cutout and Switch. For Signaling Systems, see Class E.) All systems and voltages. (Rules 12 to 15.)

CLASS C, *Inside Work*: (Including all work for Light, Power and Heat, Protected by Service Cutout and Switch. For Signaling Systems, see Class E.) General Rules, all systems and voltages. (Rules 16 to 19.) Constant-Current Systems. (Rules 20 to 22.) Constant-Potential Systems; General Rules, all voltages. (Rules 23 to 25.) Low-Potential Systems, 550 volts or less. (Rules 26 to 43.) High-Potential Systems, 550 to 3,500 volts. (Rules 44 to 46.) Extra-High-Potential Systems, over 3,500 volts. (Rules 47 to 48.)

CLASS D, *Fittings and Materials*: All systems and voltages. (Rules 49 to 84.) This section of the Code describes the general characteristics of fittings and materials of the types commonly employed in electrical equipments for the installation of which regulations are given in Classes A, B, C, E, and F. It is intended as a guide to the classification and identification of types, sizes, ratings, and uses of fittings and materials, together with such information and regulations as are applicable to all electrical devices, and such requirements for details of construction or specifications for tests as are included in this class are given as descriptive information and not as a complete basis for judgment of devices. All fittings and materials should be submitted for examination and test before being introduced for use.

CLASS E, *Miscellaneous*. (Rules 85 to 89.)

CLASS F, *Marine Work*. (Rules 90 to 99.)

The National Electrical Safety Code 6C

The U. S. Bureau of Standards has been engaged for over four years in a study of the life-hazard in electrical practice and in the preparation of this Code.

1. *Circular No. 54, Second Edition, Nov. 15, 1916*, presents the completed text under the title: "National Electrical Safety Code for Examination, Trial and Constructive Criticism." Copies of this circular, which was briefly described in the *Structural Service Book*, Vol. I, under 6D1, may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 20 cents for paper-bound, 30 cents for cloth-bound. This circular is now in process of revision, but the new edition will not be ready for some time.

2. Under 6D1 was also printed, last year, extracts from a letter from Dr. E. B. Rosa of the Bureau of Standards, stating that the Bureau would be glad to have the expressed approval of the American Institute of Architects with respect to the general character of the Code, etc.

This resulted in the Board of Directors of the Institute referring the matter to its Committee on Materials and Methods. This, among other subjects, was communicated to all Chapter subcommittees and resulted in the Committee submitting the following resolution in its report to the annual convention of the Institute, in Philadelphia, April 24 to 26, 1918:

3. *Resolved*, That the American Institute of Architects expresses its approval of the idea and general character of the National Electrical Safety Code, and endorses the United States Bureau of Standards' proposal to give this Code a thorough field-trial, with the coöperation of all agencies concerned, of which the Institute is one.

4. The action of the convention on this and other resolutions offered by the Committee was to adopt the following: *Be it Resolved*, That the Board of Directors be authorized to give approval from time to time in the name of the Institute to such standards of materials or methods as it may deem wise.

5. The following extracts are from the *Report of the Director, Bureau of Standards, 1917*:

The *Electrical Safety Code* has now been adopted in one form or another, in part or in whole, by some fourteen state administrative bodies, and is also being used by the inspection departments of many cities and boards of underwriters. It is being utilized as a basis for a merit-rating schedule by the casualty interests, just as the Underwriters' Fire Code has been used by the fire underwriters for some years. Such schedule rating should result in emphasizing both the merits and demerits of particular installations from the safety standpoint, and tend to reduce accidents by proper financial recognition of each improvement made.

6. The Code is also being voluntarily applied by a large number of utilities and industrial concerns in their own practice. It is becoming generally understood that the stability in electrical practice provided by such a national standard also conduces greatly toward the general economy, the necessity for which is becoming emphasized during this period of national stress.

7. To aid in presenting the Safety Code in cases where conference is not possible with the limited staff of the Bureau, and to assist in explaining the intended application of the Code, a publication has

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

been prepared and is about to be issued entitled "*The scope and application of the National Electrical Safety Code.*" In this are included brief summaries of the different parts of the Code, reasons for the character of treatment employed, some discussion of the measures taken to secure adequacy and reasonableness, and some recommendations for the period of conducting inspections of installations to secure compliance with the Safety Code provisions.

8. Among the national organizations actively co-operating with the Bureau in the preparation, development, and introduction of the Safety Code are the American Institute of Electrical Engineers, The American Electric Railway Association, the American Institute of Architects, the American Railway Association, the American Telephone and Telegraph Company, the Association of Railway Telegraph Superintendents, the Bureau of Mines, the International Association of Municipal Engineers, the International Brotherhood of Electrical Workers, the National Electric Light Association, the National Fire Protection Association, the Postal Telegraph Company, Underwriters' Laboratories, Associated Manufacturers of Electrical Supplies, the National Electrical Contractors' Association, the Electric Power Club, Association of Edison Illuminating Companies, Workmen's Compensation Service Bureau, and the National Safety Council. It is largely through the co-operation of these organizations that the preparation and introduction of the Code have been thus far so successful.

Electricity Within and Around Buildings 6D

Service, Installations, Apparatus and Appliances in General. 6D1

Information Obtainable and General Activities. 6D1a

1. No attempt is here made to list the articles appearing in the periodicals devoted to electrical subjects or in the bulletins, journals, or proceedings of professional or technical societies. These will, however, be found listed as follows:
 - (a) *Proceedings of the American Society of Civil Engineers.* Ten issues annually contain List of Recent Engineering Articles of Interest (from about 125 publications). See Classification, Electrical.
 - (b) *Journal of the American Society of Mechanical Engineers, Review of Current Technical Literature.*
2. For papers, addresses, and other literature on electrical subjects, see the *Index* issued by most of the Associations and organized bodies referred to in this issue, including those referred to by Sullivan W. Jones under "Signs of Change," pp. 307-310.
3. Selections may also be made from the *Lists of Publications* issued by the U. S. Bureau of Standards and all other Government Departments, which describe how and from whom each document may be obtained.
4. U. S. Bureau of Standards:
 - (a) In the *Report of the Director, 1917*, will be found a complete section given over to the electrical work of the Bureau. This includes not alone matters of scientific and technical import, but others of general interest, all affecting, in the end, the public at large. Items from this report of especial significance to architects, engineers, and constructors will be found quoted under the various subdivisions in this Serial Number.

The Bureau co-operates with various electrical engineering, technical, and scientific societies and is represented on many of their technical committees, particularly where electrical standardization is involved.
 - (b) *New Fee Circular:* The seventh edition of Circular No. 6, Fees for Electric, Magnetic, and Photometric Testing, has been prepared and issued.
 - (c) The Bureau issued Jan. 10, 1918, *Circular No. 75, "Safety for the Household."* 127 pp., illus. 15 cents, from Superintendent of Documents, Washington, D. C. The section on Electricity comprises: Safety of Proper Application of Electricity; What Are the Dangers from Electricity? Private Electric Lighting Plants; Electrical Hazards Outdoors and their Avoidance; Electrical Hazards of Interior Wiring and Their Avoidance; Hazards of Household Electrical Appliances; Safety Precautions, etc.
5. "Standard Handbook for Electrical Engineers," prepared by a staff of specialists, Frank F. Fowle, Editor-in-chief. 2,000 pp. The joint production of over sixty leading engineers; written for engineers in practice.
6. "American Handbook for Electrical Engineers," Harold Pender, Editor-in-chief, and twenty-six Associate Editors. 2,023 pp.; illus. Electrical engineering and related subjects treated to meet everyday requirements of the practicing engineer.
7. "Electrical Engineers' Pocket-Book," Horatio A. Foster, with the collaboration of other engineers and specialists. 1,000 pp.;

- illus. Useful data for electrical engineers, architects, and electricians.
8. "American Electricians' Handbook," Terrell Croft. 711 pp.; illus. Does not go into design and gives only enough theory to explain why certain things should be done in certain ways.
9. "Architects' and Builders' Pocket-Book," F. E. Kidder; pp. 1371-1399: "Electric Work for Buildings," W. H. Timbie. Contains brief general treatise on electricity, describes lighting systems, gives wire calculations, and offers general suggestions for electric work, conduit systems and specifications for interior wiring. Illus.
10. "Mechanical Engineers' Handbook," Lionel S. Marks, pp. 1566-1779: Section on Electrical Engineering by M. C. Beebe and F. A. Kartak, tables and illustrations, wiring calculations.
11. "American Civil Engineers' Pocket-Book," Mansfield Merriman, 1916, pp. 1310-1340: Section on Electricity.
12. "Electrical Cost Data, Estimates and Working Tables," H. A. Foster.
13. "Switchboards," Wm. Baxter, Jr. 192 pp.; illus.
14. "Cushing's Standard Wiring, 1916." H. C. Cushing, Jr. Based on 1915 N.E. Code's Rules. Has special section devoted to house wiring, and explains and illustrates the Code. Contains tables and formulas for inside and outside wiring.
15. "Wiring of Finished Buildings," Terrell Croft, Consulting Electrical Engineer. 275 pp.; illus. Commercial and technical aspects. The technical end covers methods of wiring, tools, manipulation, fixtures, and gives examples of successful installations.
16. "Electric Wiring, Diagrams, and Switchboards," N. Harrison. 272 pp.; illus. Included in this is a development of a simple circuit with the position of mains, feeders, and branches, and their treatment as a part of a wiring plan.
17. "Theatres and Motion Picture Houses," Arthur S. Melloy, Architect. 1916. 125 pp. Includes sections on Electric Wiring, Auditorium Lighting and Stage Lighting.
18. "Universal Wiring Computer," Carl Hering. 44 pp., 4 charts. For determining the sizes of wires for incandescent electric lamp leads and for distribution in general without calculation, with some notes on wiring and a set of auxiliary tables.
19. "Handbook of Electrical Methods," compiled from the *Electrical World*. 284 pp.; illus. A collection of useful details that were contributed to the *Electrical World* in four years from the everyday experiences of the workers in the industry.
20. "Alternating Current Wiring and Distribution," W. L. Emmet. 98 pp.; illus. Contains the principles of alternating currents and of their distribution and application to lighting and power.
21. "Electric Wiring Specifications," J. H. Montgomery, Professor of Physics and Electrical Engineering in the University of Southern California. 139 pp.
22. "Electric Lighting Specifications," E. A. Merrill. 213 pp. For architects and engineers.
23. *Interior Wiring—and Systems for Electric Light and Power Service*, A. L. Cook, of Pratt Institute. 416 pp.; illus. A manual of practice for electrical workers, contractors, architects, and schools.
24. "The Wiring Handbook," with 32 labor-saving tables and digest of underwriters' rules, by C. P. Poole. 85 pp.; illus.
25. "Building Estimators' Reference Book," Frank R. Walker, pp. 3300, 3301: Section on Electric-Wiring.
26. "How to Check Electricity Bills," S. W. Borden. 55 pp.; illus.
27. "Mechanical Engineers' Pocket-Book," W. Kent, pp. 1396-1467.
28. "Electrical Data," Underwriters' Laboratories. 22 pp.; illus. Announcement of Label Service for Cartridge-inclosed Fuses and Snap Switches; Causes and Losses in Fires Due to Electricity; Rats and Lead-covered Cable; Fires and Accidents Due to Electrical Causes. Revised semi-annually. Sent free upon request.
29. "I.C.S. Electrical Engineers' Handbook." Information presented in a form useful to architects and engineers, comprising tables and sections on Electricity and Magnetism, Dynamos and Motors, Electric Lighting, Interior Wiring, Power Transmission, and Operation and Maintenance of Electrical Apparatus. 414 pp.
30. The above handbook is independent of 23 volumes on Electrical Engineering and allied subjects in the extensive *International Library of Technology*.
31. "Cyclopedia of Architecture, Carpentry, Building," American School of Correspondence. 10 volumes. Volume IX contains information on Electric Wiring.
32. In "Handbook for Architects and Builders," Illinois Society of Architects, Vol. XX, 1917, see "Sanitary and Electric Power Equipment, including Plumbing, Illumination and Electric Power."
33. "Practical Cost-Keeping for Contractors," F. R. Walker. 1918. Contains information on the essentials of cost-keeping in connection with Electric Wiring; also Chapter XXII devoted entirely to Electrical Work.
34. "Handbook of Cost Data for Contractors and Engineers," H. P. Gillette.

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35. "A Handbook for Superintendents of Construction, Architects, Builders, and Building Inspectors," H. G. Richey. 742 pp.; illus.
36. "The Building Foreman's Pocket-Book and Ready Reference," H. G. Richey. Information on Electric Wiring, etc.
37. "Fire Prevention and Fire Protection," J. K. Freitag. 1912. Contains a section on Electric Wiring.
38. See *Index to Lefax Data Sheets*, for information on subjects of interest electrically.
39. See *Proceedings of the American Society for Testing Materials* (1A5c1) for:
 - (a) Report of Committee B-1 on Copper Wire, Part 1, 1916.
 - (b) Report of Committee D-11 on Rubber Products, Part 1, 1916 and 1917.
40. See "Useful Electrical Information for Architects, Contractors, and Engineers," published by The Society for Electrical Development (6A6). Reprinted from *Sweet's Architectural Catalogue*. Copies furnished practising architects upon request.
41. See reference to important publications by manufacturers and others in "Signs of Change" by Sullivan W. Jones in this issue of *The Journal*.
42. For further information on electrical apparatus, installations, and appliances in general, with notes, explanations, and descriptions pertaining to the utilization of electrical energy in buildings, and with references, in many cases, to the National Electrical Code, latest underwriters' requirements, and other controlling factors, see pp. xii-xxii of the *General Electric Company*, in the *Industrial Section*. This includes generators, switchboards, motors, and other apparatus, conduits, wiring devices, and other subjects listed in the special G-E Index on p. xii. See, also, p. vi for description of G. E. Co.'s Section in *Sweet's Architectural Catalogue*, 1918.
43. For other information concerning subjects under this heading, see the following pages in the *Industrial Section*.
Underwriters' Laboratories, Inspected Electrical Appliances, Materials and Systems, with illustration and paragraph for Specifications and Contracts, p. v.
National Metal Moulding Co., Inter-connecting Metal Mouldings, p. xxxiii.

Standards Adopted or Recommended, and Procedure to be followed: 6D1b

1. *The National Electrical Code*:
 - (a) See the "General Suggestions" which preface the Code and which are printed in full under 6B1. Particular attention is called to the last two paragraphs recommending the general use of wire-ways for rendering concealed wiring permanently accessible and urging architects when drawing plans and specifications to make provision for the channeling and pocketing of buildings for these and all other possible arteries for the utilization of electrical energy.

Where the Code is printed for the information of architects and building constructors, sections relating essentially to methods of manufacture are usually omitted.

It is presumed that such sections are complied with by reputable manufacturers and have become a precedent to their products being labeled by the *Underwriters' Laboratories*, which label is the architect's and user's evidence of compliance with the requirements of the Code.

It is of interest to note that the building codes of many of the larger cities make no mention of compliance with the Code or offer any other requirements which must be complied with in the wiring of buildings for electricity. There are few cities or towns where the electric light and power company will supply service to a building until a certificate of inspection of the wiring is secured from the local board of underwriters or from the municipal electrical inspection department. Where there is a municipal inspection department, it is generally a violation of the city ordinance for the lighting company to provide service until such certificate has been obtained; in other cases there is an agreement with the lighting company not to connect to the building until the electrical work therein has been inspected and approved. It is also well known to the framers of codes that the furnishing of such a certificate is a requisite before fire insurance may be placed on any building, and that without such insurance mortgages cannot be negotiated nor other financing of building construction be consummated. It would seem then that this system is practical, and it is taken for granted that it will be understood without the frank acknowledgment which one might expect to find in building codes of the procedure to be followed.
2. *National Board of Fire Underwriters* (5A4):
 - (a) From the "Building Code—1915" (5D2b1) the following is quoted in full from Section 261: "Electrical Installations—All electrical wiring, apparatus, or appliances for furnishing light, heat, or power shall be in accordance with the 'National Electrical Code,' and no installation of electrical equipment shall be made, except in conformity thereto."
 - (b) In "Dwelling Houses" (5D2b2) the section relating to Electrical Installations is of exactly the same purport.
3. *U. S. Bureau of Standards* (1A5b):
 - (a) See description of National Electrical Safety Code (6C).
 - (b) Standards for Electric Service, *Circular No. 56*.

For several years the Bureau of Standards has been studying the questions of specifications for electric light and power service, and the

requirements that should be made by municipalities or by state public service commissions of the public utility corporation engaged in furnishing such service. This study was published early in the fiscal year as *Circular No. 56, Standards for Electric Service*.

The demand for this circular has been large, and it is gratifying to note that the rules, specifications, and ordinances proposed have been made the basis for state rules and city ordinances in the instances named below. During the three years that the circular was in preparation, representatives of the Bureau attended hearings in various states, upon invitation by the commissions interested, and assistance was given to the commissions in Connecticut, District of Columbia, Maryland, Missouri, New Hampshire, Oregon, and West Virginia in drafting their rules for electric service. In a number of the states where no public utility commission is established, city authorities have been assisted in drafting ordinances on the regulation of electric and gas service. Louisville, Ky., has an ordinance based on the proposals made in *Circulars Nos. 32 and 56*. Since the Circular No. 56 has been issued, the proposed state rules, with necessary local changes, have been adopted by the Public Service Commission of Colorado, and are being made the basis of the revision of rules now under consideration in Illinois, New York, and Washington. The Public Utilities Commission of the District of Columbia has adopted the Bureau's proposed specifications for the acceptance of types of electric meters, as given in Circular No. 56, without change.

In addition to the proposed state rules and specifications for acceptance of types of meters, the circular contains three regulatory ordinances, suggested for cities of various sizes, descriptions of commission standardizing laboratories, and a complete and exhaustive digest of all state rules heretofore adopted and ordinances now in force in various cities. A revised edition is now in course of preparation.

- See, among other publications of the Bureau of Standards:
- (c) "Copper Wire Tables," *Circular No. 31*.
 - (d) "Testing of Mechanical Rubber Goods," *Circular No. 38*.
 - (e) "Electric Transformers, Methods of Testing," F. B. Silsbee, *Scientific Paper No. 309*.
4. *Department of War, U. S. A.*:
 - (a) The Office of the Quartermaster-General, U. S. Army, has prepared and issued, under date of March, 1915, "General Electrical Specifications No. 6—for Furnishing and Installing Electric Light Wiring, Electric Fixtures, and Electric Bell Systems in Buildings and the Construction of Interior Lighting and Distributing Systems, all Pertaining to the Quartermaster Corps, U. S. Army." These may be obtained from Superintendent of Documents, Government Printing Office, Washington, D. C. The whole consists of 139 pages, and various sections relate to matters covered by the title and to the construction of exterior lighting and distributing systems, complete in every detail. The various sections are referred to in this Serial Number under their appropriate subdivisions, including the Standard Symbols and other illustrations.
 - (b) These do not cover any one specification for a complete electrical installation, as in the case of the War Department specifications, but they do embrace various features of installations for buildings, as well as for vessels, and are issued under these classifications:
 - No. 15. Electrical Cable and Wire (Insulated).
 - No. 16. Radio Apparatus, Outfits and Supplies.
 - No. 17. Electrical Material—other than Classes 15 and 16. These include Conduit and Conduit Fittings, Storage Batteries, Dynamotors, Fiber, Fuses, Generators, Switchboards, Meters, Motors, Transformers, etc.

The Bureau of Supplies and Accounts issues also:

 - (c) "General Specifications for Inspection of Material."
 - (d) "General Information Regarding Inspection at Place of Manufacture of Material for the United States Navy."
 6. *Department of the Treasury*:

The Supervising Architects' Office issues specifications relating separately to each Federal building emanating from that office. Interesting unofficial contributions to the subject of electrical installations in such buildings will be found in "Mechanical Equipment of Federal Buildings" and "The Journal of the Society of Constructors of Federal Buildings," elsewhere referred to.
 7. A publication with which all architects should be familiar, in connection with the mechanical equipment in buildings other than residences, is the "Mechanical Equipment of Federal Buildings under the Control of the Treasury Department," by Nelson S. Thompson, Chief Mechanical and Electrical Engineer, Office Supervising Architect, Treasury Department, Washington, D. C. The following are among the subjects treated—others will be mentioned under various appropriate headings in this and later Serial Numbers:
 - (a) Chapter VI, *Conduit and Wiring Systems*.

This gives the standard arrangement for electric installations in Federal buildings, including underground service, switchboards, distribution tablets, table of conduit sizes for conductors, and of lead-encased cable in unlined metallic conduit, describes outlets and standard wiring for

lighting, gives wiring formulas and tables, gives data on illumination with tables of effective lumens for different lamps and reflectors, and estimating data on electrical appliances.

(b) Chapter IX, *Small Power Plants*.

This is prepared with special reference to installations in Federal buildings under control of the Treasury Department and states all items which require consideration in determining whether the mechanical equipment should include a power plant for the generation of electric current for light and power.

It discusses types of engines and electric generators, gives tables and includes "A specification for Engines and Generators as prepared in the office of the Supervising Architect."

(c) Chapter X, *Motors and Controlling Apparatus*.

Discusses direct and alternating current motors and gives various recommendations.

(d) Chapter XII, *Operating Data*.

This gives calculations of cost of operating mechanical equipments with sample reports of those made in certain Federal buildings and includes a discussion of the isolated plant versus the central station as regards heat as well as electric current.

8. *National Fire Protection Association (5A3)*:

See "Field Practice," Inspection Manual of the N.F.P.A., pp. 23, 31, 48, and 75-77 for notes on the installation, care and maintenance of motors and power equipment, and other sections for explanations of the rules and requirements of various inspection departments, of label service, and of matters in general pertaining to good practice.

9. *Underwriters' Laboratories (5A4a)*:

- (a) "List of Inspected Electrical Appliances."
- (b) "List of Inspected Mechanical Appliances."
- (c) "List of Appliances Inspected for Accident Hazard."

"Products labeled or listed as mentioned above are not necessarily uniform in quality or merit, the labeling and listing indicating only compliance with underwriters' requirements."

These lists, revised semi-annually on the dates given in the Industrial Section on page v, are sent upon request.

(d) "Code for Electrical Appliances," consisting of the following Standards:

1. *Standard for Rubber-Covered Wires and Cables.*
2. *Standard for Rigid Conduit.*
3. *Standard for Armored Cable.*
4. *Standard for Cartridge-Enclosed Fuses.*
5. *Standard for Snap Switches.*
6. *Standard for Knife Switches.*
7. *Standard for Cabinets and Cutout Boxes.*
8. *Standard for Electric Signs.*
9. *Standard for Panelboards.*
10. *Standard for Cutout Bases.*
11. *Standard for Soldering Lugs.*

These eleven Standards are published separately and may be secured at \$1 per copy, or at \$10 for the set.

10. *Inspection Department, Associated Factory Mutual Fire Insurance Companies (5A6a)*:

- (a) "Electric Light and Power Equipments—Rules."
- (b) "Approved Electrical Fittings" (subject to semi-annual revision). "The 'List of Approved Electrical Fittings' is designed to enable mill managers and electrical contractors to quickly learn where thoroughly reliable fittings can be obtained. This pamphlet forms a supplement to 'Rules for Installing Electric Light and Power Equipments,' which should be carefully followed in all electrical construction work."

11. *Standardization Rules of the American Institute of Electrical Engineers (6A1)*:

In these particular effort has been directed toward defining in engineering terms the rating of electrical machinery and the requirements connoted thereby.

Gives standard definitions of electrical terms, technical data, standard performance specifications, and tests of electrical machinery, standard voltages and frequencies, and general recommendations, as adopted by the Standards Committee and approved by the Board of Directors, June 28, 1916, with supplement approved on June 28, 1917. 25 cents.

International Standardization (quoted from above):

"It becomes impossible to carry standardization beyond a very elementary stage in any one country without influencing the procedure in other countries. Co-operative relations have been entered into at different times between the A.I.E.E. Standards Committee and corresponding committees in other countries, to considerable mutual advantage, but especially through the influence of the *International Electrotechnical Commission*, an international body engaged in international electrical engineering standardization."

12. *The American Society for Testing Materials (1A5c)* has adopted the following:

- (a) *Standard Specifications for Hard-Drawn Copper Wire*, Serial Designation B 1-15.
- (b) *Standard Specifications for Medium Hard-Drawn Copper Wire*, Serial Designation B 2-15.
- (c) *Standard Specifications for Soft or Annealed Copper Wire*, Serial Designation B 3-15.
- (d) *Tentative Standard Specifications for Insulated Wire and Cable, 30 per cent Hevea Rubber*, Serial Designation D 27-16 T.
- (e) And other standard specifications relating to cables, trolley wires, and specialized products.

13. *The Rubber-Covered Wire Engineers' Association* has issued:

- (a) *Specifications for 30 per cent fine dry Para rubber covering.*

14. "Universal Safety Standards." A reference book of Rules, Drawings, Tables, Formulas, Data and Suggestions for use of Architects, Engineers, Superintendents, Foremen, Inspectors, Mechanics and Students, by Carl M. Hansen, M.E., Consulting Safety Engineer, Member American Society Mechanical Engineers. Compiled under the direction of and approved by the Workmen's Compensation Service Bureau, New York City.

15. See, also, "Electrical Edition" of same, both of which contain diagrams and descriptions of guards for motors, switchboards, starting panels, controllers, fuse-boxes, and other safety devices.

16. *The American Society of Mechanical Engineers*. For standards applicable to electrical installations, see Index to A. S. M. E. Standards, p. 427, and those which follow giving abstracts of reports of committee on "Standardization of Engines and Dynamos," and others, in *Condensed Catalogues of Mechanical Equipment*, 1917.

Standard Symbols and Charts.

6D1c

1. *Standard Symbols for Wiring Plans*, adopted and recommended by the *National Association of Electrical Contractors and Dealers* and the *American Institute of Architects*. Copies may be had without charge, upon application to the Secretary of the Association, or to the Executive Secretary of the American Institute of Architects at The Octagon, Washington, D. C. In addition to the copies on cardboard, which may be had as mentioned, these Symbols may be seen illustrated and explained in:

- (a) "Kider's Pocket-Book—1916," pp. 1398-1399.
- (b) "Sweet's Architectural Catalogue—1917," p. 1423.
- (c) "Portfolio of the Architectural Service Corporation," Service Sheet No. 1, January, 1916.

2. *Standard Conduit Charts*, showing standard sizes of conduits for the installation of wires and cables, adopted and recommended by the *National Association of Electrical Contractors and Dealers*, and required by the *National Electrical Code*. Completely illustrated with drawings of conduits, wires and cables at one-half full size; copyright 1912. These are mounted upon boards 21½ by 30, and may be obtained upon application to the Secretary, for \$3, postage additional. They also contain diagrams of conduits for telephones and signaling systems not defined by the Code, as mentioned under 6F2.

3. "Standard Symbols" are also illustrated in U. S. Army Specifications (6D1b4).

4. In the "Handbook for Architects and Builders," of the Illinois Society of Architects, Vol. XX, 1917, see Section entitled "Nomenclature of Drawings," which contains *Lighting Symbols*.

Electric Elevators and Dumb-waiters

6E

1. The *National Electrical Code (6B2)* contains installation rules for *Elevator Shaft Wiring (N.E.C., Section 16g)*, and for *Elevator Cable (N.E.C., Section 51d)*.

2. "Uniform Regulations for the Construction and Installation of Passenger and Freight Elevators," adopted Oct. 12, 1917, by The Elevator Manufacturers' Association of the U. S. (6A19). Definitions and Regulations applying to new elevator installations, *Shaftways*; 40 pages of specifications in detail as to regulations and accessory requirements.

3. In "Mechanical Equipment of Federal Buildings" (6D1b7) see: Chapter VIII, *Elevators*.

This gives data of the utmost importance to architects, especially in the preliminary study necessary to reach a decision upon the number, type, and speed of elevators, for all kinds of structures.

With the aid of individual experience and judgment, a close approximation of the number of elevators and of the size of each which should be installed in a given building may be based on the facts in regard to elevator service in this chapter which are stated by R. P. Bolton, consulting engineer, of New York, in his treatise entitled "Elevator Service."

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It also gives data to determine the loads to be carried and space requirements, and states recommendations as to various forms of equipment, concluding with a "Specification for the standard tandem worm-gear electric passenger elevator with direct current motor and full magnet control, such as is installed by the Office of the Supervising Architect," and a supplementary specification for "Alternating Current Elevators," following which is "Instructions Relative to the Inspection and Test of New Elevators."

4. "Architects' and Builders' Pocket-Book," Kidder-Nolan: Section on "Elevator Service in Buildings," pp. 1579-1597; also contains information, similar in importance and interest to the foregoing, on Electric Elevators and gives valuable data for calculating the number of elevators required, determining sizes, loads, speed, etc.
5. "Elevator Shaft Construction: or, Practical Suggestions for the Installation of Electric Elevators in Buildings," H. R. Cullmer and A. Bauer, with introductory note by R. P. Bolton, 1912, a treatise for architects and builders on elevator shafts, machine rooms and bulkheads, with tables and formulas for calculating sizes and capacities. Covers also freight and sidewalk elevators, dumbwaiters, specification writing, doors and appliances, etc.
6. "The Arrangement and Requirements of Elevators in Office Buildings," C. F. Baker (from the *Architectural Record*), *Engineering-Contracting*, May 17, 1916.
7. "Standard Handbook for Electrical Engineers," Frank F. Fowle: Section on "Electric Elevators," by D. L. Lindquist, Chief Engineer Otis Elevator Co., and Asso. A.I.E.E.
8. "American Handbook for Electrical Engineers," Harold Pender: Section on "Electric Elevators."
9. "Electrical Engineers' Pocket-Book," Horatio A. Foster: Section on "Electric Elevators."
10. "Mechanical Engineers' Pocket-Book," Wm. Kent: Section on "Hoisting and Conveying," pp. 1181-1218.
11. "Mechanical Engineers' Handbook," Lionel S. Marks: Section 9 treats of "Hoisting and Conveying," by C. Kemble Baldwin.
12. "Building Estimators' Reference Book," Frank R. Walker: Chapter XXII on "Miscellaneous Building Specialties," pp. 2900-2906, gives information on Cost of Electric Passenger Elevators, Electric Freight Elevators, Cost of Cars and Dumbwaiters.
13. "Universal Safety Standards" (described under 6D1b14 shows safety devices, controls, guards, hatchways and entrances, automatic trap-doors and gates, platforms and guards for sheaves and for safe installations in general.
14. "Safety Devices for Elevators," Jacob Gentz, Jr., in *Power*, Jan. 9, 1917. Illus.
15. The codes of cities or ordinances regulating elevator construction will also afford specification requirements. Valuable suggestions will be found in catalogues and other literature of manufacturers.

Telephones, Signaling Systems, Bells and Clocks 6F

1. Attention is directed to the necessity of providing in all buildings such chases, channels, pipe-ducts, or runways as will adequately meet all needs for installing arteries of service, not only for present requirements, but allowing also for reasonable future needs and the possibility of installations not now thought of. See the last two paragraphs of "Suggestions" from the *National Electrical Code* under 6B1.
2. It should be noted that the National Electrical Code does not prescribe the sizes for conduits for signal systems and that the wires permitted by the telephone companies of various cities differ as to thickness of insulation. The *Chart* (described under (6D1c2) therefore represents wires with both light and heavy insulation and shows conduit sizes accordingly.
3. Telephone Service Standards, Report, Bureau of Standards, 1917:
 - (a) The investigation of the principles underlying the definition of telephone service standards is of the greatest importance to state public utility commissions, as well as to the millions of telephone users throughout the United States. In order to secure results of greatest value, it is necessary to enlist the cooperation of the telephone industry, which will of course be benefited by such work. In view of this fact, the Bureau confidently counts upon its whole-hearted support.
 - (b) A large number of comparisons of the efficiency of transmitters and receivers of different makes have been made when using the voice as a source of sound, and, in addition, a study has been undertaken of the effect of the length of subscribers' lines in common battery systems with relation to the efficiency of transmitters of various types of makes.
4. The U. S. Navy Department, as described under 6D1b5, issues specifications, under Classification 17, pertaining to telephones, annunciators, batteries, bells and buzzers, etc.

5. See *General Electrical Specifications No. 6, U. S. Army*, described under 6D1b4; specifies and illustrates bell systems, batteries, bells, push-buttons, annunciators, buzzers, transformers, speaking tubes, etc.
6. "Mechanical Equipment of Federal Buildings," described under 6D1b7, Chapter VI, treats of conduit systems for time-clocks; also town-clocks, fire-alarm and watchman's time detector systems, vault-protection systems, telephone and call-bell conduits, and conduits for signal systems.
7. "Telephone Construction, Installation, Wiring, Operating and Maintenance," W. H. Radcliffe and H. C. Cushing, Jr. 223 pp.; illus. For electricians, wiremen, engineers, architects, contractors, and others interested in standard practice.
8. "Architects' and Builders' Pocket-Book," F. E. Kidder: "Inter-phones and Automatic Telephones for Intercommunicating Service."
9. "American Handbook for Electrical Engineers," Harold Pender: Section on "Telephone Instruments and Circuits."
10. "Standard Handbook for Electrical Engineers," Frank F. Fowle: Section on "Telephony, Telegraphy, and Radio-telegraphy."
11. "Electrical Engineers' Pocket-Book," H. A. Foster: "Telephony."
12. "American Telephone Practice," K. B. Miller. 904 pp.; illus.
13. "American Civil Engineers' Pocket-Book," M. Merriman, p. 1339. Open-circuit batteries for intermittent service, such as call-bells and short telephone lines.
14. "Fire Prevention and Fire Protection," J. K. Freitag: "Automatic Fire Alarms, and Sprinkler Alarm and Supervisory Systems;" "Watchmen, Watch-Clocks and Manuals."
15. "Crosby-Fiske Handbook of Fire-Protection," Fifth Edition. Section on "Signaling Systems and Watchman Service."
16. "Field Practice," Inspection Manual of the N.F.P.A. Information on signaling systems, and other installations.
17. "I.C.S. Telephone and Telegraph Engineers' Handbook." Tables and sections on Telephone and Telegraph Systems, Batteries, etc. 398 pp.
18. See the "I.C.S. Electrical Engineers' Handbook" (6E1y), pp. 369-371, for information on signal-bell circuits.
19. See *Index to Lefax Data Sheets*, for information on subjects herein treated.
20. Some telephone companies insert notices similar to the following in their directories: "Adequate facilities for handling telephone wires and cables in new buildings will mean the most satisfactory telephone service for the tenants. Satisfied tenants are an asset to the owner of a building. The Telephone Company asks the cooperation of the architects. When designing new buildings, call the Plant Engineer."

Heating, Cooking, and Other Appliances and Devices 6G

1. The U. S. Navy Department (6D1b5) has issued among others, under classification 17, the following specifications:
 - (a) Heaters, air, electric (for ships).
 - (b) Heaters, electric, disk type.
 - (c) Heaters, water, electric (for battle dressing-stations).
 - (d) Fans, deck and bracket.
 - (e) Flatirons, electric.
 - (f) Lanterns, hand, electric.
2. The National Electrical Code (6B2) contains rules for the installation of Electric Heaters (N.E.C., Section 25).
3. See "Safety for the Household," Bureau of Standards Circular No. 75, referred to under 6D1a4c.
4. See "Field Practice"—Inspection Manual of the N.F.P.A., for data and notes on installation, care, and maintenance of electric heating devices, irons, and other appliances.
5. In "Mechanical Equipment of Buildings," L. A. Harding and A. C. Willard, Vol. I, 1916, see Chapter XI devoted to "Electrical Heating" (contains tables and illustrations).
6. "Electric Cooking Appliances," R. G. Kloeffler. *Bulletin No. 9, Kansas State Agricultural College*, Engineering Experiment Station. Dec. 1, 1917. 71 pp.; tables, diagrams, and illus.
7. In "Mechanical Engineers' Pocket-Book," W. Kent, see **Electrical Heaters, Heating and Furnaces**, pp. 713-714 and 1420-1425.
8. See "Electric Heating and Electric Heater Control," W. S. Hammond, Jr. 1914. 10 cents. Reprint of paper read before the *American Society of Heating and Ventilating Engineers*.
9. See "The Hazards of Domestic Electrical Appliances," W. J. Canada, N.F.P.A. *Quarterly*, October, 1917. 10 pp. Address at convention of International Association of Municipal Electricians, September, 1917.
10. Data on the various appliances and devices pertaining to the comfort and convenience of occupants of hotels, apartment houses, office buildings, residences, and other structures, will occasionally be found by looking in the index of some of the publications referred to under 6D but so rapidly is development taking place in their manufacture and utilization that one chief source of information to be had concerning them is through the catalogues and other literature of the manufacturers.

11. Some notes and suggestions on various devices will be found in *Useful Information for Architects, Contractors and Engineers* referred to under 6D1a4c.
12. For data on appliances and devices of the latest type and for publications pertaining to them, see the *General Electric Company's* presentation in the *Industrial Section*, pp. xii-xxii.

Vacuum Cleaners 6H

1. This important modern development in building sanitation will also not be found treated in many of the handbooks elsewhere listed, though the operating and controlling features of so many of these systems, whether stationary or portable, are of importance electrically.
2. There is in the process of organization an association to be known as the *Vacuum Cleaner Manufacturers' Association*. Mr. P. H. Seward, of 1480 Broadway, New York City, First Vice-President.
3. For a complete treatise on the subject, including a highly interesting historical review of the development of the **Vacuum Cleaner**, see "*Vacuum Cleaning Systems*," M. S. Cooley, Mechanical Engineer in office of the Supervising Architect, Treasury Department. Copyright 1913 by Heating and Ventilating Magazine Company of New York. 232 pp., completely illustrated. This states the requirements of an ideal system and gives descriptions and diagrams of all mechanical and electrical parts of various systems, including the pipe and fittings, controlling appliances and tools. It gives data on the selection of various types, methods of testing and specifications for five classes of plants. It also describes portable vacuum cleaners, including those for attachment to lighting systems.
4. In "*Mechanical Equipment of Federal Buildings*," (6D1b7), see: Chapter XI, **Vacuum Cleaning Systems**. This contains data on stationary systems of both the so-called high-vacuum and low-vacuum types and gives tables for determining the sizes of plants and recommendations for installation. It also includes a complete "*Specification such as is used by the office of the Supervising Architect for a Four-sweeper Plant*," included in which is a description of the electric motor and its automatic control.
5. *Kidder's Architects' & Builders' Pocket-Book*, 1916. "Vacuum Cleaning," pp. 1628, 1629.
6. In "*Mechanical Equipment of Buildings*," L. A. Harding and A. C. Willard, Vol. II, 1917, see Chapter XXVII "**Vacuum Machines**."
7. For detailed drawings of the mechanism and data pertaining to various vacuum-cleaner systems, see the catalogues and other literature of the respective manufacturers.

Illumination, Lighting Fixtures and Lamps 6J

Electrical phases of these subjects will be found fully described in the *Structural Service Book*, Vol. I, under 6H, 7M, 11B13, and 12F5.

1. Many of the publications pertaining to illumination treat of illumination by gas as well as by electricity. Therefore, this subject will be treated with reference to both gas and electricity, as well as day-lighting, in the forthcoming issue devoted to "Gas," wherein also will appear a description of the *Illuminating Engineering Society* and of the *Institute of Lighting Fixture Manufacturers*.
2. For data on illumination—Interior and Exterior, in this issue, see pp. xxi and xxii of the General Electric Company's presentation in the *Industrial Section*.

Lightning Protection 6K

See *The Journal*, Serial No. 5H to which add the following:

1. Considerable work has been done by the *U. S. Bureau of Standards* in the direction of preparing specifications for the protection of buildings against lightning, but owing to the emergency growing out of the military situation it has been necessary to suspend this work temporarily. A little later, as soon as opportunity affords, it will be continued and specifications will be prepared for protecting different kinds of buildings and other structures, so as to make it easier for architects and owners who wish to place lightning protection on structures to do so as efficiently and economically as possible.
2. In the *Bureau of Standards' Circular No. 75 "Safety for the Household"* (6D1a4c) is a Section on "**Lightning**" with suggestions, data, and diagrams.
3. See the National Electrical Code (6B2) for the construction, grounding, and installation of Lightning Arresters (N.E.C., Sections 5, 15, 40, 85, and 86).
4. "*Fire Prevention and Fire Protection*," J. K. Freitag. 1912. Contains section on "**Protection Against Lightning**."

Electrolysis 6L

References to this subject will be found in the *Structural Service Book*, Vol. I, Serial No. 6, and under 11B2, 11B3, and 12C, which latter references will be again listed in later Serial Numbers this year.

1. See various **Technologic Papers** of the *U. S. Bureau of Standards*, which are summarized in (2) below:
2. See, "**Digest of Publications of Bureau of Standards on Electrolysis of Underground Structures caused by the Disintegrating Action of Stray Electric Currents from Electric Railways**," prepared by Samuel S. Wyr. January, 1918. A limited number of copies of this Digest are available to interested parties upon application to the Bureau of Standards, Washington, D. C.
3. The following extracts from *Report, Bureau of Standards, 1917*, will be found of interest:
 - (a) The Bureau has been studying the electrolysis question for the past seven years and has done a large amount of work in connection with it. The first problem investigated was that concerning the effects of electrolysis in reinforced concrete, after which special attention was given to electrolysis of underground pipes. This has included laboratory investigations concerning the effects of electric current on concrete and metal pipes, tests of pipe coverings, the corrosion of metals in the soil, methods of measuring soil resistance, and various other experimental phases of the work; methods of electrolysis mitigation that have been used or proposed; field studies in actual practice with the application of remedies; a determination of cost and results obtained.
 - (b) The Bureau of Standards has made a number of electrolysis surveys in various cities, with the view of making detailed studies under typical conditions, the results of which could be published for the benefit of the public. These investigations have been made in cooperation with utility companies and municipalities concerned, and largely at their expense. Complete mitigative systems have been installed by several cities, demonstrating the most effective means of meeting the problem under various conditions. The Bureau makes somewhat detailed tests in each of these places about once a year to make sure that the protective systems are being properly maintained.
4. See "**Electrolysis in Underground Pipes**," in *Canadian Engineer*, Oct. 12, 1916. Abstract from Report, U. S. Bureau of Standards.
5. See, also, "**Insulation as a Means of Minimizing Electrolysis in Underground Pipes**," E. B. Rosa and Burton McCollum, "*Proceedings' American Gas Institute*, Vol. VI, 1911, Part 1, p. 233.
6. In "*Trautwine's Civil Engineers' Pocket-Book*," see section on "**Experiment and Practice**," pp. 1168, 1182.
7. For classified references to literature on this subject and on others covered by some of the subdivisions herein, see "**Lists**" and "**Reviews**" mentioned under 6D1a7.

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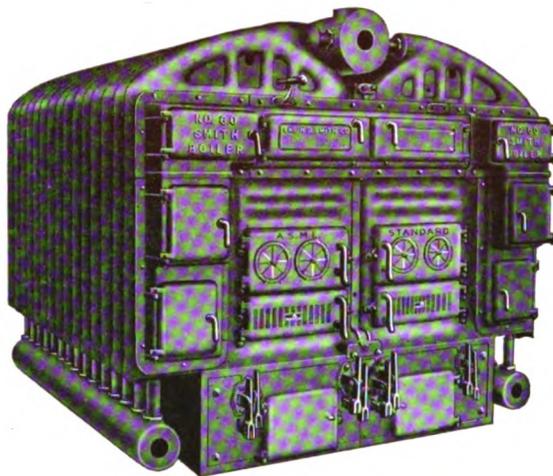
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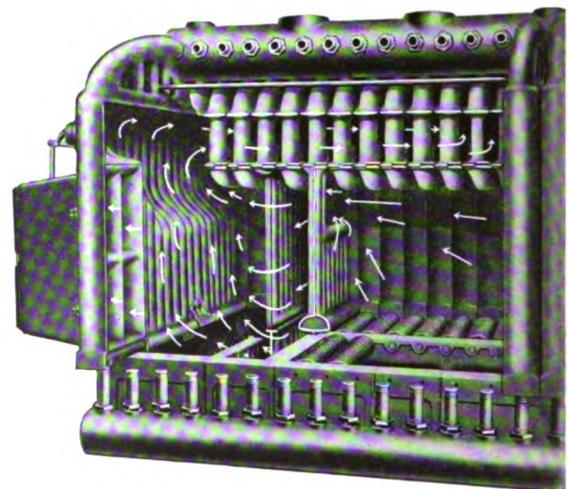
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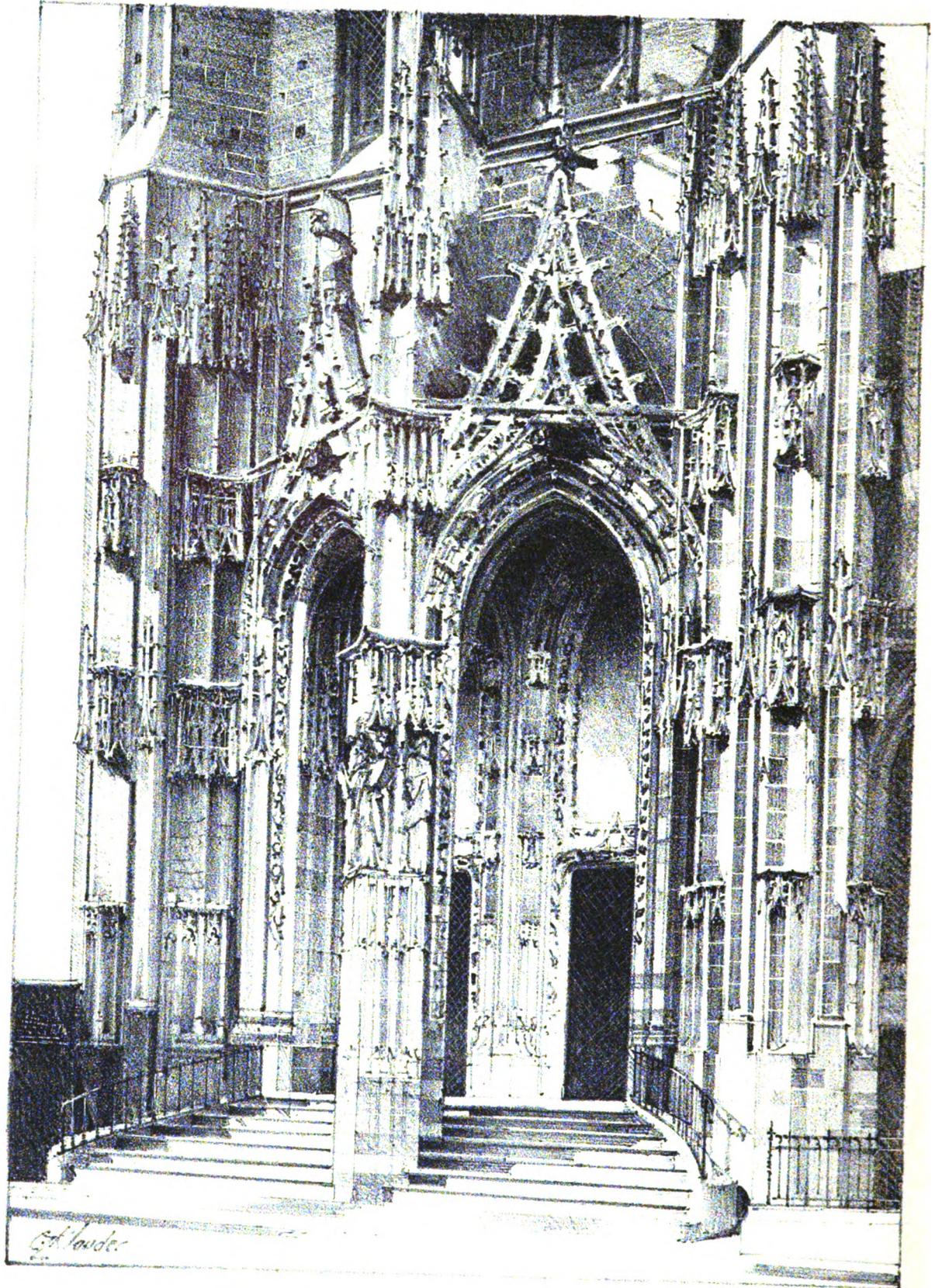
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Saint Germain Argentan

*Drawn on stone for
The Journal of the American Institute of Architects
by Charles Z. Klauder*

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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Shadows and Straws

CONGRESS HAS APPROPRIATED the sixty millions of dollars asked for by the Housing Division of the Department of Labor. The long delay is not without some compensations, however, since Secretary Wilson has caused it to be announced that the policy to be pursued in the expenditure of these funds will mark a considerable step in advance over the plan which was originally put forth. It may be that a too tenacious adherence on the part of those who persistently advocated the vicious theory of lending money to corporations was responsible for some of the delay, but we are now assured that the Housing Division of the Department of Labor proposes to conduct its operations after the manner pursued by the Ministry of Munitions in England; that is, the Government will buy the land, build the houses, and operate them during the period of the war. As changes of opinion and practice are effected in the ordinary course of events, the nation may well be congratulated that the opposition to this simple and straightforward course has been so soon broken down. Now we have a clear field for progress. Those who struggled first to secure a direct advantage from the use of Government money for housing purposes; those who persisted in pointing out the difficulties in breaking away from the traditionally bad system under which in the past we have with such futility essayed a solution of the house question; as well as those who hoped to compel a method of financing which would leave open the loophole for future speculative profits to be taken at our national

expense, have been overcome by the better judgment of those who sought only the interest of the nation, in war as well as in the peace to come. The United States now has a fair field before it in which to demonstrate that it is able at least to do as well as the countries of Europe have done in meeting the problem of no houses and bad houses and abominable houses.

COMMENTING UPON THE QUESTION, the *New Republic* in its issue of June 22, had the following to say:

"The misfortunes which have so far attended our progress in providing houses for war workers are due almost entirely to our inability to see the problem as a social one. We have been blind to all but its economic aspect. In our eyes a house was a house; a commodity subject to the laws of supply and demand; a thing which gave a landlord his right to the highest rent, and which the tenant had to accept, no matter what its conditions, and as to which the prime consideration was not the quality of life possible in it but its financial return to the owner. Having so long seen houses as property, and not as possible causes of congestion, was it to be expected that we should on a sudden, when confronted with a war shortage in houses, begin to see our problem with clear eyes?

"As soon as the danger of a shortage became evident, every man owning tenement house property was at once frightened almost out of his wits. What, he asked, would the Government do? Would it establish such a new standard in houses as would jeopardize or ruin his investment? Would it embark upon some Utopian scheme that would upset all the machinery to which he was used and in which he had confidence? How in the world was it possible that we had to build houses in order to win the war? We had already begun to build so many new things—ships, aeroplanes, docks, warehouses, nitrate plants—and now somebody wanted houses. Why not tents for workmen, or bunk houses, or shacks, or old freight-cars? Why not solve the problem by transportation? There must be plenty of

houses somewhere. Surely we could find a place to put workmen, and surely the workmen would not care what kind of a place it was, so long as they were working for their country.

"There is no doubt that certain sinister selfish interests have been trying to have their way with the organizations of the Housing Divisions of the Department of Labor as well as of the Shipping Board. The constant vacillations of policy, the endless countermanding of orders, the ceaseless interruptions of projects which forever start and stop, all indicate the adroit hand which opposes everything which seems likely not to yield a favor in some quarter. But public opinion is asking with growing insistence questions that require an answer. Why are not the houses built? In the face of the crisis on the western front, who dares play with the fate of our soldiers or with those of our Allies? What do the long delays mean? Who is responsible? Why should there be two housing departments of the Government? Why should two organizations be dealing with the same problem in the same community? What does it all mean?"

It means a day of reckoning for some, and an opportunity for others who have had the patience and the courage to stick at their post and ceaselessly combat the sinister selfish motives, the "adroit hand," and the pitiful incompetence of some of those in superior positions. This is not the moment to indulge in historical narratives; the time for those is coming. It is now the time to lend a hand in every possible way toward the speeding up of the intelligent program which has finally prevailed, and also to begin an active campaign to so support the Department of Labor in its work that when the time comes for the Government to dispose of its holdings, the way may not only be left free but the wish may be so universal as to assure a transformation of these governmentally created properties into self-owning communities, on the principle of the co-partnership tenants method which has been so successful in England. The time has gone, let us hope never to return, when our quest of a solution for the housing problem can be beguiled with the mirages which have so long been dangled before our eyes.

IS IT NOT NOW PERCEIVED that the products of a nation must be measured in terms of life and not in terms of industry, commerce, and trade? That all the social problems which, as by-products of our economic system, are thrown athwart our path, depend for their solution upon a standard of values which places the quality of national life above and infinitely

beyond all other values? That the house problem is essentially a basic problem, and that if we pursue our senseless methods of the past—methods which we borrowed wholesale from Europe, where they are now certain to be discarded—we shall merely repeat over and over again the destructive cycles of slums and congestion which nation after nation blindly accepted, caught in the toils of the industrial exploitation of life which England set as the successful pattern, and from which none dared to deviate lest financial failure attend as the costly penalty.

The house question is one of the prime phases of the problems of national life, of industrial freedom, of democracy in the full measure of the word. Until it is treated as such and considered in the light of a system which measures in terms of humanity and not in terms of money, goods, products, and business results, we shall continue to delude ourselves with the belief that we are building a nation, whereas, as the examples revealed by war have now shown, we are merely destroying, as other nations have done from time immemorial.

MOST OF THE WORK, if not all, of that illustrated in this issue of the Journal, related to the problem of repatriation and rehabilitation of the districts first ravaged by Germany, has been lost in the recent German advances. But an idea of the work which will still have to be done, on a tremendous scale, may be gained from the photographs which were sent to the Journal through the kindness of Mr. George B. Ford, who is now in France and who has been connected with this work for nearly a year.

THERE ARE PUBLISHED IN THIS ISSUE a preliminary group of the winning drawings in the competition held by the Royal Institute of British Architects for plans for low-cost houses. The report of the Jury of Award has not yet reached us, but it is hoped to publish it in the next issue of the Journal, together with others of the winning drawings. It will be noted that the British Isles were divided into sections and that the competition was based on the sectional traditions and requirements.

In low-cost houses, where the maximum of room is desired, group houses are the only answer under present economic conditions, but this does not mean that life, for the occupants, must be consigned to a monotonous row of

SHADOWS AND STRAWS

characterless structures. Quite the contrary, when these undertakings fall into skilled hands, for then it becomes possible to vary the design and to give something of individuality to each house.

Reflections of the architectural charm which English architects are able to give to their solutions of low-cost group houses are not so easily achieved in this country, where we find our-

selves without the primary tradition upon which so much of this charm depends—the coincidence of first-floor levels with that of the immediate surroundings. In fact nothing has been more effective in destroying the appearance of so much of our domestic architecture, even though it be devoid of any particular pleasantness, than the habit of raising the first-floor level from two to three feet.

Lithography in Architectural Illustration

TO Mr. Charles Z. Klauder, of Philadelphia, we are indebted for the first of what it is hoped eventually may become a series of drawings devoted to a modest attempt at a revival of the art of lithography in architectural illustration. Time was when a group of artists in France, together with a smaller number in England, were making lithographs of architectural subjects by thousands, and perhaps it is to their efforts that we owe our grateful appreciation for the preservation, in print form, of so much of the historic and picturesque architecture still extant in Europe a century ago. Lithography came last, in the field of the reproductive processes, but it was quickly appreciated by the painters and engravers of France, for in it they found a process for making illustrations which was admirably suited to the purpose. It dispensed with the tedious acquisition of the engraver's skill, and to those who had declined to attempt a mastery of the technique of the line engraving or the mezzotint, the etching or the wood engraving, lithography offered a process in which no second artist came between them and their work in the office of interpreter. To make a lithograph, it was practically necessary to know only how to draw, although in working directly on the stone it was of course necessary to draw in reverse; but even this difficulty could be avoided by the use of the transfer paper, on which the drawing was made with the lithographic crayon and from which it was transferred to the stone.

For much of the best of the lithographic illustration of architecture, we may thank Baron Taylor, who conceived the idea of publishing, in serial form, an illustrated work which should picture France from end to end. "Voy-

ages Pittoresques" was the title of his work, and for the illustrations he chose the best of the lithographers then available; Bonington and Isabey, whose work has already been treated in the Journal, and whose lithographs are among the finest that have ever been made. Then there were Ciceri, Sagot, Gaildrau, Benoist, Huet, Bayot, and a host of lesser lights, who journeyed over the provinces of France intent on the really colossal undertaking. Its very vastness was, in a measure, its undoing, since it never could be completed and involved a great loss, but it left us a record which has become more priceless than ever, today, since much of the architecture so faithfully drawn has now disappeared forever.

In the middle of the last century, or, roughly, from 1820 to 1860, lithography rose to heights of great splendor. Scarcely an artist in France who did not essay the smooth-grained stone which came from the famous quarries of Solenhofen, in Bavaria. Raffet and Charlet set down the record of the Grande Armée in imperishable form. Gericault, Delacroix, Gavarni, Daumier, Laurens, Francais, in France; Rops, in Belgium; Haghe, Boys, Prout, Nash, in England, were wooing the lithographic stone with a result which every lover of lithography knows, and for which he is grateful.

Whistler recognized the process with that unerring knowledge which infallibly guided him in the choice of a method to fit the message which he had to give. What are more beautiful than the nocturnes which he drew from the lithographer's stone? And yet, withal, the process was too susceptible of being turned to commercial use. By the close of the last century, it was said that there was not an artist litho-

grapher left in Europe. This was of course not wholly true, and is not true now; but it is true that most of those skilled in the art were by that time at work in the great lithographic establishments which grew apace, as the facility of the process and the possibilities of cheap reproduction on a vast scale, set a new business in motion.

It was at the beginning of the nineteenth century that Alois Senefelder discovered, quite by accident, that it was possible to draw with a greasy crayon on stone and then print from the stone without engraving it. This was possible because the stone which he hit upon had an affinity for both grease and water. Thus in passing the ink roller over the stone which had been drawn upon with the greasy crayon and which was kept wet with water, the ink from the roller would adhere to the crayoned lines, while the rest of the stone, being wet, would reject the ink. That, in substance, is the simple foundation upon which the process of lithography rests. It has not been improved upon since Senefelder discovered it, in any artistic sense, although modern commercial lithographers have advanced the mechanical equip-

ment far beyond the simple press of Senefelder's day.

The lithograph which Mr. Klauder has made illustrates one method of drawing on the stone, but it might be said, perhaps with all truth, that there are no limitations to the effects which may be produced. Fantin-Latour even went so far as to cover his stone with grease and then scrape away to get his whites, just as a mezzotinter scrapes away after he has rocked his plate. But between the extremes of this process, and the simpler one of working from white to black, all gradations are possible. No process offers such facilities for reproduction in a fashion that may quite honestly be said to make each copy an original.

Some of the work of the great lithographers who drew in architecture has been illustrated in the Journal. Other work is to follow, and we hope, from time to time, to publish more original lithographs from the hands of members of the architectural profession in the United States. Good lithographs, in spite of the obloquy which has attached itself to the process, are still as beautiful as ever. Their place in the collector's cabinet is forever secure.—C. H. W.

The Circean Shadow! V

By RICHARD WALLACE TUDOR

IF, as I have advocated, the student devote the greater part of his time during the early part of his work to a study of the social and the economic aspects of architectural expression, one will ask how is he to acquire the technique necessary to enable him to get a job and hold it? A practical and an extremely important question—but nevertheless one which does not concern me overmuch, for I have faith that the *really inquisitive, ambitious* person will acquire the technique once he be given an opportunity so to do. Looking broadly at the problem, we are confronted with making a definite choice, it seems to me, between developing men who can mechanically repeat certain office-practice-like operations and men who can really think. I

suggest that we emphasize the development of the latter sort.

And so, throughout the period of educational influence, we should keep constantly in mind that if we so deal with the student that he becomes thoroughly impressed with the importance of knowing a thing, we need have little fear that he will fail to acquire the necessary knowledge, provided he be afforded reasonable facilities. When the student becomes thoroughly convinced that he actually requires a knowledge of mathematics or graphic projection, perspective, shades and shadows, construction or a thousand and one other things *in order that he may more clearly and accurately express himself*, then, and then only, need he be assisted. With

THE CIRCEAN SHADOW

that large group of students who are being educated in architecture because it is a genteel calling, or who are merely doing their work to get a degree, or the inept student, I have not the slightest interest. The sooner they are eliminated from the schools the better will it be for all concerned.

To most of us, educated in the old way, the elimination of the "task," the substitution of "interest" for "duty," is placing the cart before the horse. But is it not precisely the process through which the races have developed? Are not our errors the result of our failure to proceed along this line?

I am quite ready to propose seriously that we now eliminate much of the purely technical matter which occupies the greater part of the student's time; yes, eliminate it completely, if by so doing we can, within a reasonable period of years, bring him into contact with the real fundamental problems related to the practice of architecture. What, precisely, does the student gain from the time devoted to the study of "construction"? He acquires a little technique, so limited as to be of extremely little value to his employer and an actual handicap if he begin practice immediately upon graduation when his sureness is certain to lead him into error. He is told the theories of an endless variety of things; rarely does he acquire sufficient knowledge to make him safe or responsible. He is told how to figure beams, a truss or two, and to detail window-boxes, and these operations he learns to perform most superficially.

But he learns little or nothing about the "problems" of construction which develop in the world of reality; about these he must learn. He is not made aware how stupid, temporary, and flimsy are the things we build; neither is he made inquisitive and *rebellious* concerning the utter lack of relation between the forms used as decoration and those used for purely structural purposes.

And so our educational program in this respect must bring him into actual contact with the problems of construction in the field, and this contact must be made before we may intelligently discuss theory with him. A part of his education—and a very important part it is—must be the actual fostering of a spirit of active rebellion against an almost universal condition

in building wherein structural forms and forms of "design" are not one and the same.

In the engineering school the central idea in all "design" is "efficiency" in the application of materials; form is conceived to be the resultant of certain mechanical laws applied in the using of materials.

In the school of architecture in theory the same idea prevails; but there, in practice, form is not the resultant; it is rather something made stable by a clever twist or application of such laws. The engineering conception and application is narrow; the architectural false and contradictory. When made the central theme in education, both render the "educated" impotent to think clearly in terms of "design."

In the larger sense "design" must comprehend the real purpose for which material is fashioned by work into things—if the design is to be truly worthy. It is in this respect that our education and the education of the engineer falls short. The purpose made vivid by the mass of formula directed toward "efficiency" is so limited as to obscure the social, humane purpose which should actuate all effort. And so it is that the student, seeing only the narrow purpose of the formula, becomes materialistic, for what is there to inspire when "efficiency" is seemingly the only end in view.

I do not suggest that we should assume toward structural design other than a scientific attitude, but I do suggest that science, if it is to contribute toward rational living, must have other than the narrow aims expressed by the ideas associated with "economic" and "efficiency." To eliminate from "efficiency" as we do the social and spiritual is to render it of negative value.

How shall we develop a knowledge of construction? What can we substitute for the present limited aims expressed in the teaching? What can we suggest? Supposing that we have nothing to suggest! (How can we suggest, when we were taught blindly to accept?) What does that matter? Will it not be sufficient to have opened the mind of the student to prospects, to possibilities, to have made him thoroughly aware of our shortcomings, to have pointed out the fallacies with which we started? It seems to me that such a program is sufficient; it will clear the road, at least, for the coming generation, and that is surely of some considerable importance, for in it is bound up the future.

For if we do not clear the road we shall have a world filled with columns and beams and girders and wheels and millions of mechanical contrivances—a mechanistic world—top-heavy with equipment with nowhere in particular to live (where life is worth while) and with little else to do than the making of an endless number of contrivances which will afford no one any particular pleasure.

In the similar way, in matters related to decoration, ornament, fabrication, and the use of materials, it is the end to be achieved which really counts. Let the student, by actual observation of the processes of fabrication and of the flimsy temporary products resulting from our present methods, become acquainted with how important a part the condition of the laborer plays in design. Let him in this way arrive at a basis of a fair valuation of the part *he* plays in design. Let the student become fully acquainted with actual conditions; let him grasp some of the real problems related thereto before he attempts to treat the subject in a graphic way. It is not essential that he examine an endless number of processes of fabrication or the use of materials. But it is of tremendous importance that he be made aware that the problems of labor, of craftsmanship and material are so inseparably connected with design that *they cannot under any circumstance be separated*. It is not sufficient to merely say this to a student; *this he must be induced to know and to fully understand through experience, not in the studio, but where things are actually fabricated*. That situations in the field of reality be examined in this connection is just as important in developing architectural expression in form and mass as it is that the student study the social and economic problems in the field before he attempts to formulate a program and its appropriate architectural envelope.

In the same way that collaboration with students in related fields is important from an educational standpoint, so is the student's contact with those who produced the forms and materials which enter into his structures. With all these he must collaborate in his later work, and therefore he should not only learn to collaborate during the early period of his specialized training but he should learn his own limitations. Perhaps the greatest value which would accrue from such collaborative effort and

contact would be to teach him that he cannot be a master in all related professions and in all crafts. In other words, we should induce a more accurate self appraisal by showing him his limitations through experience.

I regret the tendency in education which is widening the chasm between related activities; intensive specialization focuses attention upon details—ofttimes secondary details—and narrows the circle of contact and observation. It is by chance rather than direction that there occasionally emerges from our technical schools men who are liberal and sympathetic and who grasp something of what actually determines the scale of relative values by which effort and accomplishment are judged. If the process of specialization in education were directed toward effecting a full appreciation of one's own limitations and, in consequence, a proper valuation of the specialized knowledge of others, a basis of collective action might be established; as it is, a smug self-sufficiency is developed which makes collective effort well-nigh impossible.

We assume in our method of teaching design, by requiring that the student first organize his conception at a tiny scale, that we thereby insure that he will come to look upon his problems from a "broad" point of view; we also assume that in the "indication" at a tiny scale he will include the essentials of his problem. This is a pure assumption which has no relation whatever to fact. He does not conceive his "solution" from a "broad" point of view in reference to actual or liberal needs; he stabs at a solution in which about the only human factor really considered is "circulation." This he provides regardless of actual needs.

In our method of organizing conception at a tiny scale we are right; but we are wrong in assuming that a real solution can be effected except through intimate study of such activities as in themselves direct the outlines of a real solution.

But where does this all lead? What shall we set up as the goal of endeavor? A Paris prize? A trip to Rome? A further study of architecture and the "fine arts"? For some, yes; but, shall we make such a goal the sole aim of study, the sole measure of proficiency? I certainly hope not. That such an aim is now the sole aim is what warps our entire educational system, what keeps it on a single (side) track. Alongside of

THE CIRCEAN SHADOW

this goal we must set up another, one which will be a more adequate expression of the true aims of the profession. But, precisely what shall that goal be? What do we need in America to make a more adequate physical (architectural) expression possible throughout the length and breadth of the land? More monumental buildings? More things? Is it not a better physical organization of our communities rural and urban? Well, if it is, why not make the study of how to bring this about the parallel goal of endeavor? In other words, instead of setting the graduate students to designing this, that, or the other monumental thing—in the studio—let us give them a real opportunity of studying the problem of how can we organize governments, municipal, state and federal, so that communities can be developed in a rational way? Send students abroad, but for heaven's sake send some of them to study what the world is doing. Send them to Washington and over America; ask them to study conditions in America and make an application of the principles which they find in operation in foreign lands. The field for studies of this sort is

unlimited, and it is of tremendous importance to the profession, to the mass of men, and to the state that they should be made. Can we not make such purpose a goal—the goal I prefer to say—of the education of the architect? I know no valid reason why we should not.

And lastly; let us wake up and cast out our ever-more-rapidly-breeding "standards," abandon our narrowly conceived technical aims, and inject some social scope and truly imaginative purpose into the activities which we term the education of the architect.

Let us be perfectly open-minded and assign the true values to real educational experiences instead of blindly, thoughtlessly, accepting the contents poured in by institutions.

Let us start, not with Greece and Rome, but with our immediate environment, to the end that we—the profession—may render architecturally significant at least our more rational aims. From the planning of the cottage and its expression in appropriate architectural forms we will expand the circle to include the nation, and in so doing make not only better architects but citizens of a sort we sorely need.

The First War Emergency Government Towns

II. HILTON, VIRGINIA.

By HENRY V. HUBBARD and FRANCIS Y. JOANNES

THE present war has put the housing problem forcibly before us in its entirety. In the case of munitions of war, and of ships, it is we, the people of the United States, who are investing the money, who are furnishing the labor, and who are vitally concerned—profit, safety, and honor—in the rapidity and amount of production.

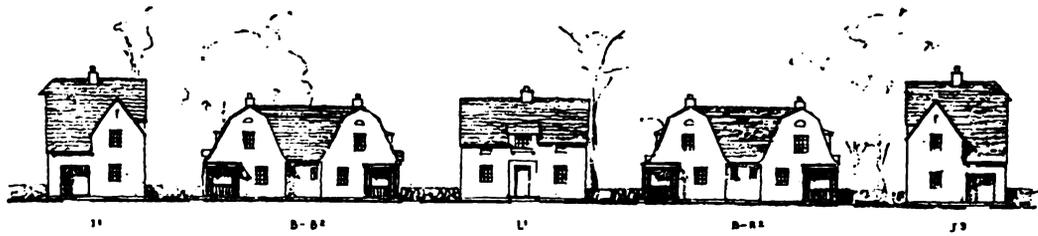
We are at the beginning of the problem; we have not solved it; but we have at last, and after heartbreaking delays, begun to appreciate the vital connection between living conditions, good citizenship, and industrial efficiency, and we have appropriated Government money to provide—among other things—necessary housing for war workers in munition plants and shipyards.

It is evident that this money will be efficiently spent only if it induces the workers to

live in the houses and to do their work. The end product of this housing activity is the contented efficient worker, and—of course, without waste, without an unnecessary expenditure of any kind—everything as to living conditions essential to making and keeping the worker contented and efficient is a legitimate item in the list of costs.

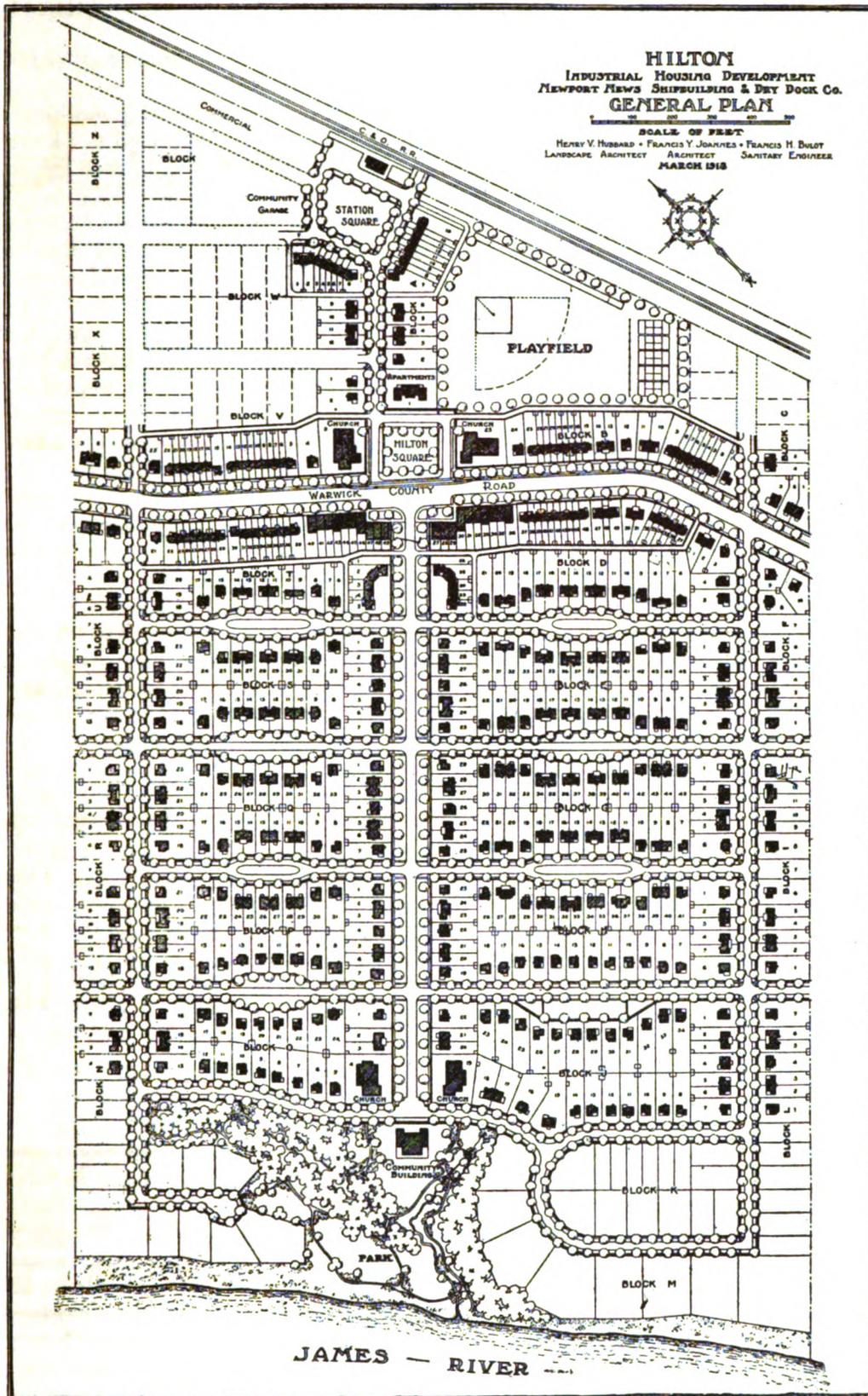
For the unmarried man, who takes up war work whether for high wages, adventure, patriotism, or to be concerned in something big and important, efficient living conditions may consist, for a time, in nothing more than a clean and decent room, a chance for a bath, for rest and recreation.

For the married man with a family, and for every person, in the long run, efficient living conditions comprise all those things which we recognize as necessary to a complete town:



Typical Elevations of Street Fronts and House Rows

HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co.
Francis Y. Joannes, Architect



HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co
 Harry V. Hubbard, Landscape Architect; Francis Y. Joannes, Architect; Francis H. Bulot, Sanitary Engineer

proper houses rightly located and arranged; roads, water, sewerage, fire-protection; stores, markets, churches, schools, theatres, club-houses; parks, playgrounds, playfields, and so on. Any Government industrial housing development which does not find all these things already sufficiently provided must provide, and, if necessary, pay for them itself. Moreover, all these things must be provided, and administered in such a way that the people using them shall do so with self-respect and as their well-earned right, not as a privilege. Americans will not live contentedly in a housing development that looks like a toy village or a state poor farm. Nor will they live contentedly under legal restrictions of tenure and occupancy that encroach too much on their personal freedom, or that express too much the interest of anyone but themselves.

Temporary housing may sufficiently serve the careless bachelor; incomplete living facilities may for the time serve those who have known no better and who can afford no other, but for the trained and well-paid man, permanence as well as decency will be necessary. And we must remember that it is the discontented whom we are trying to content, and a high proportion of the discontented, of course, will be those who recognize and mean to obtain really good and permanent living conditions.

Moreover the world will not come to an end when the war is over. It will be just as vital, and perhaps just as obviously vital, that workers shall be contented after the war as now. Permanent housing may take its place as an integral part of the enlarged and improved town, and as something rather better than what was done before, to stimulate still further housing improvement. Much of its value remains after the war, even if some other industry has to receive a subsidy to encourage its replacing the munitions plant then happily out of work.

But the temporary housing after the war is little better than "scrap;" indeed it may be much worse, and, not being destroyed, degenerates into the worst type of slum, a destroyer of local land-values, a menace to the tenant and a reproach upon the country.

All this, then, is what we must face, as a matter of business, in undertaking Government housing. It is possible to state each particular housing problem roughly in business terms. Let us take for example the Government hous-

ing development now under way at Hilton near Newport News, Va.

The Newport News Shipbuilding and Dry Dock Company, as long ago as October, 1917, saw that Government assistance in war housing developments would be absolutely essential, and therefore would sometime be provided. On the advice of F. L. Olmsted they employed J. D. Leland, 3d, of the firm of Loring & Leland, as architect, the writer, of the firm of Pray, Hubbard and White, as landscape architect, and F. H. Bulot as engineer, to prepare a scheme for the development of land for 500 houses to serve the shipyard workers. They hoped, as proved to be the case, that when Government loans for such work finally became available they would have their plans so far along that they might be accepted without great changes and quickly put under construction. When, a short time later, after the preliminary plans had been accepted, Mr. Leland took up his work as assistant director of the Housing Bureau of the Department of Labor, his place was taken by F. Y. Joannes.

This coöperation of architect, engineer, and landscape architect and town planner is an ideal one, reflecting as it does the three great requirements of any such development: Beauty and utility of houses and public buildings; adaptation of public utilities to use, to local conditions, and to consideration of economy; and beauty of ground and adaptation to topography and to the life and growth of the community.

The piece of land chosen was the nearest to the shipyards which could be obtained, of sufficient size and quality. The taking up of land for other governmental purposes forced the site for Hilton about three miles from the shipyards, but both present railroad service and proposed trolley service make it reasonably accessible.

Its cost, for the amount needed for lots, streets, school-sites, church-sites, store-sites, park, playgrounds, and playfield was item one in the calculations.

The payrolls of the shipyards were put at the disposal of the designers, and, reckoning that the normal rent of a house is about 20 per cent of the wage of one adult male worker, we had, for each class of workers, what they could pay as rent, and, consequently, what sum could be expended for lot, improvements, and house complete with all incidental expenses, so that the rent which a worker could afford to pay would

THE FIRST WAR EMERGENCY GOVERNMENT TOWNS

be a fair return, say 10 per cent, on the investment in each case. This tentative lump sum price was item two.

Having determined, by careful investigation among the workers, and consultation over tentative plans with them, and especially with their wives, what sizes and kinds of house they preferred, it was possible to make a reasonable estimate of what such a house would cost.

Having, on the basis of all the local conditions and the known preferences of the workers as to lot sizes, and so on, worked out a tentative plan for the new town, it was possible to estimate roughly what would be the cost of this town, "complete and ready to serve," and by much laborious fitting and changing it seemed to be possible, in this case, to evolve a plan which would produce the necessary accommodations for the possible price, without being obliged to sacrifice decency, permanency, convenience, space, sanitation, nor—we believe—some noticeable degree of beauty. There is a minimum figure below which it is not economy to reduce cost per cubic foot for a house. There is a still more irreducible minimum in water-supply and sewerage. Roads, however, may be sometimes opened but not paved, parks may be set aside but not developed, thus justly postponing until later times the payment for some of the things which are to be enjoyed by later generations.

The land chosen is practically flat from the railroad to within a short distance of the water. Along the shore it is broken by the steep-sided valleys of the two little brooks shown on the plan. The scheme is a modified gridiron, based on a main axis from the town square on the main highway to the community building on the little hill between the brooks, looking out across the James River. The minor streets, running parallel to the shore, some carrying through to future development north and south, some capable of being dead ended, are treated with little neighborhood open spaces for interest and additional feeling of room. The railroad station faces on a little square of its own, connected directly with the town square. A community garage is next the railroad station square.

Two churches, an apartment house, and the few stores surround "Hilton Square," and two more churches, with the community building, give importance to the river end of the broad central street.

The land next the river, divided into larger lots, is held to be used for houses by those who can afford to spend more than the average and who will probably buy and build for themselves. The park occupies the rough land in the brook bottom in front of the community building. The playfield occupies the land on the outskirts of the development next the railroad and south of "Station Square." Neither park nor playfield needs much expenditure at once. They are large enough to serve several times the population at present expected, and the future population may do its share of paying for their development.

The lots vary from 118 to 130 feet deep, since many of the people want gardens. The streets are 50 or 100 feet wide, but the roadways, excepting Warwick County Road, are but 20 and 24 feet wide, because they are, and should remain, local streets, with no possible press of traffic.

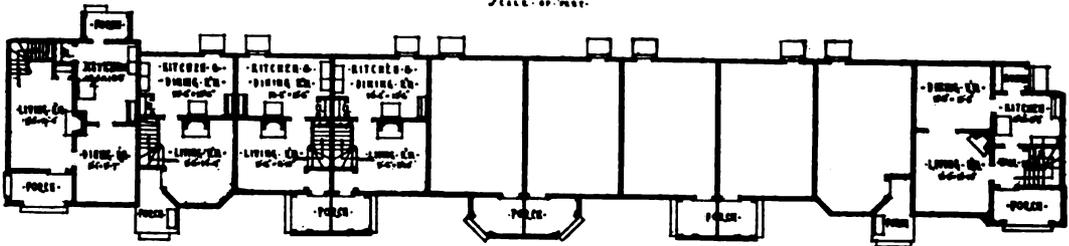
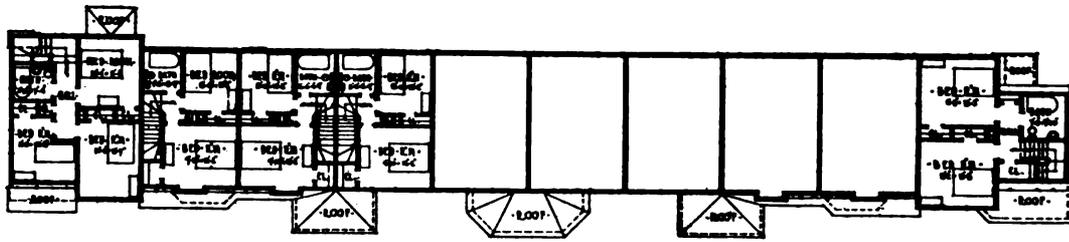
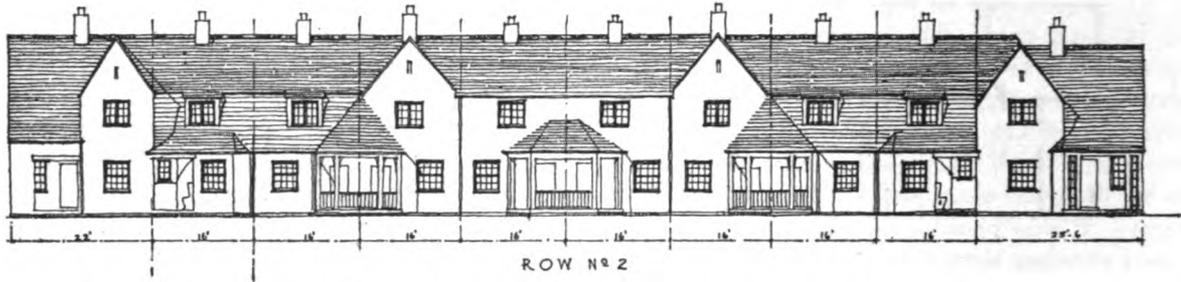
As far as may be expressed in dollars and cents, and not in decency, amenity and content, the appended* figures show both sides of the account: what the householders may reasonably be expected to pay for their homes, and what these homes may be reasonably expected to cost.

No man is so wise that his estimate in such matters may be implicitly trusted in these times. If, owing to the present great difficulties in construction, the cost is greater than reasonable rents will amortize, the difference must, in one way or another, be borne by the Government and charged up to the cost of the war. We hope, however, that the cost of the whole project will be such that the householders can fairly bear it all, and eventually feel that it is their town and that they made it. We believe that, in either case, the result will be some five hundred families of more or less contented, self-respecting citizens, which would be worth the money, even if in no other way did the town prove to be a business proposition.

†Having arrived at an arrangement of streets and blocks which promised a reasonable and economical result and an opportunity for placing a maximum number of dwellings without exceeding the preferred population per acre, the type, size, and location of buildings and their effect upon lot-sizes became the primary con-

*See pages 340, 341.

†The following note was prepared for the Journal by Mr. Joannes.



• ROW NO 2 ONE SIX ROOM HOUSE, EIGHT FOUR ROOM HOUSE, & ONE FIVE ROOM HOUSE •

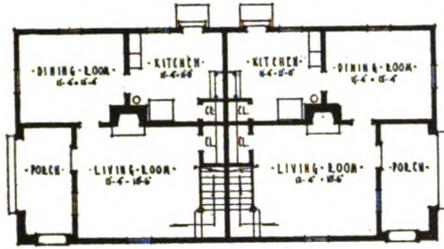
Plans and Elevation of House Row No. 2

HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co. Francis Y. Joannes, Architect

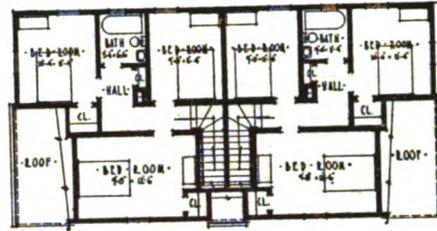
siderations. A rough schedule of quantities of four-, five-, six-, seven-, and eight-room houses was agreed upon, and preliminary sketches were made for each of these types of houses. It was deemed desirable, in order to avoid the "pill-box" effect of a large group of small houses, to introduce a certain number of two-family houses in such a way as to solidify the general appearance of the village and endeavor to break up this inevitable "pill-box" effect. In laying out the houses, the possibility of forming double houses by combining two single houses was constantly borne in mind, but a peculiar local condition, which required the placing of the chimney near the center of each dwelling, afforded an opportunity not possible in the usual housing develop-

ment of combining single houses back to back as well as side to side, and some surprisingly interesting compositions resulted. This naturally afforded a means of increasing the number of types of houses without multiplying to an unreasonable degree the quantities of details and material sheets required for carrying out the work. In placing houses on the property plan it was found that the plans of practically all single houses would have to be reversed, thus creating again a number of new types.

The lot subdivisions were not completely determined until after the plans of the houses had been settled, and where crowding could not be avoided otherwise, the type of house was changed so as to maintain the established

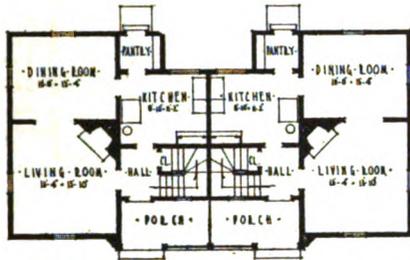


- FIRST FLOOR PLAN -

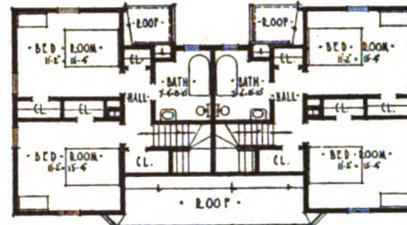


- SECOND FLOOR PLAN -

- SCALE OF FEET -
- SIX ROOM HOUSE TYPE EEI -



- FIRST FLOOR PLAN -

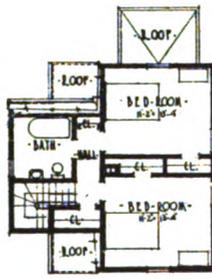


- SECOND FLOOR PLAN -

- SCALE OF FEET -
- FIVE ROOM HOUSE TYPE AAI -

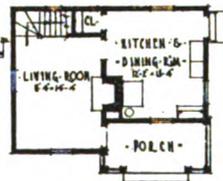


- FIRST FLOOR PLAN -



- SECOND FLOOR PLAN -

- SCALE OF FEET -
- FIVE ROOM HOUSE TYPE AI -



- FIRST FLOOR PLAN -

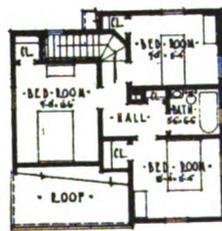


- SECOND FLOOR PLAN -

- SCALE OF FEET -
- FOUR ROOM HOUSE TYPE CI -

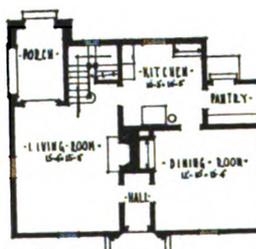


- FIRST FLOOR PLAN -

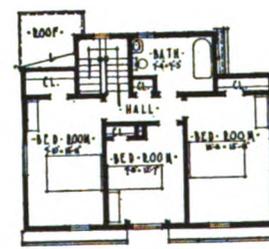


- SECOND FLOOR PLAN -

- SCALE OF FEET -
- SIX ROOM HOUSE TYPE EI -



- FIRST FLOOR PLAN -



- SECOND FLOOR PLAN -

- SCALE OF FEET -
- SIX ROOM HOUSE TYPE LI -

Typical House Plans

HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co.
Francis Y. Joannes, Architect

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

HILTON—COST OF DEVELOPMENT PER FAMILY

Total cost of land and development, including 5.23 acres of playfield, 6.54 acres of park, school and community building site, four church sites, extra-large main sewer for future extension, extra-large water-pipes and pump for future extension	\$404,218 00
Total number of families housed, about	500
Total cost for land with all improvements* per family, about	\$632 77
Total cost of house, per family, average, estimated	2,600 00
<hr/>	
Total Government expenditure per family of five average, with two workers average.	\$3,232 77

*Not including cost of water-supply and house-lighting, which are met by annual payments.

HILTON—COST OF DEVELOPMENT OF 500 HOUSES

	Total cost	Cost per house
<i>Clearing the Ground.</i> 20.2 acres at \$300 and 50 acres at \$200 00	\$16,000	\$32 00
<i>Grading.</i> 9,950 cu. yds. cut and replaced at 60	5,970	11 94
<i>Roads.</i>		
Broken-stone roads, 5,964 lin. ft. = 12,713 sq. yds. at 1 21	15,382	
Bituminous macadam roads 16,953 sq. yds. at 1 76	29,837	
Concrete roads 2,756 sq. yds. at 2 12	5,843	102 12
<i>Concrete Walks.</i>		
Sidewalks 130,350 sq. ft. = 14,484 sq. yds. at 2 18	31,574	
House walks 137,500 sq. ft. = 15,266 sq. yds. at 2 00	30,531	124 21
<i>Curbs and Gutters (combined).</i>		
9,368 sq. yds., concrete 6 ins. thick at \$2 19	\$20,515	
7,492 sq. yds., foundations 6 ins. thick at 45	3,371	
	23,886	47 72
<i>Storm-Drains.</i>		
4,974 lin. ft. of pipe (all sizes)	7,606	
Drain-inlet grates	928	
	8,534	17 07
<i>Sewers and Sewage Disposal.</i>		
Mains, total cost	18,829	
Manholes (about)	3,500	
House-drains	19,765	
Effluent to river	1,850	
Septic tank	4,860	
	48,804	97 60
<i>Street-Lighting</i>	5,554	11 11
<i>House-Lighting</i>	24,276	†48 55
<i>Water Supply.</i>		
Mains, 6 ins., 8 ins., 12 ins., 14,763 lin. ft.	26,535	
Valves and hydrants	2,800	
Services	16,000	
575 meters at \$18	10,350	
Pumping station	7,800	
	63,485	†126 57
<i>Plants and Planting</i>	4,000	8 00
<i>Professional Services, landscape architect and engineer</i>	12,000	24 00
<i>Cost of Land.</i>		
Developed 78.4 acres		
Playfield 5.23 acres		
Park 6.54 acres		
	90.17 acres	
	78,542	157 00
Total	\$404,218	\$632 77

† Covered by annual payment; not included in price of lot.

THE FIRST WAR EMERGENCY GOVERNMENT TOWNS

HILTON—TYPICAL EARNINGS OF EMPLOYEES

Approximate Number Employed	23	15	21	203	23	346	27	209	130
CLASSIFICATION	Angle-smiths	Boiler-makers	Copper-smiths	Fitters	Moulders	Machinists includes: Brass, Iron, and Outside Machinists	Pattern-makers	Riveters (leading men) Chippers and Caulkers, Tank Testers	Ship-Carpenters
Normal hours	48 hrs.	48 hrs.	48 hrs.	48 hrs.	48 hrs.	48 hrs.	48 hrs.	48 hrs.	48 hrs.
Overtime at 1½ rate	9 hrs.	9 hrs.	9 hrs.	9 hrs.	9 hrs.	9 hrs.	9 hrs.	9 hrs.	9 hrs.
Average rate per hour for 48-hour week	\$0.5186	\$0.5704	\$0.62	\$0.4620	\$0.6301	\$0.5896	\$0.6829	\$0.5675	\$0.5508
Average rate per hour for overtime6779	.8555	.94	.6930	.9452	.8845	1.0243	.8512	.8262
Normal 48-hour week wage	24.90	27.37	29.95	22.18	30.24	28.30	32.78	27.24	26.44
Present 57-hour week wage	30.90	35.08	38.38	28.42	38.74	36.25	42.00	34.90	33.88
Normal monthly wage	96.91	118.61	129.79	96.10	131.05	122.62	142.06	118.03	114.55
Present monthly wage	133.21	151.99	162.20	123.13	167.86	157.09	182.00	151.21	146.80
Normal yearly wage	1294.80	1423.34	1557.40	1153.15	1572.78	1471.39	1704.77	1416.48	1374.67
Present yearly wage	1658.58	1823.95	1995.55	1477.63	2014.27	1885.10	2184.00	1814.59	1761.55
Normal monthly rent	21.58	23.75	25.96	19.22	26.21	24.52	28.42	23.60	22.91
Present monthly rent	27.65	30.40	33.26	24.62	33.58	31.42	36.40	30.24	29.36
Normal yearly rent	258.96	284.66	311.62	230.63	314.56	294.28	340.96	283.25	274.90
Present yearly rent	331.72	364.79	398.26	295.52	402.85	377.02	436.80	362.92	352.37
Total normal cost (house and land) on 10 per cent basis	2589.60	2846.64	3116.16	2306.28	3145.50	2742.76	3409.56	2832.48	2748.96
Total present cost (house and land) on 10 per cent basis	3317.16	3647.88	3982.56	2965.24	4028.52	3770.16	4368.00	3629.16	3523.68
Total normal cost (house and land) on 9 per cent basis	2877.32	3162.92	3462.40	2562.40	3495.06	3269.74	3781.20	3147.19	3054.40
Total present cost (house and land) on 9 per cent basis	3685.73	4053.20	4425.07	3293.60	4476.13	4189.07	4853.33	4032.06	3915.20
Total cost of house and land on 9 per cent basis, average 5 years' present and 10 years' normal wage	3146.78	3459.68	3783.28	2802.79	3822.08	3576.18	4138.57	3442.26	3364.80
Determined cost, house and land, on 9 per cent basis, 5 per cent less	2989.45	3286.70	3594.14	2661.40	3630.98	3754.98	3918.44	3270.16	3196.56

NOTE.—These figures are not now exactly accurate (June 12, 1918) but serve to show method of calculation.

EDITOR'S NOTE.—The above figures offer a striking illustration of the domination which industry exercises over the housing problem. In many of the communities to be built by the Government it will no doubt be found impossible to build houses within the rent paying possibilities of the occupant, and it is well understood, we believe, that in such cases the Government shall bear the extra cost, or loss, represented by any shrinkage in post-war values.

we have thoughtlessly but voluntarily accepted the principle that it is not the nation's concern when decent houses cannot be provided at a rent which is possible of payment by the occupant, and that the problem must be left to work itself out by hook or by crook.

We must change the principle, and resolutely face the problem as one in which we are more vitally concerned over the living conditions of our workmen and their wives and children than we are in the profits of industry. That is a cardinal principle of democracy.

But this war condition is not at all unique. As a nation,

minimum spacing of sixteen feet between houses having the same setbacks from the street.

It was practically decided at the outset that inasmuch as the country was in or adjacent to the southern lumber district, all of the houses should be of frame construction.

The exterior character of the houses was determined on a basis of permanency and upkeep, and the resulting schedule of exterior treatment shows a preponderance of stucco with a smaller percentage of houses of siding or shingles. All of the houses will have slate roofs. As the climate does not make furnace heat necessary, no cellars are excavated, but, in order to take care of wood and coal supplies and garden tools, a small outbuilding is provided for each family. In order, again, to avoid the dotting of the landscape with what might appear to be small dog-houses, these are combined, wherever they can be, in twos, threes, and fours, thereby improving the general appearance with a resulting economy in construction. These outbuildings are made large enough to house a small automobile.

The contractor for the construction work was selected early, and a sufficient number of estimates were made of the cost of the various types of houses. By comparing the total costs with the wage schedule of the prospective tenants it was found that the range of rents or sale prices was safely within the amounts which the different types of skilled labor could afford. To make an adequate provision, however, for the low-priced, white, semi-skilled mechanic or young apprentice, married, but with few or no children, it was therefore determined to place a row or terrace type of house along the Warwick County road, which is an improved thoroughfare probably less desirable for the better type of development. These row houses are four rooms each, a combination kitchen and dining-room being provided. The end houses of each row are, however, five- and six-room houses, affording a better architectural termination and a further variation in accommodation. This accomplished a further result of again solidifying the appearance of the village, particularly in its aspect to one passing through the village by way of Warwick County road. At the Village Green or Square there are allotments for twenty stores having small apartments in the second story. Provision is also made in the store groups for a

moving-picture theatre, billiard-hall and bowling-alley, and a hall for lodge meetings, religious meetings, theatricals, and other community activities. Four lots have been set aside for churches, and these will be assigned to the denominations who may require them, the financing and building of these being left largely to the community. Provision is made for a grade school which has combined with it a meeting-room, gymnasium, domestic-science room, and other community features.

Because of the fact that the major part of the passenger transportation will be furnished by the extension of the Newport News trolley service, nothing more than a substantial shelter will be constructed for the railway station in connection with the Booster Station for water service until such time as traffic demands develop.

In preparing working drawings and details it was determined to place all of the plans and elevations of each type of house on one sheet, and all of the details in connection with each type on single sheets, so that a foreman could be given a single sheet containing all the information he required to construct the house and not be hampered by the loss of single plans or elevations from "sets" of prints prepared in the usual way. A single specification covers the work on all dwellings. The dimensions of all dwellings are based on market sizes of framing lumber, the story heights being established on the basis of 16-foot studs cut 8 feet 5 inches and 7 feet 7 inches. This cut of studding would not have been an economical one except for a wholesale operation such as this. The contractor has practically established a "pre-cut" house proposition on the site, all joists, studding and framing being cut to lengths properly piled and issued as required in accordance with material schedules for each house. The bulk of the material has been ordered by the Construction Division of the Army on bills of materials furnished by the contractor. For certain items orders have been placed directly by the owners as agents of the United States. Considerable saving has resulted, and the delivery of materials has been greatly expedited.

Preliminary drawings and studies were begun on December 24, and actual construction work began early in May. All matters pertaining to design were supervised until the middle of April

THE FIRST WAR EMERGENCY GOVERNMENT TOWNS



On Warwick County Road, Showing H¹ House and Row No. 8

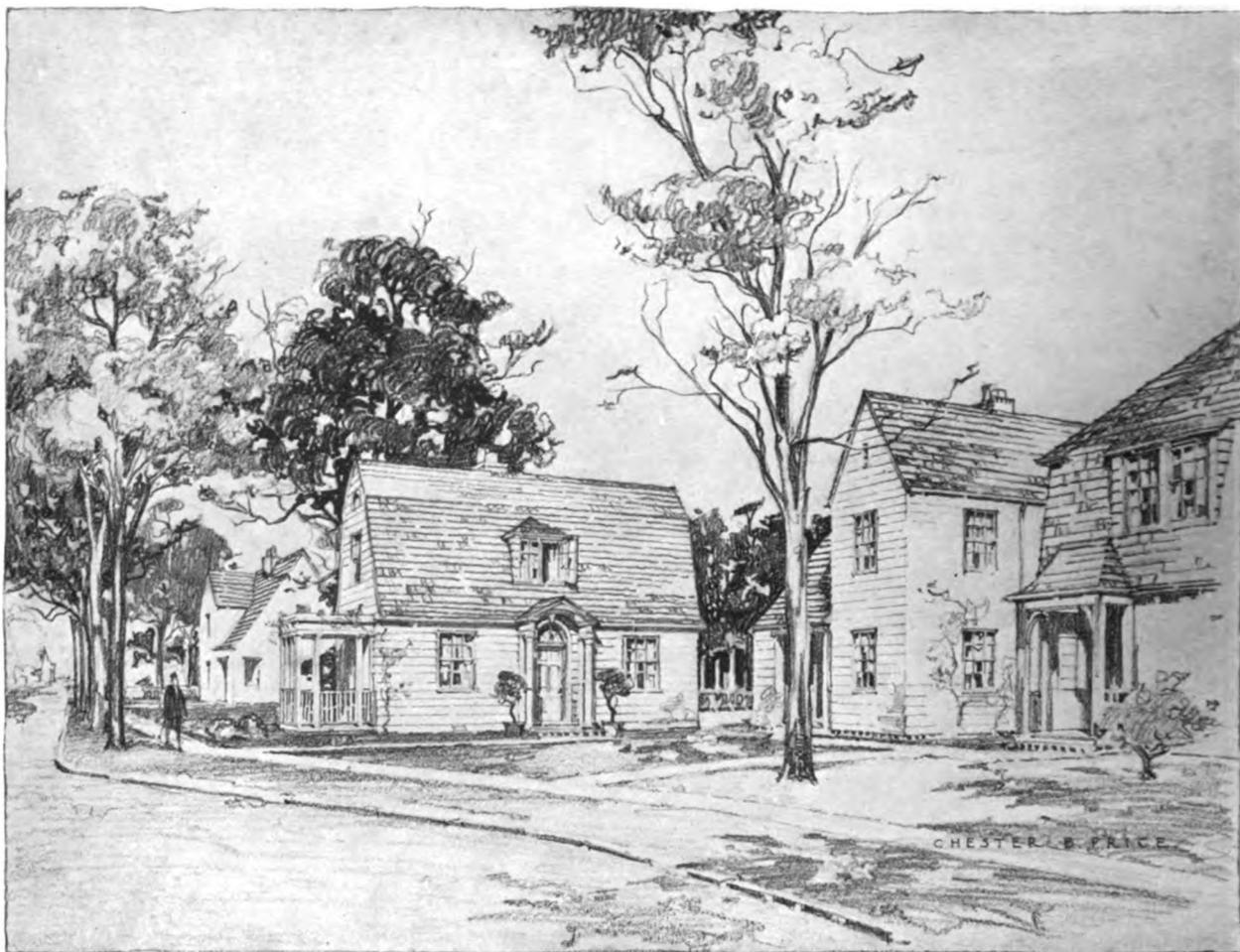
HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co.
Francis Y. Joannes, Architect

by the Committee on Industrial Housing, Council of National Defense (afterward the Housing Bureau, Department of Labor). Since that time the supervision for the Government has been cared for by the Housing Division of the United States Shipping Board. Thus the development has been through the organization stages of two Government bureaus.

Apartments

Another development which is also under construction consists of four apartment buildings, four stories high, of the open-stair tenement type, each building containing eighty-four apartments of two, three and four rooms each. These are being erected within the city limits, near the

shipyard, and form a very important adjunct to the village development in that they provide immediate quarters for new workers who might not be able to take a house and furnish it before knowing that they were going to remain. A place is also provided for the young married mechanic who can set up housekeeping in two or three rooms and later, when his family grows, he will naturally gravitate to the village for larger quarters and surroundings. Floaters are also taken care of, and, as rents are to be collected weekly, not more than a week's rent should be lost. These buildings will contain a general store, drug-store, kindergarten, restaurant, men's club, and possibly a branch bank and branch library.



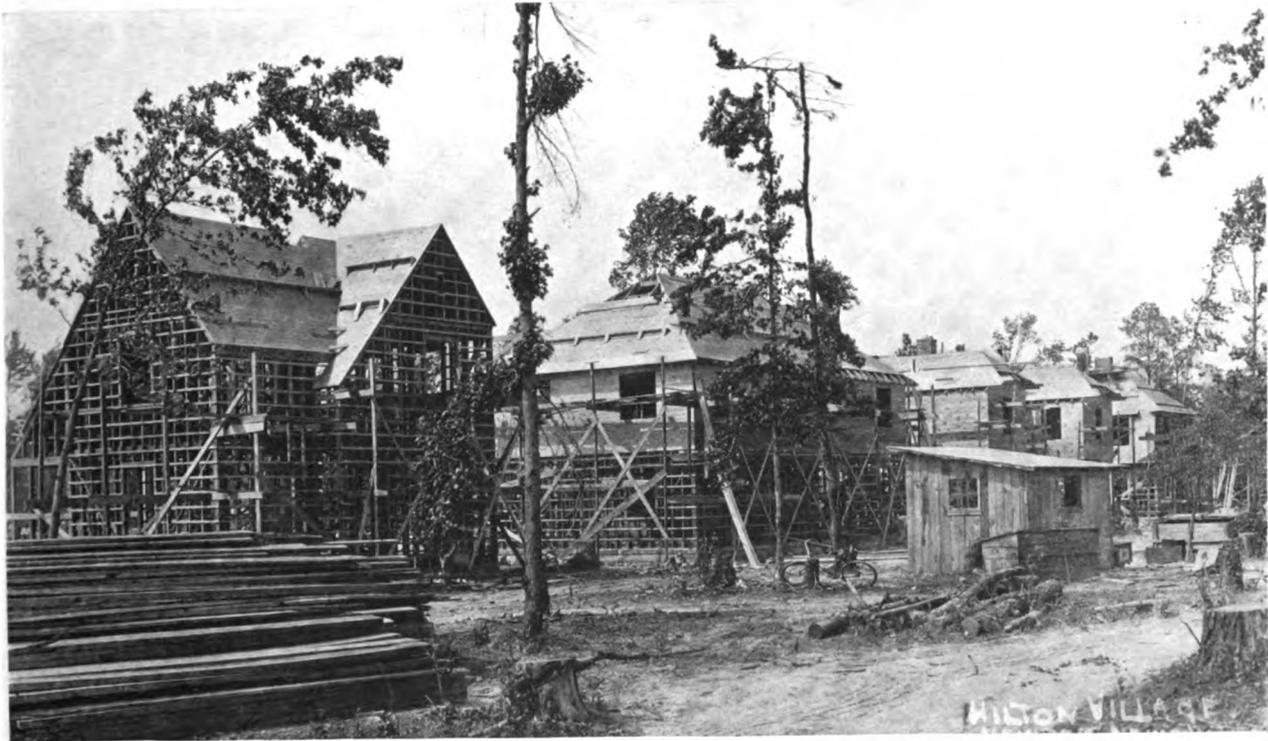
Corner of Park Court
HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co.
Francis Y. Joannes, Architect.



Community Hall and the School, Looking Toward Newport News and Shipyards
HILTON VILLAGE.—A Housing Development Near Newport News, Va., for the Newport News Shipbuilding & Dry Dock Co.
Francis Y. Joannes, Architect.



ON THE SITE OF HILTON VILLAGE, MAY 6, 1918



ON THE SITE OF HILTON VILLAGE, JUNE 13, 1918



CROIX MILOINAX (Somme).—The Temporary Bakery of the American Red Cross

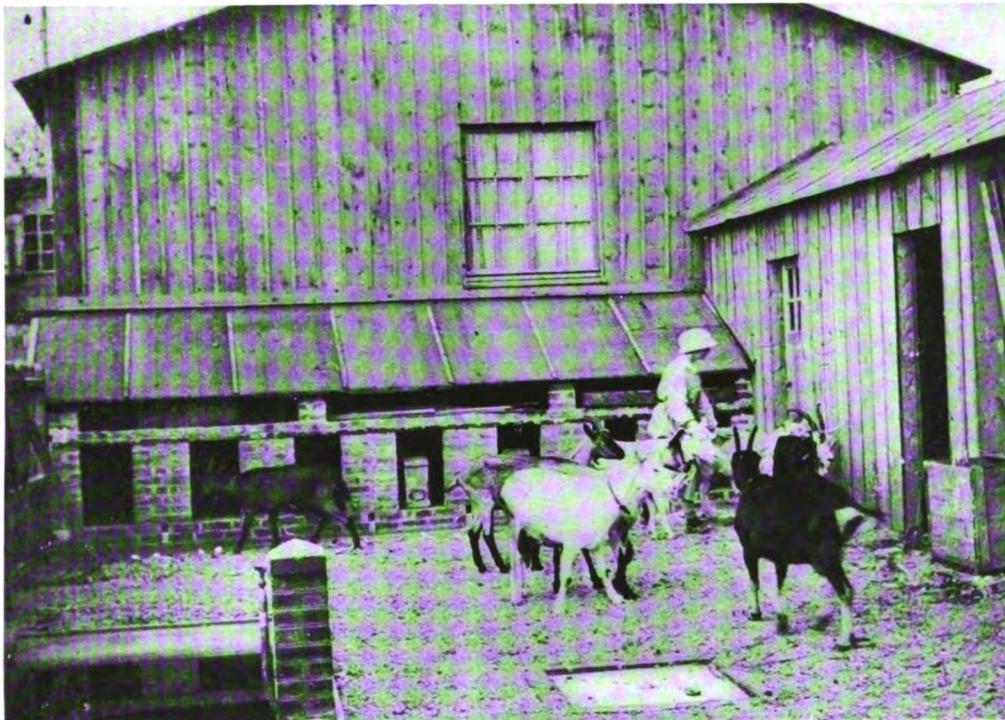


GRECOURT (Somme).—Dispensary of the American Women's Cantonment

RECONSTRUCTING THE DEVASTATED AREAS OF FRANCE



BETHANCOURT (Oise).—The Mayor's House. Entirely Restored by the Baronne de Brincard and the French Government



BLÉRIANCOURT (Aisne).—Miss Anne Morgan's Farm

RECONSTRUCTING THE DEVASTATED AREAS OF FRANCE



MATIGNY (Somme).—House Reconstructed by the American Red Cross



MATIGNY (Somme).—Buildings Restored by the American Red Cross

RECONSTRUCTING THE DEVASTATED AREAS OF FRANCE

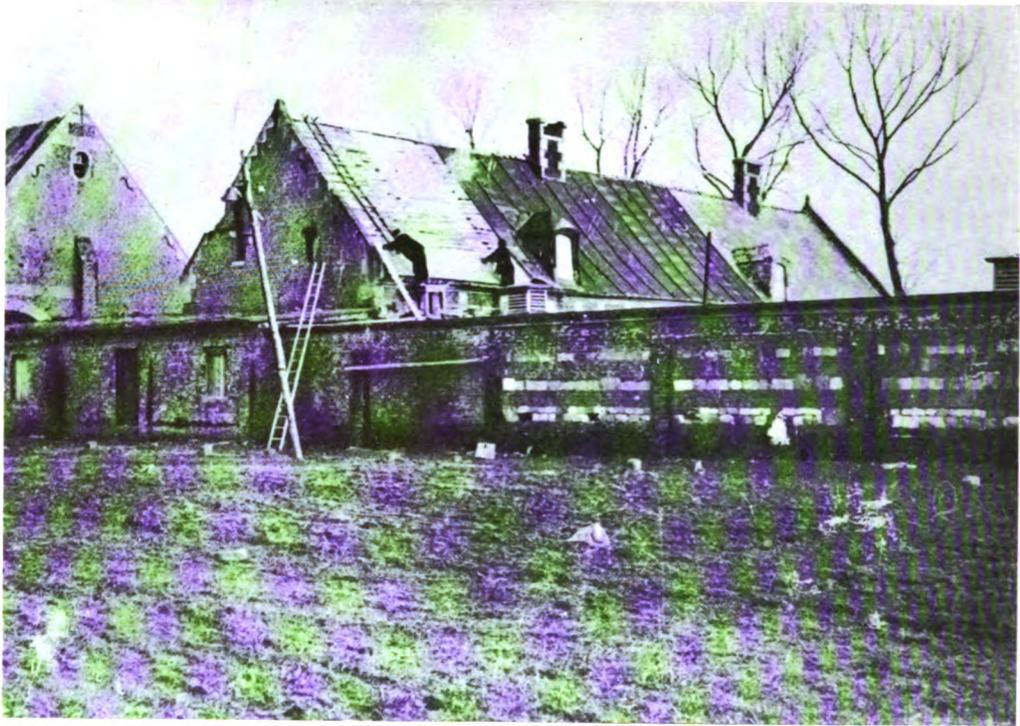


VITRIMONT (Meurthe-et Moselle).—Village Reconstructed by the American Red Cross

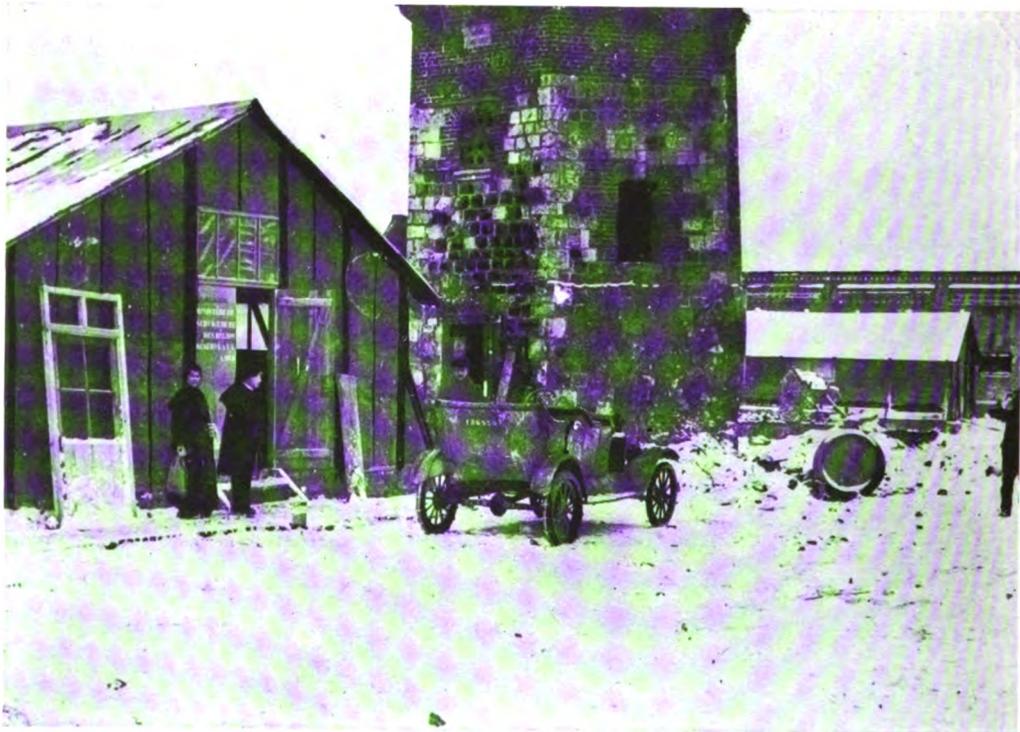


GRUNY (Somme).—House Reconstructed

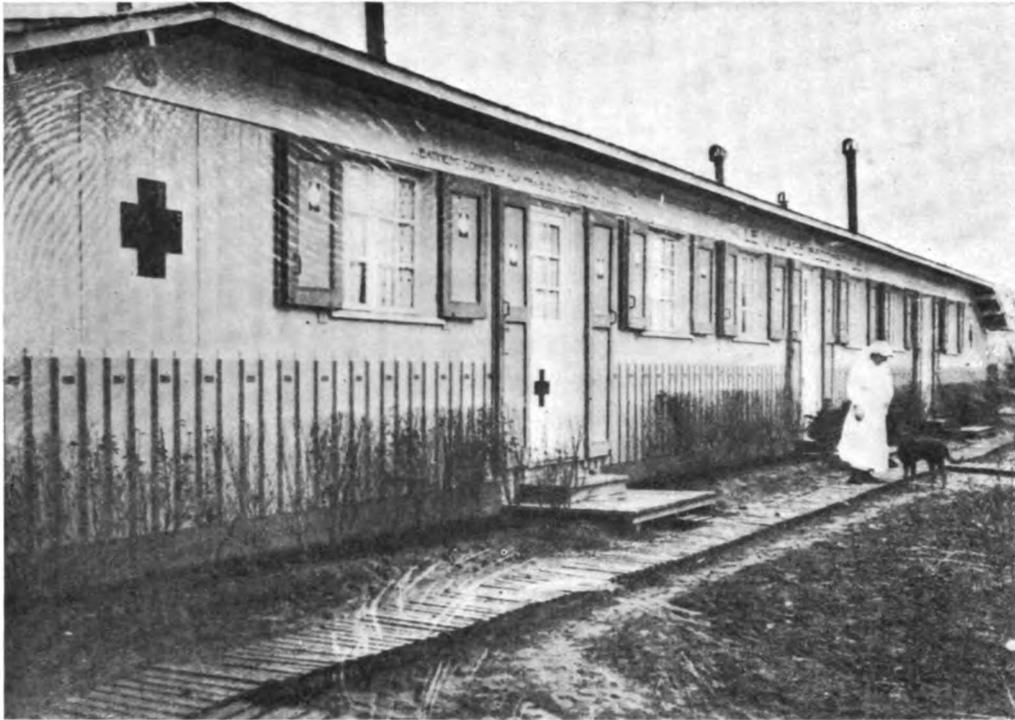
RECONSTRUCTING THE DEVASTATED AREAS OF FRANCE



GRUNY (Somme).—American Red Cross Volunteers Reconstructing a House



CROIX-MOLIGNAUX (Somme).—Barracks of the American Red Cross
RECONSTRUCTING THE DEVASTATED AREAS OF FRANCE



LASSIGNY (Oise).—Buildings of the Village Reconstruction Work

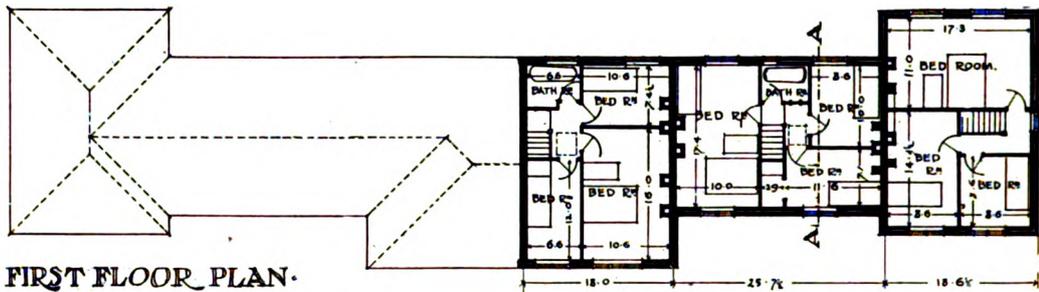


BETHANCOURT (Oise).—House Reconstructed by the Baronne de Brincard and the French Government

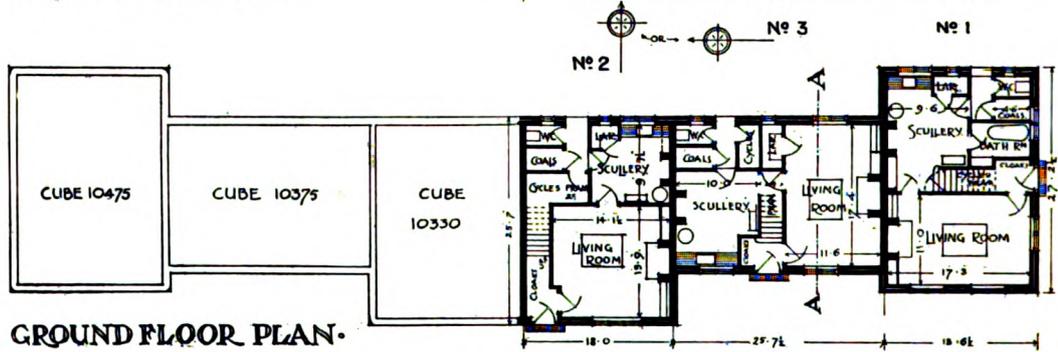
RECONSTRUCTING THE DEVASTATED AREAS OF FRANCE



FRONT ELEVATION.



FIRST FLOOR PLAN.



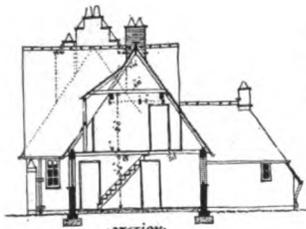
GROUND FLOOR PLAN.

Home Counties Area. Class A, First Premium. Courteney M. Crickmer, Architect. London

COTTAGE COMPETITION OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS



Front Elevation

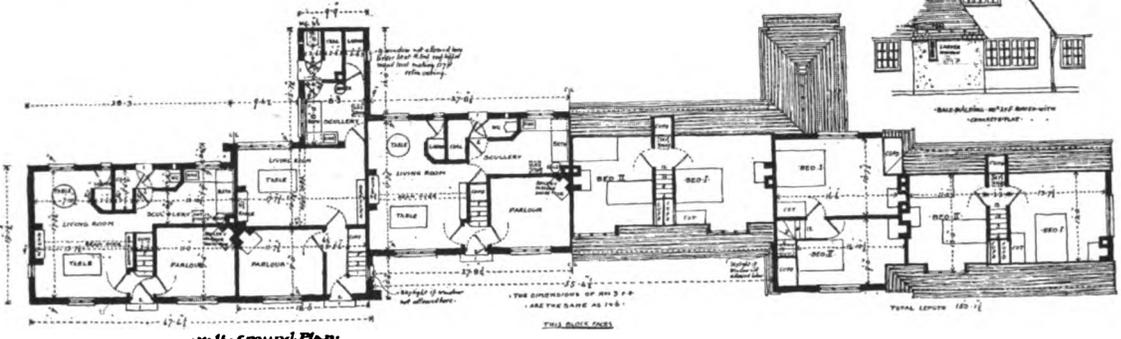


Section

Casing
 1st floor 12' 0" x 12' 0" 8748 sq ft
 2nd floor 12' 0" x 12' 0" 7734 sq ft
 3rd floor 12' 0" x 12' 0" 6720 sq ft
 4th floor 12' 0" x 12' 0" 5706 sq ft
 5th floor 12' 0" x 12' 0" 4692 sq ft
 6th floor 12' 0" x 12' 0" 3678 sq ft
 7th floor 12' 0" x 12' 0" 2664 sq ft
 8th floor 12' 0" x 12' 0" 1650 sq ft
 9th floor 12' 0" x 12' 0" 636 sq ft
 10th floor 12' 0" x 12' 0" 0 sq ft
 Total 12' 0" x 12' 0" 6720 sq ft



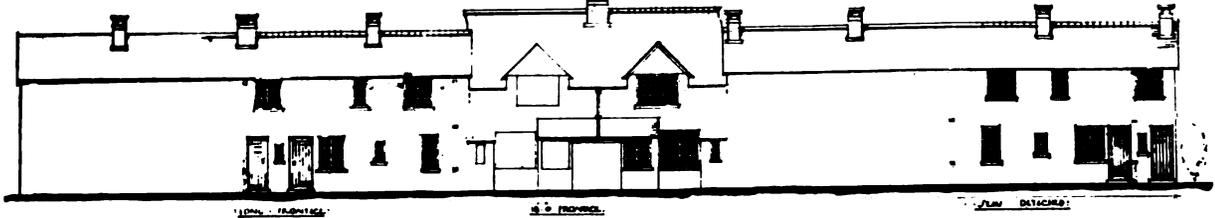
Half Back Elevation



Half Ground Plan

Manchester and Liverpool Area. Class C, Second Premium. H. L. North, Architect. Llanfairfechan

COTTAGE : COMPETITION : SOUTH WALES AREA : CLASS C :



Back Elevation

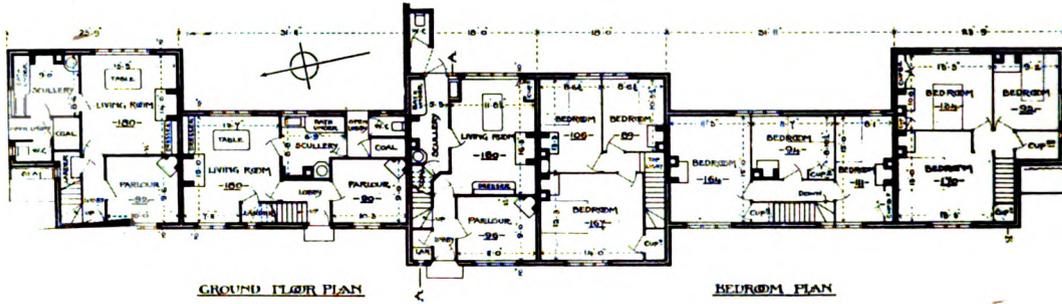


South Wales Area. Class C, First Premium. Johnson & Richards, Architect. Merthyr Tydfil

PLANS FOR REHOUSING THE WORKERS OF ENGLAND



FRONT ELEVATION



GROUND FLOOR PLAN

BEDROOM PLAN



BACK ELEVATION

Southwest Area. Class B, Second Premium. H. Heathman, Architect. Bristol



BACK ELEVATION

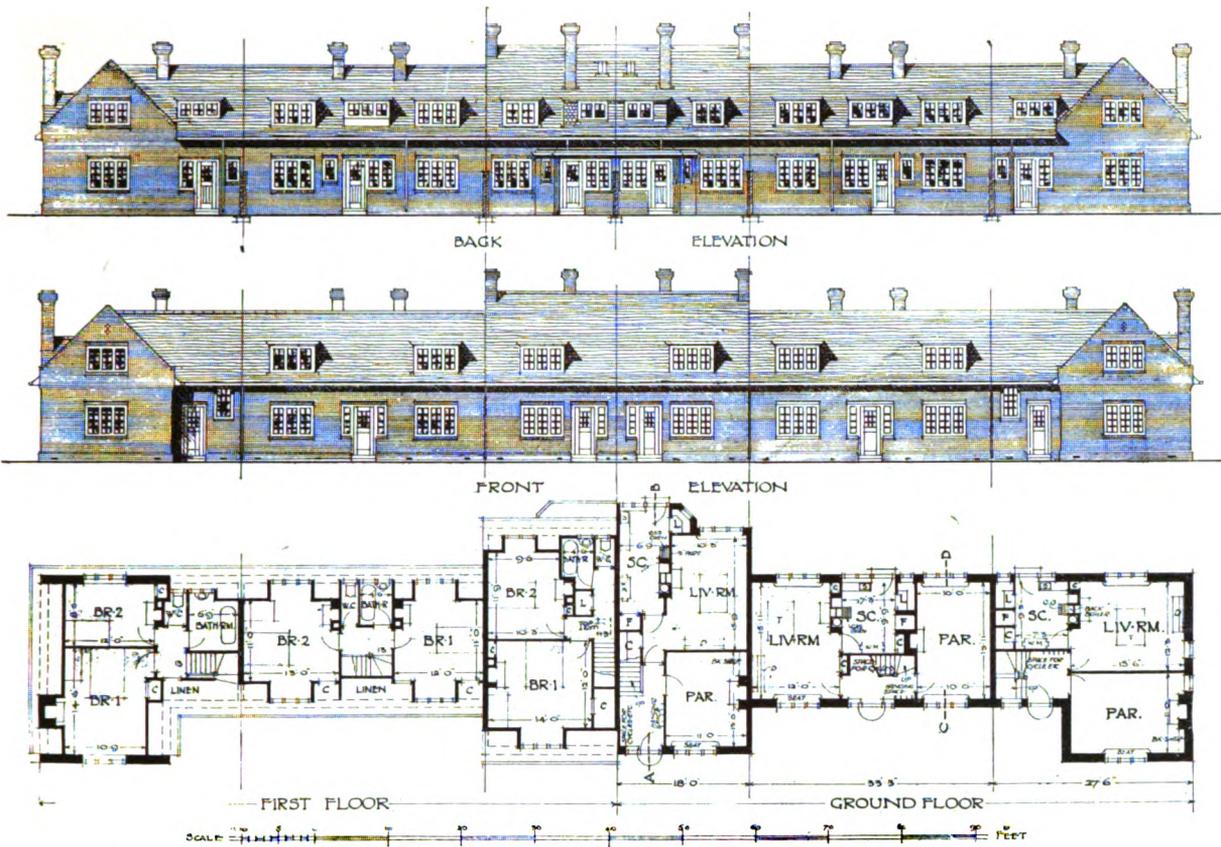
SCALE 5 FEET TO 1 INCH



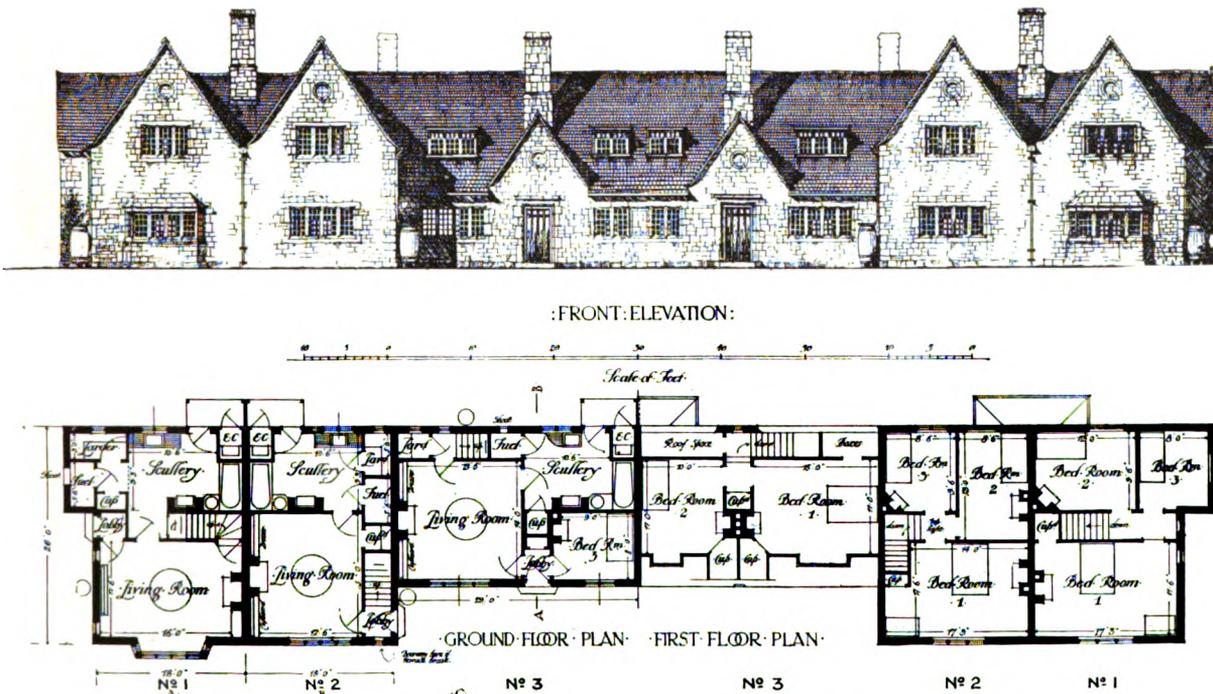
FRONT ELEVATION

Southwest Area. Class B, First Premium. H. L. Thornley & Rooke, Architects. Plymouth

COTTAGE COMPETITION OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS



Northern Area. Class C, First Premium. Knowles, Oliver & Leeson, Architects. Newcastle-on-Tyne



Home Counties Area. Class A—H. M. C. Wontner Smith, Architect. London

PLANS FOR REHOUSING THE WORKERS OF ENGLAND



BACK ELEVATION



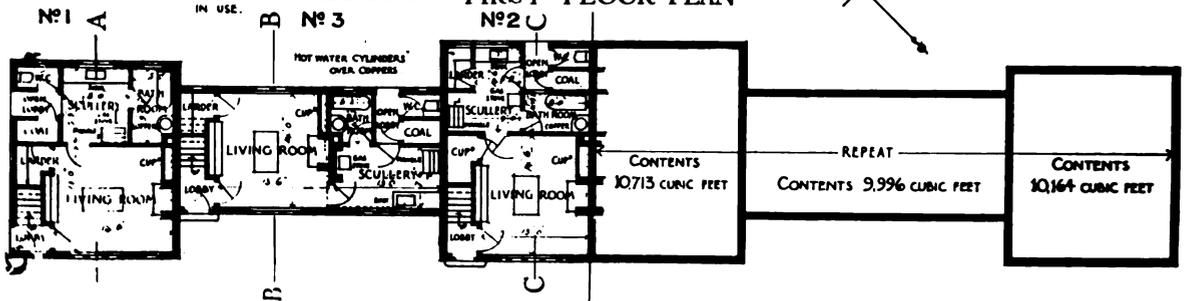
FRONT

ELEVATION



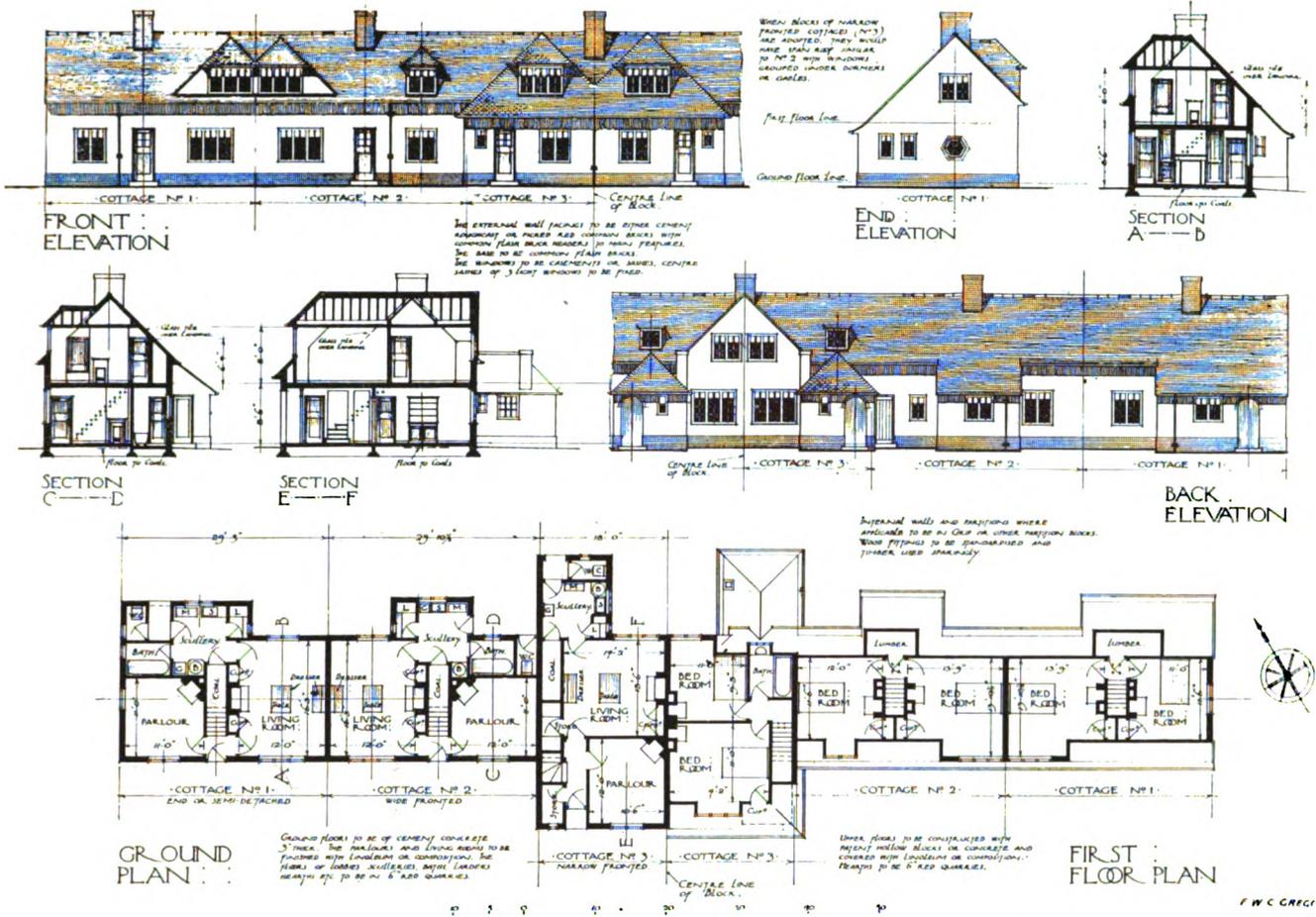
BATH IN SEPARATE APARTMENT WHICH CAN ALSO BE USED AS A WASH HOUSE. BATH CAN BE SUPPLIED WITH HOT WATER FROM COPPER WHEN THE RANGE IS NOT IN USE.

FIRST FLOOR PLAN



Southwest Area. Class A, First £100. Thornley & Rooke, Architects. Plymouth

COTTAGE COMPETITION OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS



Midland Area. Class C, First Premium. F. W. C. Gregory, Architect. Nottingham



Manchester and Liverpool Area. Class B, First Premium. Briggs & Thornley, Architects. Liverpool

PLANS FOR REHOUSING THE WORKERS OF ENGLAND

Architecture After the War

In connection with the survey which the Institute now has under consideration and which will embrace a consideration of the relation of architecture in all its forms to Democracy, we reprint the following discussion from the Journal of the R. I. B. A. England has her problems, too, and they do not essentially differ from our own. A part of this discussion was published in the Journal for October, 1917.

MR. HALSEY RICARDO [*F.*]: I think we are liable, every now and then, not to take into account the importance of general feeling, and are inclined to suppose that the great men who periodically appear are pioneers, leaders, and makers of things. Take the revival of Gothic architecture, which was a very great thing of its kind. We are inclined to associate it with the personal work of men like Pugin and Butterfield and Street, forgetting that those men were really the index of a very strong feeling that backed them up. Without that immense popular force behind them, theirs would have been merely sporadic individual efforts and would not have had anything like the effect we know they did have. The same sort of force of public feeling affected the Pre-Raphaelites, and affected the poetry of the time. One talks of Ruskin and Madox Brown, of Rossetti, Morris, and so on, but what gave them their power was the great feeling that was behind them, which may be interpreted as a protest against the eighteenth-century quietism. What was natural in those days was that the people, dissatisfied with the spirit of their time, should be looking for some jumping-off place, some place from which they might rise to more passionate heights and proceed. The unfortunate thing was that they kept their eyes turned so severely backward that when they got to the platform, or jumping-off place, no one jumped off: it became a question of correctness and of academic knowledge, of archæology, and things like that. And so we sank back into another form of quietism, that is to say, a certain complacent acceptance of things as they were, a state of mind in which it was supposed that matters would go on well enough, provided they were given sufficient time. I remember, many years ago, talking to Professor Lethaby and saying I thought what would be good for us would be to be shocked out of this feeling of smug contentment, that it was of no use for us to hope that Afghans, or other people of that ilk, would invade us, and therefore the best thing would be to put a revolver in the hand of every lunatic there was in the asylums and turn them into the streets with instructions to fire off the whole of their ammunition at all and sundry. Well, that is the sort of thing that has happened. We are now under a condition of things which will bring about—I was going to say our having a clean slate, though that is not quite what I mean. But as to our future, we all realise that we must hold together, that there must be more communal feeling, there must be less satisfaction with individual things. And so, with this in view, we come to the question of education. And what I would like to see, if it could be done, would be for the Institute to memorialise the Minister of Education, on the ground that he has now got the chance

given by a clean slate of seeing that everywhere there shall be a great teaching of the virtue of citizenship. That is what made Athens great, geographically a paltry place with no natural advantages, and it has remained great in our estimation ever since. The sense of citizenship is what has also made other places famous.

And, besides direct education in citizenship, I would like it also represented to the Minister, as part of the education of a citizen, that one of the characteristics of architecture that can be taught in the schools is that of orderliness, which at present we have rather lost sight of. Of course, there is the danger about insisting upon definite orderliness, seeing that architecture, being a living art, must develop and must progress; and there is a sort of order, charming in its way, which might be described as crystalline order, a final sort of order. Things may be very orderly, like the forming of a crystal, but when once formed there is no progression. On the other hand, there is the orderliness of growth, like that of the growing oak or the beech tree. We have to deal with an art which is vital, one full of life and of growth, an architecture suitable for towns which are full of life and growth and development. But we still want to keep to orderliness, which at present we have not got.

And one way of educating that, I think, would be also by representing to the Minister of Education that the teaching crafts in the schools would help a great deal in that way: that when you work with your hands you discover the conditions of cleanliness, of accuracy, and of finish: you also discover that there is a kind of finality to good work. You discover that the drudgery of it is pleasant, instead of being unpleasant, as much education is. And there is so much less to unlearn: much which you do is good for all time. And then you have an appreciation of what is not good work, as well.

Another point that I want to put before you has nothing to do with the Minister of Education. I think we do not sufficiently recognise the part that women have played in architecture. I put it in this way. If I remember rightly, Mr. Dunn said that the thing we have done of late most successfully has been our house, particularly our country-house, architecture, especially in regard to the interior arrangements of the house, and I think that is due to the fact that women have insisted on having their say in the matter. It has been very inconvenient and disturbing to our architectural omniscience, but it has produced a result that I think we can pride ourselves upon. And if that kind of coöperation can be extended it will make our streets and towns more decent and orderly.

We are so bourgeois in outlook, so respectable and correct in attitude, that it is hardly considered the thing to concern ourselves with architecture in relation to the sense of order, economy, and fitness and the many other qualities, values, and activities which form the basis of civilisation—architecture and political economy, in fact.

Professor Lethaby's Paper was to a considerable extent a discussion of misbehaviour and bad manners. Now it is against this background of bad manners, this disorderly

and inept type of life, that architecture is silhouetted, and indeed the whole of the things we have been discussing at these conferences. This is disconcerting in that it makes so difficult architectural education and the other schemes in which we are interested. However admirable may be our schemes of architectural education, however pious the resolutions which we may pass in this room, they will always remain schemes or ideas working in a vacuum unless they coincide fairly with the sense of values of the nation at large.

Ateliers and schools, to be really effective, must reflect the sense of values of the layman and not the reverse. If the former obtain, you have architecture growing naturally out of the life of the times; if the latter, you have a priesthood imposing upon the people a mystery they cannot understand. The late Mr. March Phillipps tried his best to get the Englishman to realise in his heart, not merely to assent with his mind, that the architecture of a civilisation was one of the most valid pieces of evidence whereby the spiritual and intellectual attainments of that civilisation could be measured. We are getting exactly the type of architecture we deserve or can understand, a type at once ineffective yet dominant, incoherent yet expressive, virulent yet banal, subservient to prescription and yet anarchic. It is difficult, however, for us to get away from our sentimental middle-class notions that the modern English home, the modern English factory, is a model for all the world. In stark reality the vast majority of English homes and factories, built, say, within the last ten years, are our disgrace.

MR. H. V. LANCHESTER [F.]: May it not be suggested that the entire attitude of the architectural profession as represented by the professional societies in relation both to the public and to architects is in need of drastic revision, and that the present moment, when ideas are in the melting-pot, is a suitable time to effect a change in this respect? The claim that this is the moment to forward any proposition for a reorganisation of our professional activities is reinforced by the fact that most of our younger men are in the Forces, and that it is the duty of those who are not to see that on their return to the ranks of the profession every practicable opening is made for them to take up their work again. With this in view it will surely be best that those who have not a definite position to which to return should be placed with special regard to their faculties, present and potential. It is not for us to look at their claims in a narrow spirit. After all, they represent nearly half the effectiveness of our profession during the coming decades. However, this is only one aspect of our problem, and one that, though it looms largely at the moment, is none the less subservient to the main argument in favour of an effort to raise the efficiency of the profession as a whole. Taking first the position of architects towards the public. Our most important duty is to endeavour to ensure that the nation secures the best architecture possible. We are not exonerated from this duty by the fact that the public is incapable of securing this by its own efforts. To commence with, if we as a body took a greater interest in the problems linked up with our special sphere of activity, such as social and educational questions, these sympathies would bring us in return a clearer appreciation of our own work. Again, may it not be possible to

offer the public a more easy road by which to obtain a higher standard of design in buildings of all classes? Is it going too far to say that to the artist and inventor a fully occupied life is worth far more than the amassing of surplus wealth which can only be utilised in buying inferior recreation? The appreciation of this fact frees us from the obsession that we need to receive more than a reasonable competence from our efforts, as even then our life is a fuller one than that of those less happily occupied. Once convinced of this, we are at liberty to organise our energies in such a manner as will best lead to fine architecture, and to eliminate factors discouraging this.

Before carrying my argument further, may I demand your acceptance as an axiom the assertion that everyone enjoys best the type of work in which he is most skilful; and the further one, that the field covered by the practice of architecture is so broad that a greater degree of specialisation is admissible? These views have been widely accepted in the United States, where the large offices include men of varied types of qualification. I think it may be claimed that architecture has been the gainer; and, though we may not wish to organise exactly on these lines, it will be well to bear in mind the fact that by this means those whose capacities differ are working much more efficiently than by our individualistic system. It will probably be felt that the genius of our own country is not quite in harmony with these large organisations, but is it not possible to secure some of the advantages without such a pronounced sacrifice of personal initiative?

The aim I have in mind is that more of our buildings should show the hand of the genuine architect rather than that of one to whom even the achievement of some simulation of the real thing is a laborious effort. We have in our ranks men of highly developed artistic faculties who under our individualistic system devote but a tithe of their time to the exercise of these. We have sound and ingenious planners and constructors who are called upon to go outside their own sphere to an almost equal extent. We have those whose skill lies in the tactful handling of difficulties; those who are specially capable as business organisers in respect to building work; indeed, it is not possible to classify all the shades of ability and temperament.

It would be waste of time to recite the various haphazard expedients now employed as correctives. You can all depict them for yourselves, and are probably fully aware of the extent to which they fail in respect to our avowed aim of securing the best architecture we can conceive of as possible. We can see the reasons why they fail, and know that not the least of these is the limited outlook we ourselves have taken in regard to our practice of our profession. Is it not time, amid the general revision of ideals, to consider whether we cannot broaden this outlook and discover a means of reorganising architectural work on lines conducive to better architecture and increased general efficiency? Whatever we may be able to do for the future by improved methods of education and other measures, the fact remains that the profession offers employment for more than the number we can hope to find gifted with the faculty of architectural expression, and the problem will remain of getting the best possible output from the limited number so gifted. The French Government attempts this by the preferential treatment it accords to the selected

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class of architects "diplômés," but we are hardly likely to get much immediate help from our own Government, already overburdened with more general problems. Our clients, the public, are not in a position to appreciate the difficulties. If anything is to be done we must do it for ourselves—but how? That is the question before us.

Now, assuming that we have the best will in the world with regard to cooperating with our professional brethren, it is not easy to see how such coöperation is to be effective, even with the most altruistic intentions, except by means of a professional society. Such a society must do more, in two ways at least, than has been customary hitherto. First, it must find a way to secure closer personal contact between all its members; secondly, it must see that special qualities exhibited by any of its members receive adequate recognition and opportunity. Take our own Institute. I think it is quite wrong that any member should be allowed to ignore its existence from the day he joins to that on which he dies or retires. There are so many things that we might do but don't, that everyone ought to take a share in the work appropriate to the stages of his career. From the moment of entry as a student there should be someone at hand from whom advice and help may be sought; and such relationships should continue. It would be much easier to influence public bodies, and even other prospective employers of architects, if the Institute were recognised as devoting its chief interest to the advancement of the standard of architectural achievement without suspicion of professional bias or aggrandisement. We have already gone some way in justifying this claim, though but a short distance compared with that to be covered if we are to earn the confidence of the public that when it places itself in our hands as an adviser we as a body will act unreservedly in the interests of the community in respect to architecture, and will treat our own members as an organisation to be utilised, in groups or individually, in exactly the way by which the public interest will best be served, and in no other.

There are societies in existence which have been formed to do the work that we should be doing. The London Society, the National Housing Society, the Garden Cities Association, are all doing work that it is the proper function of this Institute to do. We have ignored it, and other people have taken it up. The consequence is that they are in touch with the vital forces in the country, while we seem to be sitting in the clouds.

MR. H. M. FLETCHER [F.]: I would like to support very strongly what Mr. Ricardo said about education. It seems logical that the discussion at the last meeting should have tended more and more, as it went on, toward the subject of education, because without education there is no continuity, and without continuity there is no civilisation. We should also support Mr. Weir's contention, that the education of most importance to us is elementary education. And I would like to add that the faculty which most needs training in our education, because it is the one which, generally, has been most grievously neglected, is the eye. There are so few Englishmen who really see anything. I have been in the habit at various times of going for country walks with a body of men, of whom several are civil servants, who, I suppose, represent the top of the present system of education. They are all of them "sand-

blind, high-gravel-blind": they walk about the country without seeing anything at all: their eyes are covered with a horny substance. If one started with young children, training their eyes merely to look at things and think about the impressions produced, the whole attitude and outlook of the people we have to build for would be entirely different. Everybody in this room has come across the man who says "he wants his house made comfortable inside; he does not care what the outside looks like." It is the most humiliating confession a man can make. He ought to be hurt and injured by things that affront his eyes, but he "does not care." If you point out to him that as well as sitting inside his house he probably spends a good deal of his time in his garden looking at his house, the statement generally comes to him as an entire revelation. Often he thinks there is something in it, but it has not occurred to him before. He is not to blame for that, because he has never been properly taught the use of his eyes. I think you will find that that is a specially English fault. If you talk to a French layman, or to most foreigners, or to Americans, you will find they can meet you more or less on your own ground: they have ideas in common with those of architects. In America it is striking how much architecture is a subject of ordinary conversation: quite intelligent people there know the names of the most prominent architects! That has been largely due to the sort of spade-work that McKim did, which was on the lines which Mr. Lanchester and others have suggested. The American Institute of Architects is known as a force to be reckoned with. I believe that when McKim was President he got together all the most important men whom he knew—and he knew most of the men who count in America—and forced the Institute upon them. And we want some strong man, or some strong body of men, to do the same thing here, because, as Mr. Ricardo said, we cannot work in an environment which is entirely ignorant of and unsympathetic towards the ideas which we are working out: it is like swimming in jelly.

MR. JOHN CASH [F.]: What I feel is, that architects are not in touch with the public, and they certainly are not in touch with the Press as they ought to be. You hardly ever see architecture mentioned in the ordinary everyday Press, the daily or the weekly journals. Can we get into touch with the public in that direction? Can we ask the Minister of Education to put architecture forward as a study for the scholars, even in the elementary schools? The history of architecture is almost as exciting as the history of fighting, of battleships and things of that kind. It might be made very interesting if the Institute would take upon itself to suggest subjects for reading-books. Perhaps some of our members could become authors. Professor Lethaby, for instance, would be an admirable author of juvenile literature dealing with the subject. We might help the Minister of Education in that way, and he, in turn, might help us. There will be no outlook for architecture in England until we have made democracy interested in it as a subject. It has been well said today that times have changed, and the eighteenth-century manner of government has gone, and that we are now approaching something like democracy. The people are to be our future masters, and we have to get their ear. And the only way to do that is through the elementary schools and through the

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public Press. I feel we ought to do a great deal of good by continuing along the lines which have been started at these conferences: there will be very little done unless something of the sort is undertaken.

MR. LANCHESTER: A man not a member of the profession said to me recently: "You architects are doing very little for your partners in the profession of building. You don't care how the men live who carry out your work." I think that might be a very good subject: to see if we can get out a programme that will enable us to do more.

MR. SIDNEY GREENSLADE [A.]: It is sad, when you get a clever foreman mason, plumber, fixer, and so on, that they are allowed to drift away from the building on which they have been engaged without a word of thanks. In days gone by, I believe, they were given a dinner, and the clerk of works had a present from the foreman. I have seen men who have been engaged on a building for five years simply allowed to drift away afterward without a word of thanks. It seems a most distressing thing.

The following is the text of the resolutions as submitted to the Council:

Resolution No. 1.—The Conference wishes to suggest to the Council of the R. I. B. A. that the time has come when matters of public architecture should be their main concern, especially at the evening meetings and in education. It is desirable that a constructive policy for bettering all our towns be considered, as well as national housing and such questions. In promoting a policy of public usefulness the Institute might best find the way to its own proper development and status.

Resolution No. 2.—That the Institute should represent to the Minister of Education the importance of insisting, in all the universities and schools under his charge, on education in the duties of citizenship in relation to the amenities of our towns and cities, and the value of manual instruction in mental development.

Resolution No. 3.—That the Council of the R. I. B. A. should consider the possibility of developing its organisation on lines tending to bring members of the Institute into closer touch with each other and with all technical associations and those engaged on a constructive public policy.

Of these three resolutions the first was based on the Paper contributed by Professor Lethaby, the second on Mr. Halsey Ricardo's remarks, and the third on Mr. Lanchester's; and the Council appointed these three gentlemen as a subcommittee to draw up a memorial to be sent to the Minister of Education, as suggested in Resolution No. 2. The draft memorial was submitted to the Council and, after slight amendment, was passed in the following form and sent to the President of the Board of Education.

MEMORIAL.

To the President of the Board of Education:

The Royal Institute of British Architects as a body examining candidates for admission to membership holds Intermediate and Final Examinations and admits students to the examinations who have qualified in various ways. This preliminary qualification is of the broadest possible character, but it is felt from experience gained in these examinations that the type of general education leading up to architecture and other related callings might be very

greatly improved, if it is to develop on the best lines the mental outlook demanded by all those who may be engaged in the building industries. Moreover, apart from this particular aspect, there is the wider question of the national attitude toward corporate life and the demands of civilisation. In these respects the provisions we would ask for in education would be of no less value generally than as preparatory to the exercise of the large group of callings having to do with building.

The Royal Institute of British Architects, with these objects in view, welcomes—as of the highest importance—the policy of the Board of Education (as defined in the Code of Regulations, 1912) to encourage the natural activities of eye and hand by instruction in the public and other elementary and secondary schools. It desires to emphasise the recognition that provision should be made for:

1. Training in the perception of the forms of things and in the principles of structure (natural and devised).

Drawing is not merely a matter of skill or of expression, but also a valuable means of observation during the exercise.

All must be taught to draw, and in doing so should practise on decorative and constructive subjects, fine lettering, typical forms of foliage, beasts, etc. Of late years there has been a tendency to get rid of "copies" under the idea that drawing was mainly an exercise to acquire skill in making portraits of objects in the round.

2. Practical manual work, which is of great importance for the development of all (and in many cases almost the only opening to) understanding. This form of education not only offers the pleasure of definite achievement but enables the worker to appreciate the value of good work in general. It is also beneficial in providing a form of exercise, mental and physical, in which the pupil can detect his own errors.

3. Teaching leading to a comprehension of common duties in relation to cleanliness and order in house and school, the streets, gardens, etc.

4. Some knowledge of the history, buildings, and general arrangement of the town and neighborhood in which the children live, and of memorable citizens; a town spirit being probably the best basis on which to build up a national spirit.

5. Some exercises in the arrangement of simple material which might bring out the idea of design and strengthen initiative.

HENRY T. HARE, *President.*
H. V. LANCHESTER, } *Members of*
ARTHUR KEEN, } *Council.*
E. GUY DAWBER, *Hon. Secretary.*

A letter from the Board of Education has since stated that the views of the Royal Institute of British Architects will receive the careful consideration of the President of the Board.

Transportation or Housing

TRANSPORTATION instead of housing has been suggested in many localities as the solution of the difficulty of our shipbuilding concerns in getting and holding workers. It is not surprising that in the case of the Newark Bay yards this should have seemed the logical way out; on the small-scale maps, on which apparently are solved the Nation's problems of labor-supply, the Newark Bay yards are very near to New York. And is not New York the "greatest labor market" in the country? So a *transit expert* was chosen to solve the housing problem of Newark and its neighborhood.

According to the newspaper reports, the Shipping Board's transit expert "has in thirty-four days since beginning work investigated and planned transportation for the workers in twenty-eight shipyards on the Atlantic Coast." He proposes to lengthen the line of the Hudson tubes so the workers may be carried directly from two of the yards to the stations of the tube between Cortlandt and 34th Streets in New York.

A thorough investigation was made last spring for the City Club of New York of the region within a reasonable walking distance of these stations. It was found that there were practically no accommodations available which would satisfy married skilled workers. According to the report:

"Both the Chelsea and Greenwich sections have been extremely slow in developing the modern type of small flat or apartment, such as this class of workmen require. The few new buildings which have been constructed in recent years are tenanted fully as soon as completed, and any vacancies which occur are eagerly snapped up. It is the unanimous report of all real estate agents, confirmed by personal investigation, that there are no vacancies in houses of this type, nor is there any likelihood of any occurring in the future."

Cheaper tenements that might satisfy unskilled laborers with families were found but in small numbers and only in the most undesirable sections.

"These houses are of the 'Old Law' type, dark and poorly kept. The majority are 'cold-water' flats, although a few have hot-water

supply. Steam heat is not to be found except in rare instances. These flats rent for from \$4 to \$4.50 per month per room and do not constitute adequate living quarters for men engaged in industrial work."

A few slightly better than these were found in the region around 26th and 31st Streets, but even these were anything but desirable, and most of the vacancies were some distance from the entrances to the tube.

It was found that accommodations for some 1,500 to 2,000 single men might be secured by crowding in the furnished-room houses of this section. But it is a well-known fact that though married men may be induced to travel some distance to their work, it is practically impossible, in these days, to hold an unmarried worker for any length of time unless he is housed near his work. After considering the possibility of using certain public or semi-public buildings as barracks, the investigation finds:

"In conclusion, it seems clear that no accommodations can be expected for the skilled man with his family, that there are accommodations of doubtful nature for about 250 to 350 laborers with their families, and that for the single man, both skilled and unskilled, relying on every source there should be accommodations for about 5,000 to 6,500 persons. It should be realized that the locations of these men will be widely scattered over the districts and that difficulty will be experienced in retaining the personnel intact on account of the many outside diversions, and also that the living quarters, in most instances, will lack the features of modernity and cleanliness which is essential in maintaining the workers at the highest point of effectiveness."

As the increase of workers between January and July of the Newark shipping plants was calculated as 17,000, it hardly seems that the transit expert of the Shipping Board had proved himself to be, at the same time, a housing expert. But if he should prove to have solved the problem of Newark's housing, who is going to find a way out for New York with its ever-increasing war industries and its building of tenements at a standstill?

June 26, 1918.

CLARENCE S. STEIN.

News Notes

The Usefulness of Regional Surveys

The survey of the Philadelphia district, and the report prepared by the committee of the Philadelphia Chapter of the American Institute of Architects was presented to Dr. A. A. Hamerschlag, director of industrial research for the general staff of the Army, with the explanation that the report indicated the possibility of a valuable service being rendered to the Government by the architects of the country, and that what was needed was direction of the effort by the Government.

Dr. Hamerschlag presented the matter to the general staff, and then to Mr. Baruch of the War Industries Board, to Mr. Eidlitz of the Industrial Housing and Transportation Bureau of the Department of Labor, and to Assistant Secretary of War, Benedict Crowell. All agreed that such

surveys were of vital importance, and well-nigh essential to the intelligent solution of problems which confronted the Construction Division, the Housing Bureau of the Department of Labor, the Ordnance Department, the Bureau of Storage and Traffic, and the Motor Transport Division.

There is seen in such surveys and reports, the possibility of coordinating the activities of these departments, bureaus, and divisions. Particular emphasis is laid on this possibility in connection with effecting coordination between the Department of Labor and the War Department.

It is now proposed that a conference shall be held between the heads of these various Government agencies. The view is held by many Government officials who have had the matter under consideration, that such activities should be controlled and directed by a committee of five

architects, who could maintain close touch with the various departments and bureaus thus served.

The first survey that will be required will probably be one of the Baltimore district, where there is now great congestion of traffic and a bad road-system, and tremendous industrial expansion.

Housing in Washington

The three buildings to be erected on the plaza fronting the Union Station for the housing of women, will be designed by Waddy B. Wood, of Washington. The houses to be erected for Navy Yard workers in the southeast section of Washington will be designed by York & Sawyer, of New York City. Messrs. Donn & Deming, of Washington, will design the houses for Indian Head.

Further housing accommodations are to be held temporarily in abeyance, pending future developments.

Housing in Oregon

At its last meeting the Oregon Chapter devoted itself to a discussion of the serious shortage of houses with which Portland is threatened and took action as follows:

Resolved, That the Oregon Chapter of the American Institute of Architects hereby offers its services in an advisory capacity, without cost, during the war, to all Portland organizations interested in the housing problem; and be it further

Resolved, That the Housing Committee of the Oregon Chapter of the American Institute of Architects be hereby instructed to gather and present all information at its disposal to the public and to any Portland organization asking for professional advice on housing matters. Should actual maps, layouts, and plans be needed at the minimum cost for the success of any approved housing venture, then the above committee is hereby instructed to report back to the Chapter, which will attempt to secure such maps, layouts, and plans, at net cost of production; and be it further

Resolved, That this offer be extended to all other communities in the State of Oregon and to the environs of Portland.

Selling Stock Company Architectural Service

The American Security and Investment Company of Duluth, Minn., has issued a circular of information in reference to shares of stock in the Shurick & Hansen Co., Inc., also of Duluth. In a circular issued by the "S. & H." Company itself, it is explained that the company "employs three experts who will travel over the territory which comprises the states of Georgia, Alabama, Tennessee, Florida, Kentucky, Louisiana and Mississippi. These men deliver the lectures (designed to influence communities to build better schools) and also remain in the district until the project is well under way. They lay out the site, arrange the sanitation and suggest the size, type, and cost of the new structure. In short, they create new work, and, when this has been accomplished, they turn the actual technical work over to the architect who controls the territory in which the new school is located."

It is not our task to present a comprehensive analysis of the figures submitted for the purpose of inducing investors to subscribe to the stock in the "S. & H. Service," although it might be a kindness to do so. Neither is it our duty to make any suggestions to architects. But we feel it important that, in respect to the statements made that Mr. Edward P. Shurick is also a special Collaborator of the Bureau of Education, United States Government, and that the Department of Education has endorsed the work of the "S. & H. Service," those who are interested should ask for a verification of these statements by the Department of Education, Department of the Interior, Washington, D. C. We are credibly informed that these representations are not in accord with the facts.

Civil Service Examinations for Architects

The Civil Service announce following examinations in connection with vacancies in the Construction Division of the War Department at Washington, D. C.

Architect, \$2,500 to \$3,500 a Year

The duties of this position will consist of the designing of housing, hospitals, cantonment buildings, theaters, refrigerating plants, warehouses, and other projects. Each appointee will have charge of a group of draftsmen and will be responsible for their work.

Applicants must have graduated in architecture from a college or university of recognized standing and have had at least twelve years' practical experience in responsible charge of the designing and supervision of architectural work. The experience must be such as to indicate ability to take complete charge of from twenty to thirty architectural designers and draftsmen.

Structural Designer, \$2,400 to \$2,700 a Year

The duties of appointees will be to design heavy wood-frame mill and warehouse construction, light steel-frame buildings, and reinforced concrete warehouses; also to design power-houses, boiler-houses, and special construction for the housing of manufacturing machinery and equipment. Each appointee will be placed in charge of a squad of men in the drafting-room and will be responsible for the designs in his charge.

Applicants must have graduated in civil or architectural engineering from a college or university of recognized standing, and have had at least eight years' experience in structural designing, particularly in heavy mill and warehouse construction, including problems involving a great variety of heavy frame building construction.

Architectural Designer, \$2,100 to \$2,700 a Year

The duties of appointees to this position will be to design and have charge of various housing problems and to prepare plans and specifications of material for hospitals, power-houses, warehouses, cantonment buildings, mechanical repairing of shops, and other construction. Each appointee will have charge of a group of draftsmen and will be responsible for their work.

Applicants must have graduated in architecture from a college or university of recognized standing and have had

NEWS NOTES

at least six years' office experience in responsible charge of large problems in architectural designing.

Senior Architectural Draftsman, \$1,800 to \$2,100 a Year

The duties of appointees will be to design and plan various wood-frame, reinforced concrete, and fireproof buildings; to develop plans for elevators from rough sketches submitted by the chief of the squad. Appointees should be capable of developing such sketches to completion.

Applicants must have graduated in architecture from a college or university of recognized standing and have had at least five years' experience involving the designing and drafting of ordinary building construction; or in lieu of such graduation at least one year's additional experience for each year lacking of such college course. In order to qualify it must appear that the experience has been such as to render the applicant familiar with the designing and drafting of ordinary building construction and the making of working drawings from rough sketches.

Junior Architectural Draftsman, \$1,200 to \$1,800 a Year

The duties of this position will consist of the general drafting and planning of various types of construction. Appointees will be called upon to design wood-frame structures in connection with cantonments and to assist senior architectural draftsmen in the completion of work in their charge.

Applicants must have graduated in architecture from a college or university of recognized standing and have had at least one year's experience in the making of working drawings; or in lieu of such graduation at least one year's additional experience for each year lacking of such college course.

Architectural Tracer, \$1,000 to \$1,200 a Year

The duties of appointees to this position will be to complete all working drawings in ink after they have been designed and carried to completion by the architect in charge of the squad; also to do various tracings of mechanical, electrical, and civil engineering drawings.

Applicants must have graduated from a standard high school or have completed a course of study equivalent to that required for such graduation, and have had at least two years' experience as tracer in an architect's office.

Applicants must not have reached their fifty-fifth birthday on the date of making oath to the application.

Applicants must submit with their applications their photographs, taken within two years, with their names written thereon. Tintypes or proofs will not be accepted.

Applicants will be admitted to these examinations regardless of their residence and domicile; but only those who have been actually domiciled in the state or territory in which they reside for at least one year previous to the date of making oath to the application, and who have the county officer's certificate in the application form executed, may become eligible for permanent appointment to the apportioned service in Washington, D. C. Positions in the Construction Division of the War Department are in the nonapportioned service.

On account of the urgent needs of the service, applications will be received until further notice. Papers will be rated promptly and certification made as the needs of the service require.

These examinations are open to all male citizens of the United States who meet the requirements.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Customhouse, Boston, Mass., New York, N. Y., New Orleans, La., Honolulu, Hawaii; Post Office, Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Calif.; Old Customhouse, St. Louis, Mo.; Administration Building, Balboa Heights, Canal Zone; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R.

Applications should be properly executed, excluding the medical certificate, and filed with the Civil Service Commission, Washington, D. C., without delay.

The exact title of the examination desired, as given at the head of this announcement, should be stated in answer to Question 1 of the application form.

Structural Service Department

On account of Mr. Boyd's duties in the new Structural Service Department of the Bureau of Industrial Housing and Transportation, Department of Labor, at Washington, D. C., the usual Structural Service Department of the Journal is of necessity omitted from this issue.

Institute Business

New Members Elected to the Institute

Baum, Dwight James, New York City, New York Chapter.
Brigham, N. R., 4922 Davenport Street, Omaha, Neb., Iowa Chapter.
Brown, J. Martin, 849 David Whitney Building, Detroit, Mich., Michigan Chapter.
Clarke, Frederick W., 682 Brandeis Building, Omaha, Neb., Iowa Chapter.
Crow, William D., 200 Fifth Avenue, New York City, New York Chapter.
Davis, Ellery L., Security Mutual Building, Lincoln, Neb., Iowa Chapter.
Goldstone, Lafayette A., 512 Fifth Avenue, New York City, New York Chapter.
Henninger, F. A., 604 Securities Building, Omaha, Neb., Iowa Chapter.
Josenhans, Timotheus, 4524 Lowman Drive, Seattle, Wash., Washington State Chapter.
Lawrie, Harry, 619 Paxton Block, Omaha, Neb., Iowa Chapter.
Mathesius, Jr., Frederick, 320 Fifth Avenue, New York City, New York Chapter.
McDonald, Alan, Omaha National Bank Building, Omaha, Neb., Iowa Chapter.

McDonald, John, Omaha National Bank Building, Omaha, Neb., Iowa Chapter.
McGoodwin, Robert R., 1422 Walnut Street, Philadelphia, Pa., Philadelphia Chapter.
Mead, Marcia (Miss), 105 West 40th Street, New York City, New York Chapter.
Prinz, George B., Omaha National Bank Building, Omaha, Neb., Iowa Chapter.
Raapke, H. A., City National Bank Building, Omaha, Neb., Iowa Chapter.
Riddle, Theodate Pope (Mrs.), Farmington, Conn., Connecticut Chapter.
Rogers, James Gamble, 470 Fourth Avenue, New York City, New York Chapter.
Sandham, Josiah Dow, World-Herald Building, Omaha, Neb., Iowa Chapter.
Steinbaugh, Charles W., Brandeis Theatre Building, Omaha, Neb., Iowa Chapter.
Stevens, Will A., 1417 Railway Exchange, Chicago, Ill., Illinois Chapter.
Woollett, William L., Berkeley, Calif., Southern California Chapter.
Youngberg, John E., 30 North Dearborn Street, Chicago, Ill., Illinois Chapter.

Resolutions of the Philadelphia Chapter on the Death of Frank Miles Day

At a special meeting of the Philadelphia Chapter, on June 29 last, held at the call of the Secretary, to do honor to the memory as well as to the distinguished professional achievements of Mr. Day, the following resolution was adopted:

"In the untimely death of Frank Miles Day the profession of architecture has lost a most distinguished member and the community a citizen of exemplary character and usefulness.

"Gifted with a scholarly mind, clear judgment, and high ideals, he rendered effective service in the advancement of art and architectural education; as an architect, his accomplishments won for him merited honor and recognition throughout this country and abroad; as a member of the American Institute of Architects, he was a potent factor in establishing and maintaining its principles and standards of practice, and to the end was devoted and

untiring in his efforts to extend its influence and usefulness to the benefit and dignity of the whole architectural profession.

"With like enthusiasm, and to a rare degree for one whose professional activities were so wide and exacting, he joined with sympathetic interest in all that concerns the betterment and welfare of the community.

"It is therefore with a deep sense of personal loss that we, the members of the Philadelphia Chapter, American Institute of Architects, record this expression of our esteem and appreciation of one who was not only an honor to our profession, but in his personal relations, a kindly, cultured gentleman and friend. We unite with his associates in acknowledging the loss they have sustained, and we hereby extend to the members of his family our deep sympathy in their bereavement."

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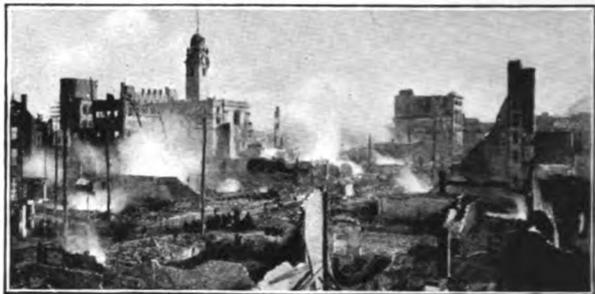
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The lesson the Indian taught the Settler has had to be learned again

WHEN the Indian went out to destroy a settlement he had one sure master-stroke—fire. His weapon was a flaming arrow. His target an inflammable roof.

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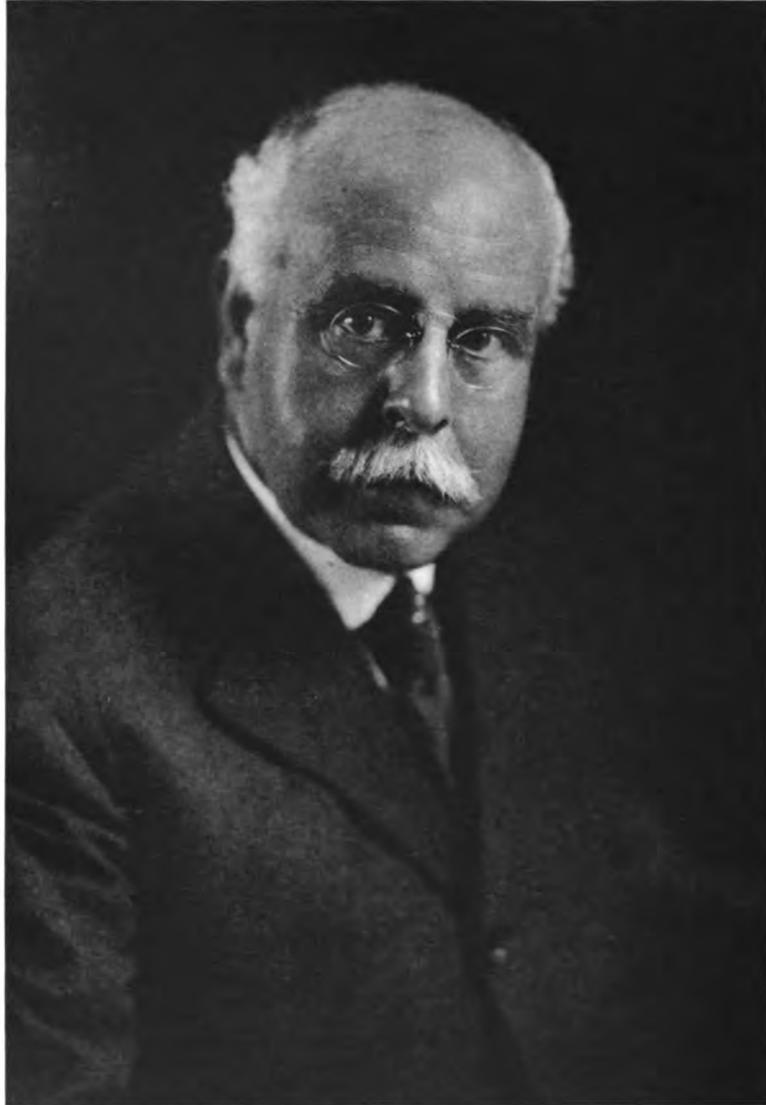
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FRANK MILES DAY
President of the Institute, 1906-1907

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Vol. VI

AUGUST, 1918

No. 8

Shadows and Straws

A JUST RETRIBUTION is often a pleasant thing to contemplate when it brings no suffering but only a monetary loss. For example: A proud and prosperous city somewhere within easy reach of an Ocean Coast became very active, we are informed, through its Chamber of Commerce, in seeking war contracts. When a group of patriotic citizens attempted to point out what had happened to many cities in America which had pursued the same thoughtless course, and that their own city would do well to first examine the supply of houses and other accommodations for the workers who would have to be found for executing any contracts, the Chamber of Commerce soft-pedalled this intelligent suggestion, saying they feared that any application for Government aid in housing workers would operate to divert war contracts.

Sometime later, when the efforts of the Chamber of Commerce seemed about to be crowned with success, they were dismayed on learning that the proposal to expand the ship-yards in their town had been rejected because of the shortage of houses in the community. Some months ago they had fooled themselves first, and tried to fool the Government, too, by stating that they had no housing problem and that abundant means existed for taking care of workmen in a proper manner.

Unfortunately, the retribution has to be shared by the people of the United States, by our soldiers and those of our Allies, since there is always a national retribution when the Government is deceived and thus hampered in the execution of the project with which it is now charged. In the army, treachery is visited

with a condign punishment, but treachery of this kind is thought to be clever when it succeeds in landing the profits and which, when it fails, goes quite unpunished.

HUMOR IN WAR is as inescapable as in peace. From France and England have come to us the cartoons and the stories which have resulted from the saving grace of the ludicrous, lighting up with a momentary flash, the sorry spectacle of trench and shell-hole, the rigors of the mess and the trials innumerable which are dissolved by laughter. We, too, shall soon begin to accumulate our own store of war humor, as it filters back to us across the sea, and there are signs, here and there, that some premonitory influences have already made themselves felt in various quarters.

But of all humor, the unconscious is best. That skill in wit which so effaces itself as to obliterate all traces of the narrator or the artist, is still often surpassed by that unconscious humor offered by the effort to be serious, and especially by that striving after portentous words with which we have become so familiar in the local press of the United States. Recently there came to our hands a newspaper published in a small town scarcely thirty miles from New York, in which the following article nestled securely as evidence of that wonderful pretentiousness which deals so confidently with things not only mundane but of the spirit as well. There would seem to be here no field in which the writer does not venture with a confidence as superb as his ignorance is pathetic. Entitled "Timely Topics of the Town," and pretending to describe a "Grand Patriotic

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Rally," it was intended to be a serious description of that event. We offer it, even in so serious a moment as this, because we now and then fall into humor, in spite of the war and all the other lesser troubles which it brings. It reads as printed, except that we have changed the names of the local celebrities:

"Beauty, fashion, aristocracy, wealth, enthusiasm, and a very classy entertaining and educating show, were seen at the Palace Theatre, Wednesday night. Ruralia prides itself on being colonial historically and actual; therefore it appears at least slightly odd that the theatre was not filled. However, the seats were fairly well occupied, while those who were present were more than pleased.

"It would perhaps be inconsistent to write at length of the individual talent. Burr McIntosh, whose erudition, oratorical ability, travel, articulation and magnetism, are known to many of us, was at his best on Wednesday night. His explanation of the war conditions was correct, and should be concentrated on by all. The pictures shown were from his individual camera, and were indeed beautiful.

"His lecture instilled in each hearer the fact that we should endeavor to keep liberty and our constitution uppermost in mind, by preparedness and individual effort. By so doing we will still continue to sing of "The Home of the Free and the Land of the Brave." If we neglect a small detail, the contrary may, at any time, be the result.

"The hit of the evening was made when Miss Dorothy Newton appeared in the costume of a Red Cross nurse, with also twelve young ladies of our town in similar dress, all of whom sang "You'll Be There," an entirely new song. Miss Newton, of course, was the leader. All of the ladies had been professionally drilled. Miss Newton, later on, handsomely gowned, sang the "Star Spangled Banner," in which the audience joined.

"Miss Gertrude Riley, a lady of staturesque beauty, sweetly sang, "For Dixie and Uncle Sam." Louis Cavagnaro, basso, rendered "La Marseillaise" in true operatic voice and style.

"Miss Julia Long did a woodland dance that fascinated. Her beautiful contours and costume, displayed the muscular development of nature's endowment. What can be more divine than the human form?—it is hard to comprehend.

"To our fellow townsman, Mr. George P. Brigham, much credit should be given for not only the array of talent, but for his generous thought, and also for financing the affair for the benefit of the Red Cross and War Relief fund.

"The flag decorations in the theatre, were, in the writer's opinion, superior to any ever witnessed in Ruralia. The flowers given to each artist were expensive and artistic; they were donated by Mr. Brigham, and came from the flower shops of Thomas Trask and that of William Martin. Augustus F. Ottiwell did the flag decorating. Our photographic artist, Clarence Shoemaker, did the flashlight act on the audience.

"The night will long be remembered not alone for the entertainment, but on account of the cause for which it was given."

THE STRUCTURAL SERVICE DEPARTMENT will be resumed in the next issue, we hope, with a change in the character of its contents such as will meet with the approval of all our readers, we are sure. The war is making building history faster than it was ever made before in the progress of the world. The mark which will be left from the efforts we have been compelled to make toward speed, toward the readaptation of materials, and toward a general working together for the common welfare of the nation, will alter many practices in the building industry for the good of all.

THE PROCEEDINGS of the last Convention will shortly be distributed to the members of the Institute. While their appearance seems to be late in the year, it must be remembered that the Convention was four months later than usual and that there have been unusual difficulties, this year, in expediting publication.

THE COMMITTEES FOR 1918 will be announced in the September issue of the Journal. To avoid the expense of a Board meeting at this time, the appointment of committees is being arranged by correspondence between the members of the Board and the President.

WE HAVE ALREADY REFERRED to the serious mutilation of Washington which has been occasioned by the demand for buildings of every conceivable character. This promises to continue unabated, since the demands increase daily, and, although we may not protest at the sites selected, provided they are taken under the stress of a war necessity, one still feels that we have blundered in many cases; that we have done things which were not necessary and which were unprotested through a patriotic desire not to hamper or impede the work of making war.

Bad blunders there have been, and while the pressure of war may serve as a measure of excuse, the fact remains that we have again displayed our general national indifference in matters of this kind. If there had been a background of love and respect for the physical features of a community—a thing which is so conspicuously missing from our life as a nation—we would have avoided much of that disfigurement to the Capital which now bids fair to be an eyesore for many years to come.

War and the Building Industry

IT IS a very hard thing to fit business to war, because war upsets business with a violent demand for the machinery of war, most of which is different from the machinery of peace. Gradually, war dominates business and shapes it to war's ends, or else you lose the war. This has to be so. But in the process of accomplishing this domination and shaping, there are hardships, and even casualties, to business. The work of fitting it to war is rigorous and painful. It is a period through which we are now passing, and we are finding the trial pleasant or unpleasant, according to our experience.

Each business has its own peculiar problems and difficulties, and of these none is perhaps more involved and complicated in its relation to war than the building industry. Perhaps to no one in the business does all go smoothly. Probably there is no one who is satisfied that every problem has been wisely solved. There are administrative defects. Undoubtedly we shall never get rid of them in this war. But are they not relatively unimportant to the grand result? The answer to our war-making ability is thrilling the world today, as the news comes from France—and that is where the answer must be sought. No matter what the groaning, the grumbling, and the murmuring here—the question is, are we doing our job over there? Are we getting the men and the munitions and the supplies across the sea? The world says that we are and that we have performed a miracle. But the miracle must go on and become daily more miraculous.

There are two phases to the war building situation—building for the Government and non-Government building. They are so closely related that they ought not to be separated. All building is either for or against the war. If it is for it, on it should go. If it is against it, stop it must. Let us not forget that for one moment. Let us also remember that in the decisions which will be taken, some of them will be wrong, some of them will be unjust; but just as there is no way of going to war without shedding blood and taking lives, so is there no way of going to war without casualties in business. It cannot be done yet.

The war building business of the Government is a colossal undertaking. Its details are wholly understood by no one. Clever special pleaders tune their strings and write academic discussions about the wealth-producing capacity of private building, and end it with a little refrain about wasting materials and labor, through the slowing up of that peace-time function. But any patriot who comes to Washington and starts to acquaint himself with the real situation—not the academic condition that is discussed—will see in a very short time that the process of organizing and mobilizing the resources of the country is racing along at top speed. The building industry, along with all others, is being shaped to the ends of war. In this process are people making mistakes? Indeed they are. Are all the thousands of men who are doing it competent? Indeed they are not. But the point is that you couldn't get any higher percentage of competence if you shook the whole lot out and put in a fresh one, nor could you diminish the percentage of mistakes any faster than they are being diminished today. *And again, the answer must be looked for in France, not here!*

Suppose, for a moment, that a housing project is ordered in a section where the brick industry is large. Brick houses, says the architect; and the War Industries Board, which allocates supplies, agrees. But in the course of time it is suddenly decided to double the number of houses in that particular project. Then it appears that there are not enough bricks. What substitute shall be used? Another kind of brick, of which two are equal to three of the ordinary brick? Yes, that seems reasonable, because it means less fuel to burn them. Can they be had? Yes. Where are they? Five hundred miles away. Can they be transported? Ask the Railway Administration's representative on the War Industries Board. No, they cannot be transported. What next? We must change the whole scheme.

To what shall it be changed? And then the same process has to be gone over again, and then someone points out that it will not do to use all the first-grade bricks and leave a great

percentage of light burnt brick (the lower grade left from the burning and used for non-exposed work), and there is a shifting of materials all round to meet that condition.

And, again, what shall the roofing be for this job? There is plenty of slate in the section, and it can be had. Fine. That's settled. But the Construction Department says you cannot have slate roofs. They cost too much. You must take something else, and we won't use the slate until the cheaper things are gone, which is a mistake, very likely, for it means that the cheaper materials must be transported from one hundred to a thousand miles, very probably, and that in the end the slate will also have to be transported to some other building project, an equal distance away. It is already known that certain types of roofing are facing a shortage of raw materials. Thus the slate will have to be used somewhere at an early date. Why not use it on the job that is close at hand and save all the transportation? And through every one of these questions there runs the complicated thread of a labor problem. It is never absent.

But even so there will not be enough roofing in the country. Makers of "ready-to-lay" roofing cannot get sufficient raw materials. What's to be done? The standard has to be lowered, that's all. So all the makers of that kind of roofing are summoned to meet with the Building Materials Section of the War Industries Board, and they discuss the situation and tell their stories, and finally they agree upon a standard that will allow them to go on with their industry. Each deviation from the accepted standard which use and experience have established is marked as a concession to war conditions and as not applicable afterward.

Or there is difficulty in getting lighting fixtures for the thousands of houses now being built by the Government. There is a shortage of materials and a shortage of labor. To Washington come the manufacturers. They also sit down with the Building Materials Section of the War Industries Board, and in a few days they emerge with a set of standards for design upon which all are agreed. In this act they have saved the nation thousands of dollars, released quantities of materials for other uses, freed a large amount of labor for equally vital purposes. The War Industries Board is mobilizing, organ-

izing, conserving, saving. Without its guidance we should have chaos, for in addition to all of these things it fixes prices which are as fair as can be calculated. Without this work, the scramble for raw materials, and the unrestrained competition which would result would plunge us into a vortex of inefficiency and delay. These things are going on day and night.

The method is autocratic and essentially foreign to our mode of life, but it is war! It is the only possible way to get out of this war without wasting our whole wealth and throwing away the lives of millions of men. Wrongs are done and injustices fall where they are not deserved, but what injustice equals the tears that will fall nightly in this land for many a year to come! In not one of those households is there any possible connection between the boy who went away without a thought of death, and justice! War is the concentrated essence of injustice. It takes men to bear it, and women to smile through it.

But in the midst of all this incredible attempt that is being made to balance up the country's resources—these herculean tasks which ought to have years of study instead of days—these problems of fuel, of labor, of transportation, of raw materials of every kind, and of the incessant cry for more men, more munitions, more ships, more aëroplanes, more and more and ever more of everything that can be torn out of the earth wherever it can be found, there are still a goodly number of men who are not contented. Part of them see no chance to get into war building for the Government, and they join forces with others in the same boat. Then there is a second group who wish to hold their business together by carrying on private building, and they start a propaganda to show a good many facts, many or all of which may be true, but which really have nothing to do with the war problem.

To argue for the continuance of private building as a service to the nation in war-time seems an act of doubtful sincerity. Only a clear and proven case of ignorance of conditions would exempt such a pleader from the charge of having failed in his patriotism. Even to point out, in which we may concede that one would be entirely right, that all unemployed labor and unused building materials constitute a waste which ought to be turned into money for carry-

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ing on the war, would not materially strengthen the argument. The element of unsatisfied war needs here enters in and must fully be reckoned with if one is to reach a just decision. Therefore it is imperative that we decide upon what basis the decision is to rest. What determines the wisdom of allowing private building to go on?

It has been evident, from hastily gathered information, that there have been sections of the country quite undisturbed by war building, where there appeared to exist a supply of local materials and local labor which could go into building. But it is equally apparent, if one studies the organizing forces here at Washington,—especially if one is informed as to the real shortage in labor and the efforts which the Department of Labor is making to mobilize that first essential,—if one takes into account the approaching change in the ages selected for the draft and the further inroads that will be made through this step,—the increasing demand for men, men, men, that it is not only a difficult matter to say whether a private building anywhere is justified, but on the face of it is almost a certainty that it is not. Idle labor denotes, not a building opportunity, but dislocated labor and the fact that we have not mobilized our resources. There is a shortage of men, in war making, all the time, and the Government is striving, and will succeed, in an eventual mobilization which will use all our man power on that one vital job! In the meantime the Government has no intention of unnecessarily injuring any industry. Any man who has honestly, thoroughly convinced himself that it would be an act of patriotism for him to build, will probably have no difficulty in convincing those on whom the decision rests. This is certainly true in the question of small houses or apartments. Any man or group of men who desire to build houses and who can demonstrate to the United States Housing Corporation that the houses are needed to meet a shortage which is interfering with the progress of the war, can get an authorization allowing them to proceed, and the Capital Issues Committee will undoubtedly make it possible for them to finance the undertaking. Buildings, the genuine need of which can be shown, will get full and fair consideration. But genuine means genuine, and no camouflage!

Time and again, where buildings have been

pleaded for, even by Governmental Departments, by the Army or the Navy, it has been found that other existing property could be remodelled and made to serve the purpose. Time and again the housing divisions of the Government have been able to arrange for unoccupied houses to be used, and thus to avoid building. The question as to whether we should build anything which will not help us in the war does not even admit of controversy—not if you really believe in making war for the benefit of the nation as a whole.

In all of this great work, the Government is steadily assuming control of all our lives and fortunes. It is, so to speak, federating industry after industry. It is bringing the component parts of each together for mutual discussions and a better understanding of the nature of the building problem which confronts the United States as a vital factor in bringing war to an end.

In doing this, the Government must deal with each industry through the groups with which it is now dealing and which are almost daily being organized to perform their functions, in connection with the Building Materials Section of the War Industries Board. There is no other way of handling the situation. It is precisely similar to the situation which eventually led to the appointment of General Foch as generalissimo of the allied armies. There was no federation of nations necessary, but a single control leading to a closer and closer inter-allied coöperation on every conceivable question, from the use of the banana as a food to the raising and spending of billions upon billions. The Government becomes the generalissimo of all business. It must, in war. Those businesses which someone seeks to federate for the purpose of opposing their selfish will against the single national purpose of the generalissimo are more endangering to victory than the Kaiser's most subtle machinations.

Victory, in this war, will belong to the nation which best mobilizes its man power. All the wealth of the world, no matter in what form it may be held, will be of no avail without men. Beginning with soldiers, we must so organize that every man not at the front will be contributing his maximum to the making of war necessities, so that we can get and keep at the front the maximum number of men. Provost General Crowder has stated the case in terms which

ought to be easily understood. Secretary Baker agrees with him, and it is beyond doubt that the proposed change in the draft to include men between 18 and 45 will be enacted, substantially as recommended, by Congress.

What does this mean? It means first of all that we must have more men for war. The incessant cry is for men, men, men—and ever more and more men. They are needed at the front; they are needed at home. Every effort of this nation must be bent to the freeing of more men for war service.

Therefore it seems perfectly clear that what will determine the volume of private building which may go on in the future will be the quantity of labor available after every war necessity has been satisfied to the utmost. The needs of war are paramount to all others. To lose sight of that fact would be a calamity. To divert any labor or materials away from war-making until we have reached and passed the zenith of our war contribution would be a monstrous betrayal of the men we have sent across the sea. It is unthinkable that such a thing should happen, and therefore it would be regrettable if any man, or any set of men, should try to convince the people of this country that our war needs are so well cared for that we can afford to sit back and see what we can do about private building now, or in connection with after-war problems.

Our war needs are not satisfied. They are far from it. We are behind—still behind—in our schedules. They suffer from a genuine shortage of labor. Our present degree of unemployment only indicates a lack of mobilization. This must be reduced to the irreducible minimum. No other problem exceeds this in importance. It demands the best brains and the most courageous thinking. Our Government has seen its war problem as one of increasing and not of diminishing scope. Its every act indicates that fact. Therefore let us make war like men of courage and of brains and put that service above and beyond every other service in the world.

Already, in Washington, there are rumors that

Congress will attempt to reserve the right of granting exemptions, under the new draft law, in industries which are essential to war. Exemptions there should be, but Congress should not deal with them except as a general principle. It is incapable of determining what exemptions there should be, and this question should be left to the administrative branch of the Government.

In the discussion of exemptions, Congress will be subjected to the never-absent pressure of businesses which wish to obtain special favors. It will be interesting, for example, to see whether any Senator or Representative could be persuaded to make the attempt to secure an exemption for men engaged in private building. The utterances of one Senator, as a builder familiar with the business, and in connection with the theory of allowing private building to go on, have formed a considerable part of the propaganda which has been so industriously circulated from West Fortieth Street in New York City.

But the result sought by all this propaganda will have come to naught and will fail utterly of achievement, unless such an exemption can be secured. It is unbelievable that it will be attempted; it is unthinkable that any such effort to make the war a side issue, and the building industry the real issue, should be pushed to such a point. Carried on by Americans it would be more deadly than the most subtle pro-German propaganda ever carried on in this country, for it would weaken and divert our war-making power—it would betray the interests of the nation for the interests of a few. It would be nothing short of treason—of the most despicable kind.

This Journal serves the building industry. Not fawningly and with an eye to the crumbs, but fearlessly and with no eye at the present time except to the safety of this country and the sparing of every possible life in attaining the victory we seek. It cannot be dissuaded from that conception of its duty at any price, and it has the courage to believe that on this subject it has spoken the true mind of the industry it serves.

C. H. W.

Reconstruction—What Does It Mean?

"A noiseless, patient spider,
I mark'd, where, on a little promontory, it stood, isolated;
Mark'd how, to explore the vacant, vast surrounding,
It launched forth filament, filament, filament, out of itself;
Ever unreeling them—ever tirelessly speeding them.

And you, O my Soul, where you stand,
Surrounded, surrounded, in measureless oceans of space,
Ceaselessly musing, venturing, throwing—seeking the
spheres, to connect them;
Till the bridge you will need be form'd—till the ductile
anchor hold;
Till the gossamer thread you fling, catch somewhere,
O my Soul."—WALT WHITMAN.

FOR some time, in this country, we have become familiar with the word "Reconstruction." Gradually, as the wreck and ruin of Germany's invasion and its dauntless resistance were surveyed; as the world was let to see a picture of the physical destruction wrought by the enginery of modern warfare; as the armies of the Allies slowly recovered sections of the torn and bleeding countryside of northern France; as the heaped-up ruins of towns and villages were wrested from the invaders, there came the immediate problem of repatriating the peasantry in order that the maimed and mangled fields might lend what measure of fertility they possessed to the sustenance of the nation. These pictures and these needs fell quickly upon the trembling sympathies of the United States. Nor were pity and sympathy left to waste their force or weakly to meditate where action was imperative. We became greatly interested in the problem and proposed many things, some of which were not at all wise. The American Red Cross at once created a branch of its extensive organization and set aside a considerable sum of money for dealing with this problem, temporary though might be the work that it should do. The real problem of reconstruction was still to come, as all could see.

Much of the work of temporary repatriation was lost in the recent German advances, and will now have to be done over again, but, in the meanwhile, the word "Reconstruction," through the dawning of many perceptions that had at first been missed, was acquiring a significance

vastly larger than that which it possessed when the necessities of the physical problem first thrust themselves upon us and upon those with whom we stand in defence of the principles we profess.

The first great thrill of awakening to the larger meaning of that word which we at first rolled so familiarly and easily on our tongue—the first clear and striking perception of a problem which we had thought to solve by pouring enough money into the right channels, by designing new towns and villages wholesale, building them wholesale, and, in general, by giving another turn of the screw to our mechanistic organization or by adding a few more pounds to the pressure on the industrial engine which had already reached the bursting point, even though we could not detect it—the first inkling of these things came when the British Labor Party gave to the world its proposed measures looking toward reconstruction.

Our consciousness had already been quickened. The problem was seen to be something far more than the rehabilitation of devastated lands. England, which had not even been invaded, was far advanced in considerations of what she had come to sense as the onrushing problems of her post-war readjustments. There had even been vague stirrings in our own land, chiefly evidenced by a casual speculation or a decided intimation, by some, that we too would have our problems and that things would not be as they had been. But it is, perhaps, not far from true to say that, up to that time, no thrill had so permeated the hearts of the thinking men and women of the world of today as that which swept over their intelligence when they read the Program of Reconstruction which had been born at the hands of the workers of England. Here was unfolded the vision which all had been trying to piece together in their minds. Here were defined in simple terms, eloquent with the throb of purpose more human than that which has ever formed the base of any concept of Government, the precepts upon which there might be builded a society which should be the living expression of that theory of democracy which we now defend. Reconstruc-

tion became a word which was thenceforth to scatter its seed broadcast and to cause a germination of immeasurable intensity.

By and by we shall see, as we so often do, that it was not really the word for which we were looking; that it was quite unconsciously forced upon us by circumstances, and that we shall be often handicapped because of the fact that it does not wholly express the complete problem. But today it has acquired a meaning which is steadily being expanded, steadily being quickened with the warmth of a larger human concept, and we must let it bear us as far on our journey as its strength will permit.

The primal physical problem which gave it birth has become slowly impregnated with the germs of animate Life. The solution which we so bravely thought to depend upon architects and engineers, and upon the skill and swiftness with which they should plan; upon the speed and sureness with which they should be followed by those who hew to their line and build to their scale; upon the mountainous quantity of materials which only need to be assembled, ranged, and piled in colossal groups—all of this was seen to be only the organization of things, after all, and to be wanting an element the lack of which would make our effort as barren of the democratic result we seek, as all our effort of the past has been so helpless and ineffective to stay the ages of war, in unending succession. What is that element?

What, one may ask in reply, is the basic unit around which all our plans for reconstruction must revolve? It ought to be evident to the dullest mind that unless we can discover that basic unit and its needs, we can neither design, nor build, nor reconstruct anything which will be right. And, therefore, as we stand before the fragments of a world which we believe must be reconstructed, must we not search, as our first duty, for that unit, the finding of which is so vital to all that we propose to do? Alas! It seems an infinite task. As we first approach it, we seem to be caught in an inextricable tangle of complexities. The world seems overflowing with an unending stream of humans, each having his own needs. They defy all classification and seem to be quite unrelated one to another. The truth is, of course, that we are in reality searching for a type or unit of human life, although we do not for a long time suspect it,

and it is quite natural that we should be utterly unsuccessful. Of human life there is no type, nor is there any unit which can be resolved into a basic quantity upon which accurate calculations may be made. As well try to determine the type of the waves of the sea, we say, and in the very saying of those words we gain a gleam of light. If the waves have no type, they at least have one thing in common—motion. Life has this quality, too, as we know it in humans, and although at first we may say that it has a different motion—since it has the power of locomotion—we shall finally come to see that there is a great similarity between the ceaseless rising and falling of the sea and the motion of life. The water, then, has need for motion. We know from chemistry that without this motion it would become stagnant—that the winds which play upon its surface are but the purifying forces which keep it clean.

Out of these simple phenomena how can we resolve an equation which will fit life? May it not be that, instead of seeking the type or the basic unit, we must seek for something else? Suppose, then, that instead of trying to find a primal quantity, as we have done in the past, based upon so many cubic feet of space in a tenement, or so many cubic feet of air to breathe in a school or a factory, or so much knowledge or opinion to be handed out as education, with so much allowed each day for food, and, by further attempting to confine that primal quantity by laws which throttle, bind, gag, and often kill—by conventions and customs which one generation discards as slyly and as gleefully as the preceding generation used them inhumanly—by an uncharitableness which seems to spring so easily from that smug belief in our own impeccability—suppose, then, that we really begin to try and find out what life needs.

What is the process of rightly feeding life? What are life's needs? And again we are caught in the same maze of bewildering details. The needs of life seem too abundant ever to be named or even numbered. But that ought to make it all the more clear that it is not our business to try and define the names and kinds of those needs, but their nature, as reduced to the simplest possible form. Fuel, we may say, is the primal need of life. Without it life could not exist. The body must have air, water, and food. We have no simpler term in which to

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state the need than fuel, for physical life is a process of continuous combustion. We even have faith that earth will yield all fuel that life requires. Fuel we may then leave as a need which requires no further definition of any kind.

But what then? What, having insured the preservation of the fleshly body, remains to be defined as a need? And here, again, we are tempted sorely to enumerate and to define in detail, and yet our answer must be found in a term just as simple and just as all-embracing as food. If we start upon a search for material things, we shall lose the clue at the start. That is where the Great Failure always begins. We forget that we need things only as a sort of collateral aid toward the realization of that other need. That things are, after all, but steps upon the road, and that, both in their creation and in their enjoyment, we are striving to satisfy a need which, in our ordinary daily life seems to have passed into the domain of our sub-conscious selves, only to be felt and realized in the fullness of its inevitable demand, when we are brought face to face with a great life or death experience. When we feel that unless we can satisfy that need, life will become unendurable. Let us, then, try to state this other need in a single word and agree, for at least a moment, that what life needs is to love!

If we agree, then we must admit that nothing is possible without a provision for amply and fully satisfying that need. To say that life needs work, or play, as we usually do when we attempt to define and classify, is merely to assert that these are the great arteries that nourish and sustain the healthy body. Do we not know that in these things there is no health unless there be love? No man who does not love his work, either for itself, or who does not love the doing of it through love of something else, can ever gain his spiritual freedom or grow into the fullness of man. No one can play who does not love to play, and loving play is only a part of loving work. Indeed, we to whom beauty has come to mean so much, no matter in what form she greets us, know very well that between the beauty we know in art and the beauty we find in loving work, there is an unmistakable kinship with play. In doing any work well, for the sake of doing it well, the worker could rarely say whether he was working or playing. But, whether consciously or unconsciously, he or she

surely would be loving at such a moment. Is it not in that simple condition, with its accompaniment of joy and of freedom, that we must look for the answer to that problem which we now seek to solve in terms of nations and of races, of autocracies and democracies, of taxation and profits, of consumption and production. They reel through the columns of our daily press like manikins, unfleshed, dehumanized, and no more related to a consideration of the real needs of life than the pen is related to the sword. They are all things, grouped and regrouped, stowed and restowed, classified and reclassified, measured and remeasured, with the same amount of human relation bestowed upon them that the adding machine gives to figures. Yet, in the world of today, many are still and persistently thinking of reconstruction in those terms, so long has all thought of life and life's needs been missing from any of their calculations.

That the prime spiritual need of life is to love requires not to be demonstrated. As a need, sometimes consciously known and followed to the death, sometimes unconsciously accepted and quite as blindly followed, it lies at the basis of all the religious movements which have swept like waves over the surface of that vast ocean which has rolled through the ages since life was. Looking backward we can visualize that measureless sea of faces, upturned, seeking something, animate or inanimate, human or divine, visible or imagined, to love. Is it not the one manifestation of life that stands out above and beyond all others, as we contemplate the world which has been, and which is, and is yet to be?

Today we exalt love of country above all other love, setting it above love of wife and child for the man, above love of husband and son for the woman. Setting it indescribably above the love of human possessions, and even setting it above love of truth and justice, for men still say, "My country, right or wrong." Now, if we so dare to say what the highest love shall be, then how can we fear to seek the solution of the problem of reconstruction by starting from the point where we say that the test is applied. We might state the problem in the most practical way and quite easily come to an agreement, if we believe what we say, since if love of country be the highest type, then our unending effort should be to stimulate and inspire that love. Surely we cannot deny the

part it plays in our lives, when we are face to face with such cosmic cataclysms as that which now shakes the world.

To those who so love, and who lay down their lives in that love, we accord the highest praise which we know how to confer, since we immortalize them in our national life. And they, in their love, are made wholly and completely free, for they serve without thought of gain or profit, or of fear of suffering. Death cannot appal them, and they greet it with an open heart.

But if we hold that the great need of life is to love, many will ask what they are to love? And many will arise to tell them. Thus begins the Second Act of the Great Failure. This question which has troubled life since time began has no slightest terror for all but a handful of men. It seems so easy to prescribe in a matter apparently so simple, and so, in our stupidity and our egoism, we have determined and defined not only what men shall love, but what they shall not love. Most of these determinations we have embodied in laws, or enshrined in conventions, or dogmatized in creeds, or framed as canons of art, or taste. But if we really mean to build a society in which the need to love shall be wholly satisfied, we must not begin by saying what men shall love or how they shall love it. Love has as many different tendrils as there are lives in the world. It has its own method of climbing and entwining itself. It follows its own laws and from them can never be swerved. Our fault is always in not trusting it. We say that it is bad or wrong to love some things and good and fine to love others. The truth is that love can never be wrong, nor can it attach itself to anything which is not good. The moment you try to insist, or pervert, or regulate and control it, love flees like the wind. Sometimes you hear the echo of a silvery laughter floating down the sky. Oftener you catch the faint murmur of a sob, childlike and filled with the note of the great tragedy—"and with no language but a cry."

If this is love's way—and it is—then our task is to provide the branches to which those infinitely varied tendrils may cling. Where do they grow? How can they be made to grow? What tree should we plant? What seeds should we sow?

Alas, one tree is always with us. It is the one tree in the world of life with which healthy men

and women cannot escape the contact. It is called Work. It is the natural object of love, is Work, but we have made it so unlovely that there is little about it to inspire the great mass of workers, and everything about it to make them hate and despise it. And being denied this natural outlet for their greatest need, we fill the world with the hydra-headed monster of repression and suppression. To keep him from devouring society alive and from sweeping it from the face of the earth, we feverishly seek to appease it with a thousand forms of diversion. They range from the elaborate and the costly to the stupid, the vulgar, the suggestive. We work only to escape work! Love has gone out of it, because we would not let it be an end in itself but blindly made it a means to another and unlovely end.

In the midst of this ceaseless turmoil, this unending Babel of our prisoned life, this agonizing flutter of our pinioned wings, we hear, swelling above the composite murmur of the throng, the strident voices of those who continually do cry: "My religion will save you!" "My art will save you!" "I will save you with a tariff!" "I will save you with Free Trade!" "I will save you with better houses!" "I will save you with higher wages!" "I will save you with This Law, and That Law, and no Other Law can save you!"

By and by, for a moment, there comes a great silence, as though all the saviours had taken deep counsel together, and then there comes the loudest clamor of all: "We must educate the public."

Underneath the fragment of sincerity which actually does exist, pitifully isolated in the self-seeking which animates the majority who follow the various banners, we do get in each of these cries the clear note of an unselfish purpose. But the reason—if reason we may call it—which inspires most of those who desire to accomplish this education of the public, springs from their wish for an appreciation of that thing in life which is dearest or most profitable to them. Let us say, for example, that it is architecture. But let us then ask, in return, how can there ever again be any really great architecture without love of work? What made the great architecture we love except the love of building for its own sake, or the love of building well because of a deeper love of something else.

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From the greatest monument in the world to the lowliest thatched cottage which charms us with its humanity, we cannot fail to see that the structure itself was born of the love of something, and that generally it inspired the workers who built it to so love their work that beauty flowed from it like clear water from a spring.

We essay to regain that art of producing beauty in structure, and yet the path we take leads in quite the opposite direction, for we make the work of rearing it less and less inspiring to the mass of workers through whose hands the materials must pass. They have no love to put into their work, and as a consequence the beauty which we seek is not there. We attribute it to lack of appreciation, to lack of education, to an absence of encouragement, and to the general commercial apathy toward all things which do not produce a profit. But, on the other hand, how can a small group of enthusiasts—and I do not speak of that smallest of groups wherein are found those who love architecture in sincerity and whose effort toward its restoration as the servant of men is born of their love for the art and not their wish to increase their earnings or add to their reputation—how can this group which deals for the most part in the echoes of a life that was, persuade the world to love their work when the world has, for the great part, been prevented from really learning to love the essential methods by which great architecture has alone been produced? When it has been prevented from really learning to love anything, and led to seek an escape from all true work and the thought of it?

The need to love has been suppressed at the very source of the stream, for work is the primal tool of man. The right to love has been so defined and so determined by law and by custom that the unnatural has superseded the natural. Men try to love this thing or that, because they are told that they should love it. They refuse to love other things because they are told not to. Their own natural and unquenchable need to love never takes to its own wings and soars into unknown and uncharted seas, and thus the spirit atrophies, like any other unused thing, and becomes dead within us. It is that with which we are trying to reconstruct the world—dead spirit—and our only hope now is that through the tears and wounds

of war, we shall be made whole again. That we shall see, at last, in the glass.

*“Love is doubtless the last and most difficult lesson that humanity has to learn; in a sense it underlies all the others. Perhaps the time has come for the modern nations when, ceasing to be children, they may even try to learn it. . . . Hitherto we have hardly thought whether there were any inner laws or not; our thoughts have been fixed on the outer; and the Science of Love, if it may so be called, has been strangely neglected. Yet, if, putting aside for a moment all convention and custom, one will look quietly within himself, he will perceive that there are most distinct and inviolable inner forces, binding him by ties to different people, and with different and inevitable results according to the quality and the nature of the affection bestowed—that there is in fact in that world of the heart a kind of cosmical harmony and variety—and an order almost astronomical.

“ . . . Love is, as we have said, a real fact and its own justification and—however various or anomalous or unusual may be the circumstances and combinations under which it appears, it demands and has to be treated by Society with the utmost respect and reverence—as a law unto itself, probably the deepest and most intimate law of human life, which only in the most exceptionable cases, if at all, may public institutions venture to interfere with.”

“As a law unto itself!” As a law which we have so codified, dogmatized, bent to the needs of feeding our insatiable mechanistic maw, that it has been warped and twisted out of all recognition, and become bereft of all power to take its way according to its law. Hardly does it know what it needs, beyond the vague effort to cast the ductile anchor where it will hold. Rarely does it find that haven, save after years of battling in the arena where men match their cunning against that of others, without thought of the blighting forces they let loose to bind and imprison the souls of those who, rather than being made free men by their work, are made the most abject of slaves. And yet, no less slaves are those who in turn have reduced them to slavery. It is all slavery. No one is free. All are caught in the giant mesh.

**Love's Coming of Age. Edward Carpenter.*

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

How strange to be writing this in the hope that it may be published in an architectural publication! What, will its readers say, has love to do with architecture? And being architects, or lovers of the arts, as they mostly are, their question will be reasonable, if of question my poor effort has still left them in need.

But one can only answer by saying that the word "Reconstruction" has opened up a path in a once impassable wood. All are free to pursue that path as far as their spirit may lead. Today, only the more resolute and dauntless are beginning to hew their way. We catch the glimmer of their tools, as the letters come across the sea to us at home. They are seeing where soldiers have never seen before. The war has lighted their path and made the dark morasses to yield up their secrets. Across their way, like a cloud by day, we seem to see floating the ancient saying. It hovers silently over the wilderness of noxious weeds, poisonous vines, seductive blossoms, and appears to glow with a mysterious light, from neither sun nor moon nor star. There stand the words, long, long, forgot—"Man does not live by bread alone."

What does it mean? A thousand answers rise to each thousand pairs of lips, as one by one each tries to define, in words, the content of that saying. Yet all art of language fails utterly—all our skill at twisting words is of no avail. There is but one answer, no matter in what language we clothe it or with what fragments of thought we attempt to dress it up and make it look profound, and superior, and important—and ourselves look wise. In its very simplicity lies all its strength. Shatter that and you have broken the glass from which the wine will be gone.

Man must love, to live, is the only answer we can make to those who will not be content with the thought as it has come down to us. We cannot in any way make clearer than they are, those words which were born in minds whose very simplicity and humility made them infinitely more profound than ours, loaded up as they are with such a heterogeneous mass of things that we have no profundity left. What we cannot find on top of the pile must perforce go unfound—otherwise the frail raft on which we flounder would be upset. Never could it survive the search which would disturb the pile as we have built it. Any disarrangement,

and we and our goods would tumble into the sea.

Therefore, one feels like repeating, Reconstruction, which is the word to which we are now committed, implies a starting-point—a basic unit around which to build—a new and ever-continuing growth destined to leave one habitation after another and for which we must leave the way free and clear, taking care that in no way shall the natural law be interfered with. We cannot, manifestly, begin at that starting-point, even if we should be successful in finding it. There is no possible way of beginning all over again by wiping the present slate clean and burning all our bridges behind us. When the time comes for that to happen, another force will arrange and execute the wiping and the burning. Some of those bridges have been burned, we hope and believe, since we have now seen their futility and even their dangerous nature. But, for the most part, our way of working still must be to try and recover—by which many will perhaps think that Recovering is the word with which we should have informed our quest—to work carefully toward that starting-point until we have at last undone the wrong which has ended in condemning man to live by bread alone.

But let us be careful in this effort to undo. It is not to be accomplished by the simple addition of more laws to those we have. On the contrary we need to begin the process of gradually erasing our laws and of substituting therefor another and more potent mainspring to human action. One by one, we must blot them out, slowly increasing the measure of our freedom until we are able to possess and wholly enjoy it.

From a society which sets out upon such a quest as that, we may expect an architectural development which shall transcend all that has gone before. From a world which perversely clings to the worship of things and to the enslavement of men in their production and use, we may expect nothing save the muddled echoes of those who continually do cry out their witless protest.

But, one may ask, how can we begin? How shall we walk in order to work our way through the tangle and bend our steps toward the starting-point? A question which might well lead to another article if the editor thinks it justifiable.—B.



THE HOME OF FRANK MILES DAY AT MT. AIRY NEAR PHILADELPHIA

Frank Miles Day

A REMEMBRANCE

By ANDREW F. WEST, Princeton University

HIS home in the lovely countryside near Philadelphia was the center and symbol of his life. There his house, built on clean and quiet lines and settled amid the shadows of tall trees, looks on a bright garden of old-style beauty, soon merging into open glades of green, and so on to the woodland beyond, with here and there a receding vista of hill and dale; and all in the full glow of summer the day he was laid to rest.

His life, like his home, was joyous and yet tranquil. His quick and buoyant nature had three deep impulses, a love of art, of nature, and of friendship, and these three were fused in one. Adventurous, yet no adventurer, imaginative, yet no wild dreamer, very practical, but not without vision, historical, but not an imitator, he guided and balanced all impulses and turned

them into stable achievements by his vigorous good sense. This was the sure guide which directed his master passions and lighted all his way. And this is why his work has in it the promise of perpetuity.

Others will tell better the story of his whole career with all its honors; yet we may speak a little here of his last work in Princeton, because it shows his excellence so fully. Here no detail is so small as to miss his notice and no part is made so important as to blur the meaning of the whole. Tower and cloister, archway, gable and window, stand or face or soar or recede, each as they should and all together as they should, while over all rests the spell of scenic enchantment. It is a living creation, a true re-creation of old beauty, the beauty of our ancestral academic homes across the sea, invit-

ing, domestic, appealing, the immemorial charm of the old colleges of England where

“Still by the tower the pigeons flutter,
Still by the gateway flits the gown,
Still from corbel and angle and gutter
Faces of stone look down.”

These new halls will grow in charm with the lapse of time, and perhaps some late-born traveler may say of them what once an old scribe wrote: *Quo vetustior eo venustior*—“the older, the lovelier.” What better word of praise could their designer covet?

He had a genius for friendliness. He could not help having friends any more than he could help being sensible, studious, observant, considerate, and lovable. So, too, his inborn love of nature had in it a friendliness for even the least of God’s creatures and a joy in their presence. A tireless lover of the woods and fields, of every plant and bird and flower, he found here refreshment for his spirit and new delights to quicken his love of art. And here his intimate friendship for the poets, whose pages he knew so well, served him day by day in his joyous

Frank Miles Day was born in Philadelphia on April 5, 1861, the son of Charles and Anna (Miles) Day. On the paternal side Mr. Day claimed kinship with an English ancestry, his father having come to the United States from Kent, England. On the maternal side, Mr. Day traced his lineage back to Radnorshire, Wales, whence came one Griffith Miles, settling in Radnor, Montgomery County, Pa., some six years before William Penn reached our shores.

Mr. Day was educated at the Rittenhouse Academy and at the Department of Architecture of the University of Pennsylvania, from which he was graduated as valedictorian in 1883. He continued his studies during three years of travel in England, France, and Italy, at the Royal Academy and the South Kensington Museum, and finally in the office of Basil Champneys, London. Returning to Philadelphia he there opened an office in 1888, for a time being associated with his brother, Mr. H. Kent Day, and of late years with Mr. Charles Z. Klauder.

He was president of the American Institute of Architects during the years 1906 and 1907. He was an Honorary Corresponding Member of the Royal Institute of British Architects, an associate of the National Academy of Design, member of the National Institute of Arts and Letters, and a trustee of the American Academy in Rome. In 1916 he received the degree of M. A. from Yale University, and at the commencement of the University of Pennsylvania this year he was to have been present to receive the degree of Doctor of Science which had already been conferred upon him.

Mr. Day’s services to the Institute cannot be overesti-

progress. I wonder if he did not know by heart those perfect lines of contentment

“For fire and running water,
Snowfall and summer rain;
For sunsets and quiet meadows,
The fruit and the standing grain;
For the solemn hour of moonrise
Over the crest of trees,
When the mellow lights are kindled
In the lamps of the centuries,

“For art and learning and friendship,
Where beneficent truth is supreme,
Those everlasting cities
Built on the hills of dream;
For all things growing and goodly
That foster this life, and breed
The immortal flower of wisdom
Out of the mortal seed.”

When an artist dies the world seems darker for awhile. It is like the sadness when music ceases. No commonplaces about the artist surviving in his work are enough to cheer us. But if we can believe that no soul of truth and beauty ever really dies, we are then consoled, and are also inspired to go on to the newer work, well assured that the work of him who left us is prophetic and will in some way be greatly fulfilled.

They were extraordinary in their range and always characterized by a sense of devotion and loyalty to the Institute’s ideals which marked his professional career. Time may well declare that the volume of his labor of this kind was greater during the period of his membership than during the term of his presidency, for in no other way was his loyalty so well evidenced than in the manner in which he left the high office of president and took his place in the ranks. One of the most important things upon which he was engaged, even up to the moment of his death, was the book on Professional Practice, one day to be published by the Journal—a book which may quite likely prove to be epoch-making in the study of the science of architecture.

At the University of Pennsylvania and at Harvard University, Mr. Day had been a lecturer on architecture, and for many years he was professor of perspective at the Pennsylvania Academy of Fine Arts. He was supervising architect of Yale University and Johns Hopkins University, and with his firm was supervising executive architect at Delaware College, New York University, Pennsylvania State College, and the University of Colorado. The work of his firm at Princeton University has been accorded a praise as lavish and widespread as it was deserved, and in addition to this already long list of collegiate associations, there is also to record the large group of buildings for Wellesley, now in process, the work at Cornell, and that at the University of Pennsylvania. Perhaps Mr. Day’s association with American architecture and his influence upon the period of decay which was culminating at about the time when he began to practise, have nowhere been better summed up than in an apprecia-

FRANK MILES DAY—A REMEMBRANCE



THE HOME OF FRANK MILES DAY AT MT. AIRY NEAR PHILADELPHIA

tion which appeared in the *Pennsylvania Gazette*, shortly after his death, and from which we quote as follows:

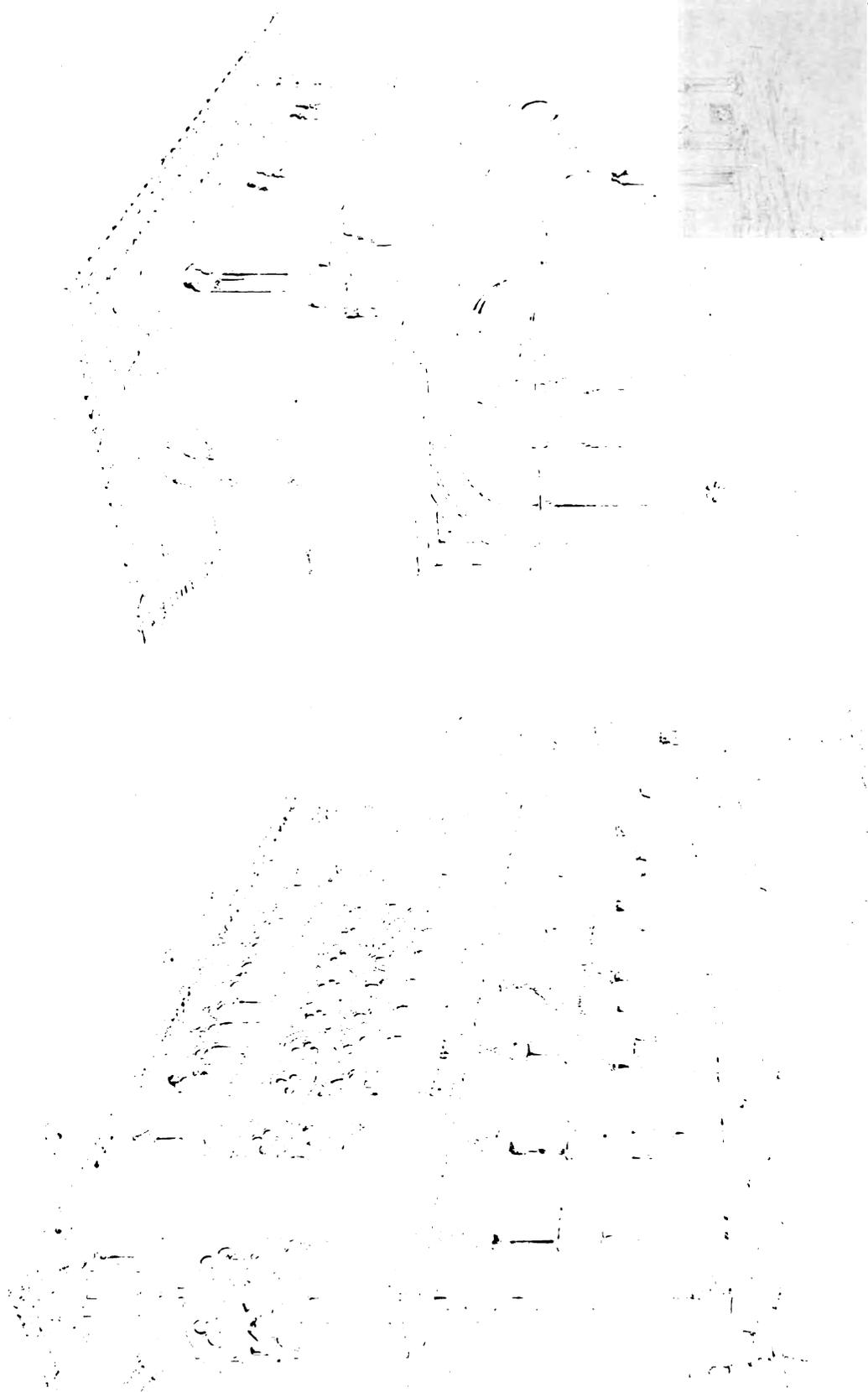
"When Mr. Day began practice in the late eighties, architecture was in process of being discovered by the American people as a vital, creative art. The public was awakening to an interest in its possibilities through the work of men inspired by foreign travel and study, or their pupils. These pioneers of the new age were men of vigor and originality, but the work of many of them was unhappily marred by an unrestrained individualism. This was a natural reaction from the unimaginative and commonplace character of prevailing architecture, but its excess of freedom developed eccentricity and degenerated, in the hands of less able imitators, into a confusion worse confounded with ignorant vulgarity. In no city was this more evident than in Philadelphia, whose character of staid repression had been swept aside in the movement of revolt which, starting in healthy reaction against tradition, steadily descended, in a striving for originality, toward chaos through ignorance of the real meaning of architecture: a declaration of independence followed by anarchy rather than an ordered freedom.

"At this moment, as though dramatically timed by fate, there appeared exactly the force needed to turn this vigorous and fundamentally wholesome impulse into the right channels; a force which gave to Philadelphia an architecture so fine and true that it was destined to have national influence. Frank Miles Day and a little group of

contemporaries of similar tastes and training here entered upon active practice—Walter Cope, John Stewardson and Wilson Eyre. Each had the genuine sense of architecture and was possessed of rare artistic gifts and all had traveled abroad and gained that knowledge of the principles and masterpieces of their art which through its discipline and inspiration guides and stimulates the creative impulse of the true architect. The work done by these men, some of it in coöperation and all in an atmosphere of mutual sympathy and common ideals, was so good that it arrested attention; so fresh and charming, so true to the spirit of architecture and free from its pedantries, that it won the instant approval of thoughtful and discerning people and was accepted as a right standard of performance in architecture.

"To this result Mr. Day's contribution was vital. The consistently high level maintained by the work of his office shows always the influence of his qualities: a fine enthusiasm and love of study, grasp of the essentials of a problem and insight into the essence of style and character; erudition combined with a facility for finding fresh and novel modes of treatment and, perhaps above all, the critical faculty guided by a supremely true taste."

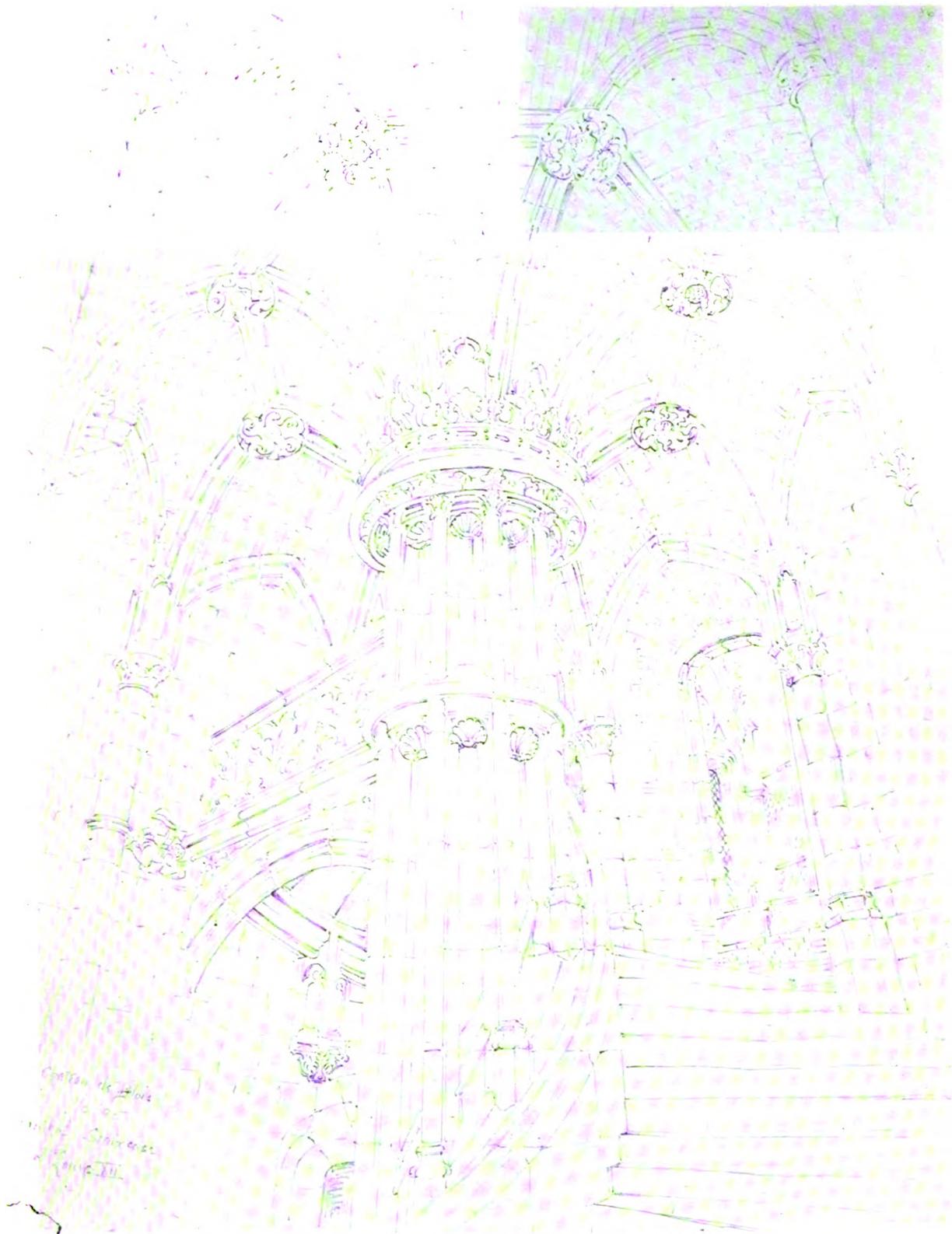
The illustrations of Mr. Day's house and garden are from photographs by his own hand. The drawings are from the sketch-books of his student days in Europe and disclose a talent which he was not generally known to possess in so rare a degree.



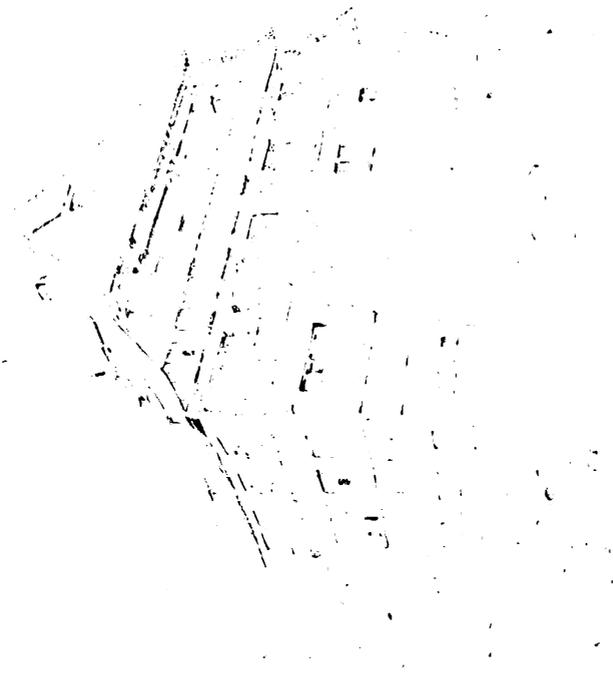
THE GIOVANELLI PALACE—VENICE

THE BIGALLO—FLORENCE

Drawings from the Student Sketch Books of Frank Miles Day



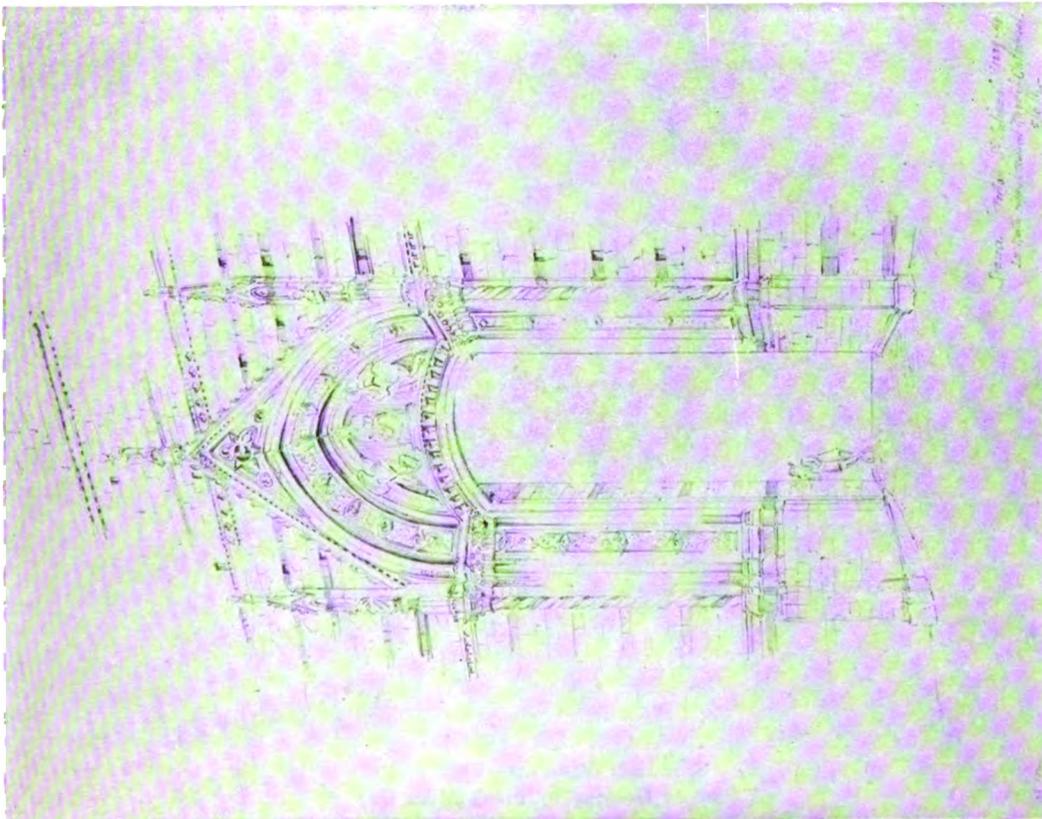
THE VAULT OF THE STAIRCASE—CHATEAU DE BLOIS
A Student Drawing by Frank Miles Day



A HOUSE—NÜRNBERG

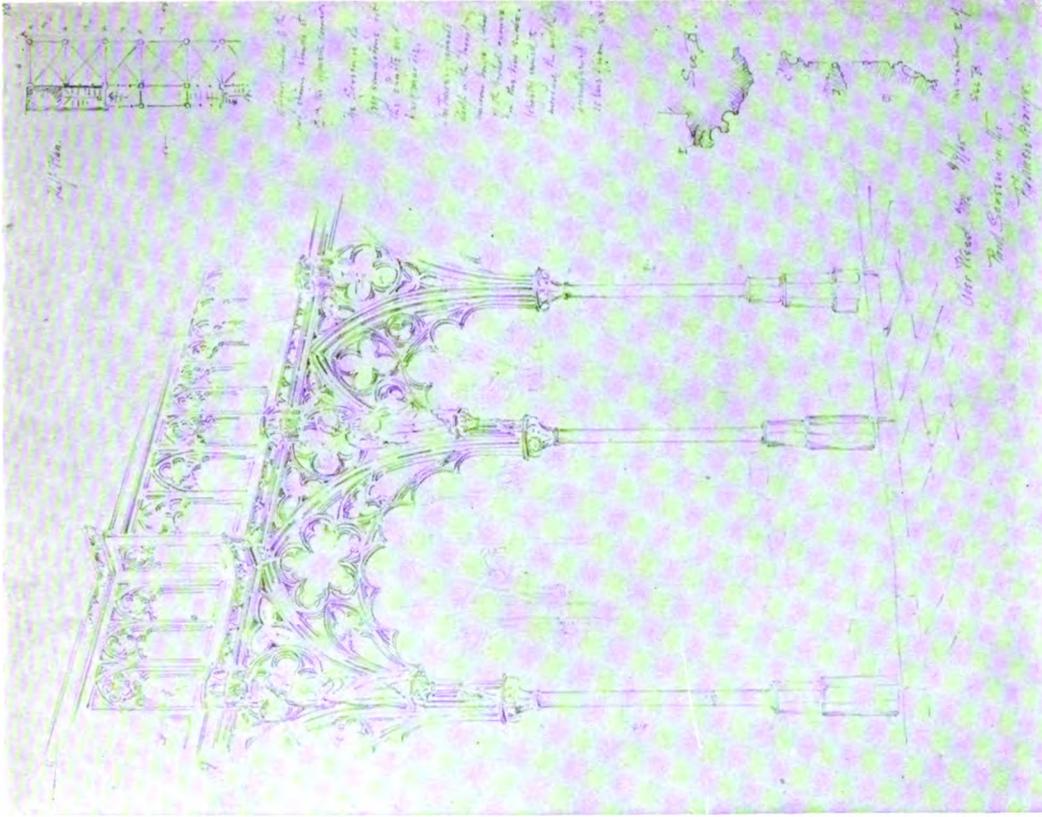
ALBRECHT DURER'S HOUSE—NÜRNBERG

Drawings from the Student Sketch Books of Frank Miles Day



“PORTAL ST. JULIANS”—SIENA

Drawings from the Student Sketch Books of Frank Miles Day

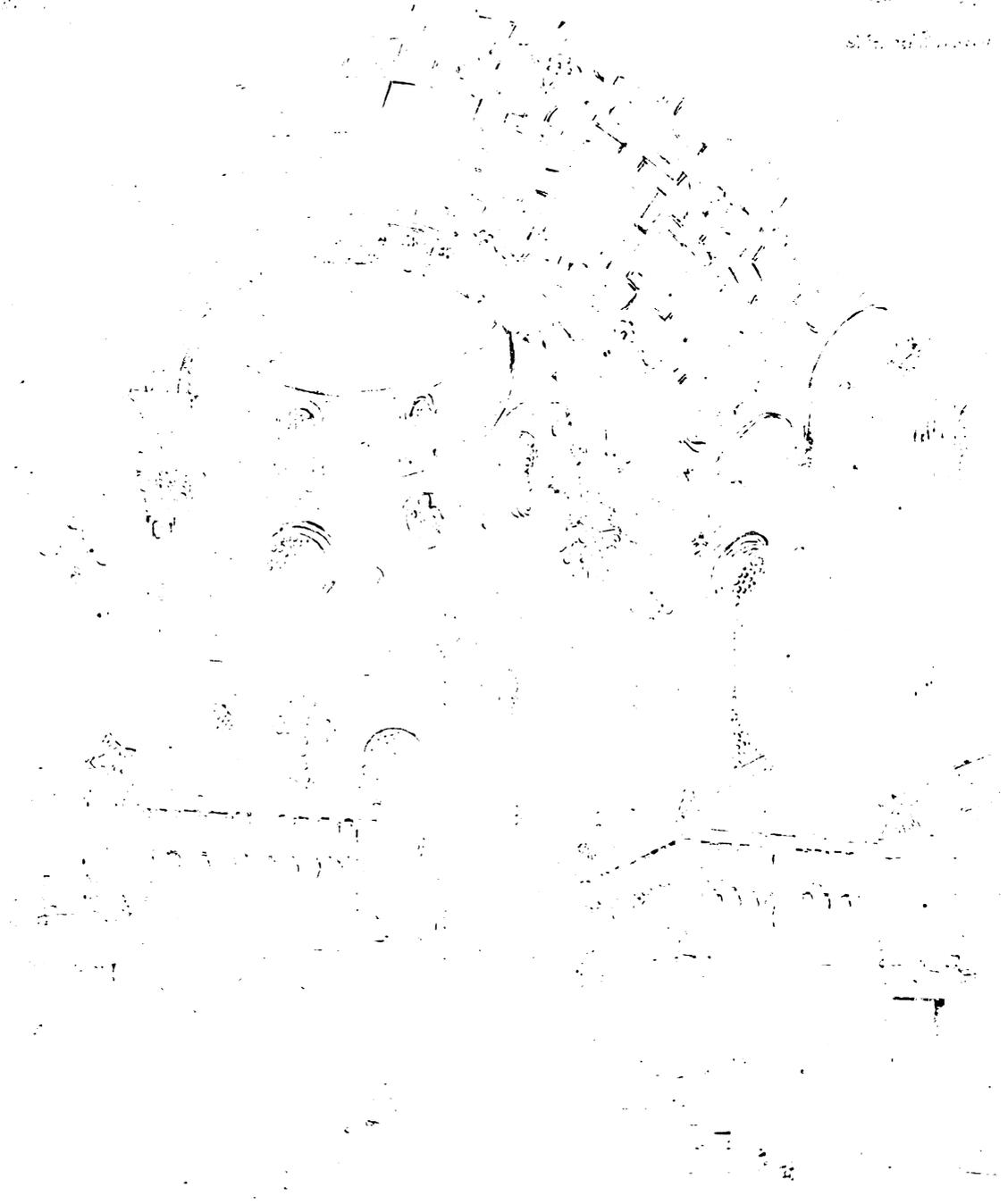


ROOD SCREEN IN THE FRAUENKIRCHE—OBER WESEL

Drawings from the Student Sketch Books of Frank Miles Day

St. Mark's Basilica
St. Mark's Basilica

St. Mark's Basilica
St. Mark's Basilica
St. Mark's Basilica
St. Mark's Basilica
St. Mark's Basilica
St. Mark's Basilica



S. M. DEI MIRACOLI—VENICE
A Student Drawing by Frank Miles Day



A HOUSE—BOPARD
Drawing from the Student Sketch Books of Frank Miles Day

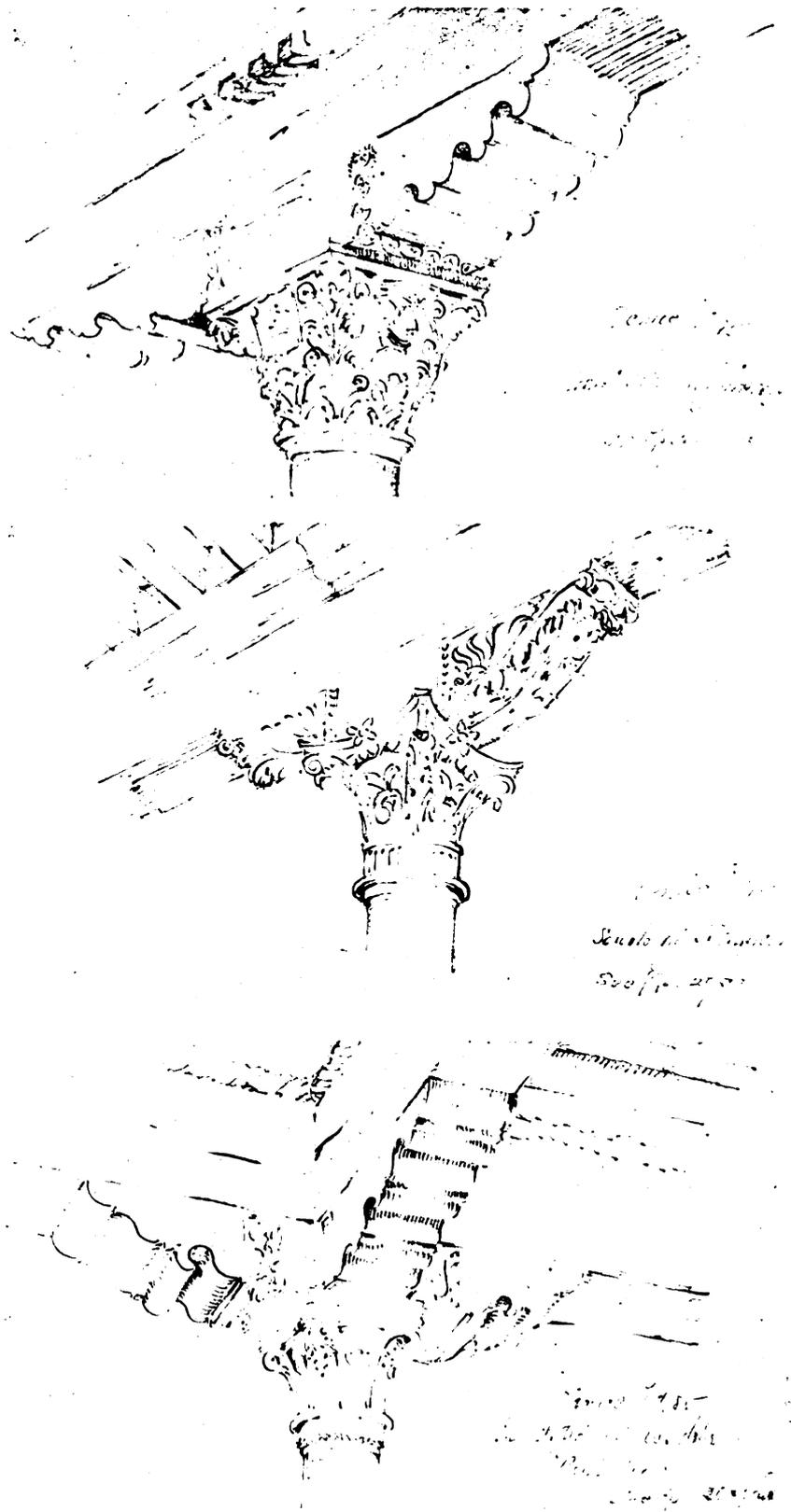


Handwritten notes in the bottom left corner, possibly describing architectural details or materials.

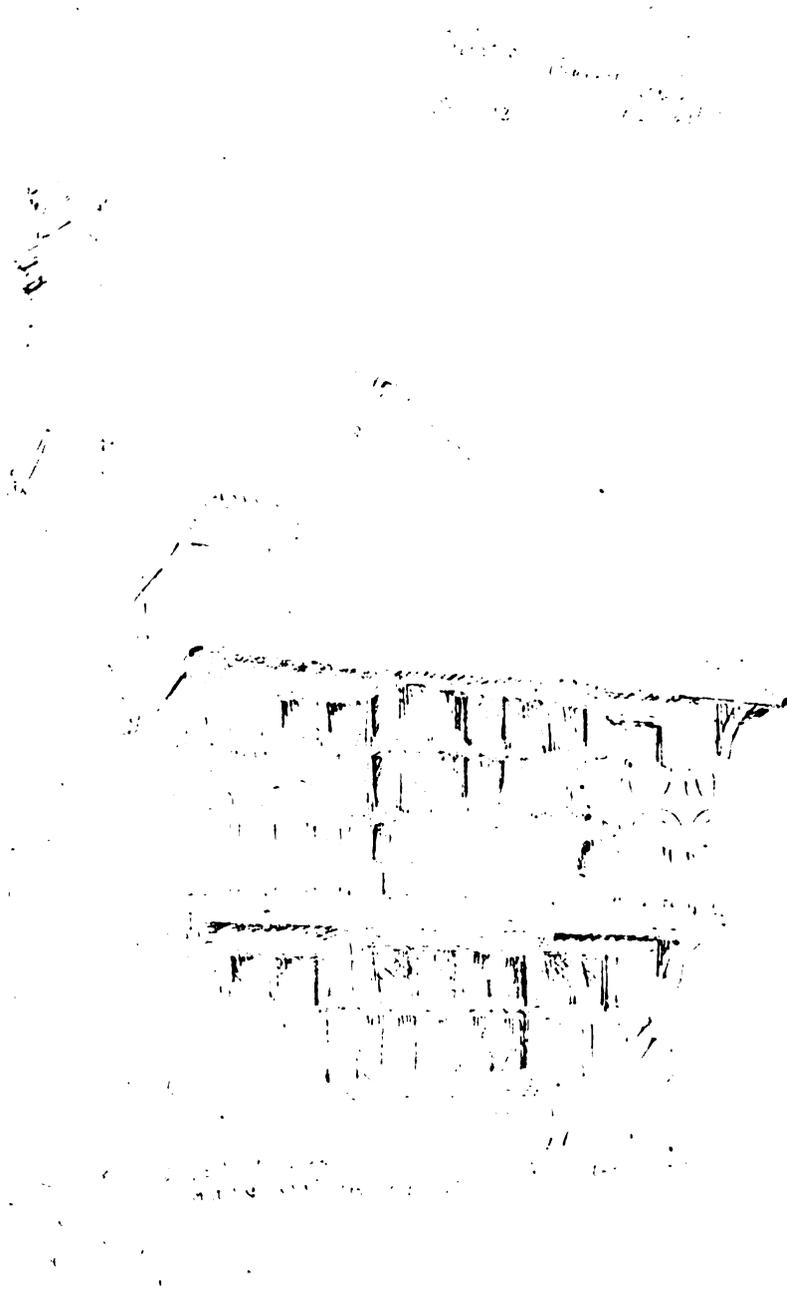
Handwritten notes in the top right corner, including the date '1891' and the name 'Werner's Chapel'.

HOFKIRCH—BOZEN

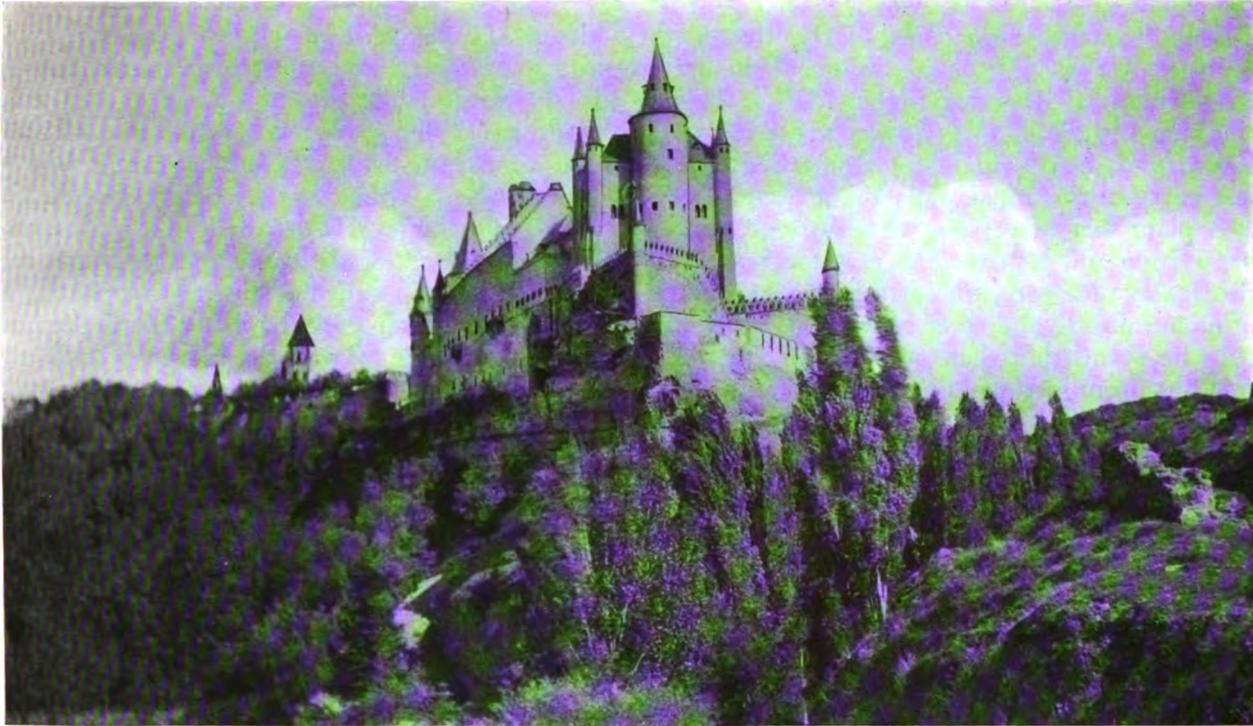
ST. WERNER'S CHAPEL—OBER WESEL
Drawings from the Student Sketch Books of Frank Miles Day



THREE CAPITALS—(Top), NEAR S. M. DEI MIRACOLI; (middle), SCUOLO DI S. MARCO;
 (bottom), ACAD. DELLE BELLI ARTI—VENICE
 Drawings from the Student Sketch Books of Frank Miles Day



"WICKENS"—CHARING, KENT
Drawing from the Student Sketch Books of Frank Miles Day



SEGOVIA—THE ALCAZAR

From a photograph by E. H. Lowber

Early Churches of Spain

By GEORGIANNA GODDARD KING

I. SEGOVIA

AT THE back of Segovia, the mountains raise a long spine, amethystine in the clear air; about the base of Segovia lisp fresh trees, and grass springs green beside cool running water; in the high, cold blue, full clouds sail; and, like the prow of a ship, the city juts into the plain. For the Spaniards, who know how precious is every rustling tree, every stubborn patch of turf, the soft park that stretches along the Eresma from S. Maria de las Huertas to El Parral is half a miracle, and their proverb runs from garden to vine-garth, *de las Huertas al Parral, Paraiso terrenal*. There the still waters of the weir attest the proverb that Calderon used for a title; and the current still grinds the signoral mill. Here once Philip II set up a mint and begged for workmen from his imperial cousin in Austria, and, at the last, the foreigners all died off but one old man, but the coins were struck and stamped by the sliding waters. In the valley of the Clamores, on the other side of the rock, city streets and a grass-market held

under white canvas are spanned by the noble aqueduct of the Romans. The Archpriest of Hita came hither in an evil hour, between the time when the Romans disappeared and the time when a clever young monk, who was an engineer, repaired the aqueduct for the Catholic king and queen, Ferdinand and Isabel; he complained that there was no good drinking-water in Segovia, nor wells, nor fountains, and, having spent all his money, like other country folk when they come to a capital, he withdrew again to his mountains. Wells of some sort there must always have been, however, pierced through the stiff clay, for the tawny city withstood many sieges from without, and yet more in civil fighting, when one quarter was arrayed against another, and street against street. In 1072 the town had been besieged by Moors, and thereafter it lay long deserted, says the Toledan Annalist, and in 1088 it was re peopled. The first bishop to sit there, after four hundred years, was installed in the See, 1119, on S. Paul's Day, in the month of January.

Quaint reading affords this unknown clerk of

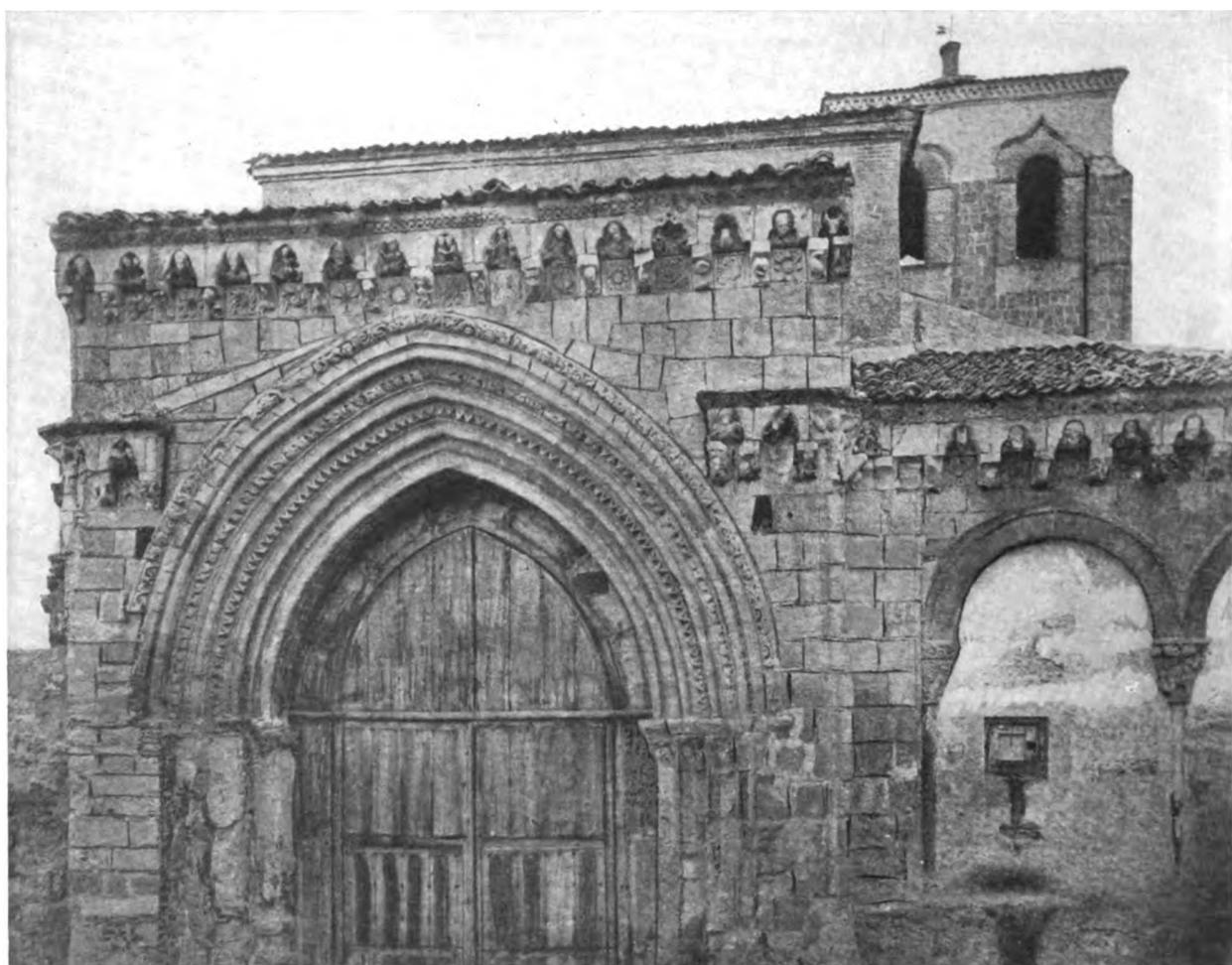
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Toledo, who died too early in the thirteenth century. He was a friend, perhaps, of the great Archbishop D. Roderick that made history at the king's bridle-hand and then wrote it out in Latin, and, lastly, again, in Romance, for the last entry in the annals tells about him.

A plain sort of person, we make out, for all his writing and his care for great moments and the deaths of heroes, who farmed his own patch of mountainside and river-bottom. Of the year 1213 he writes that there was freezing weather, steadily, from October till February, and there was no rain in March nor thence on through June, "never was there so bad a year, and we gathered no wheat, none of us." Next year the king of Castile and the king of Leon made peace, and made a pact to march against the Moors, each on his own frontier; so the king of Leon borrowed a leader, took Alcantara, tried for Caceres, but failed, and went home again. The

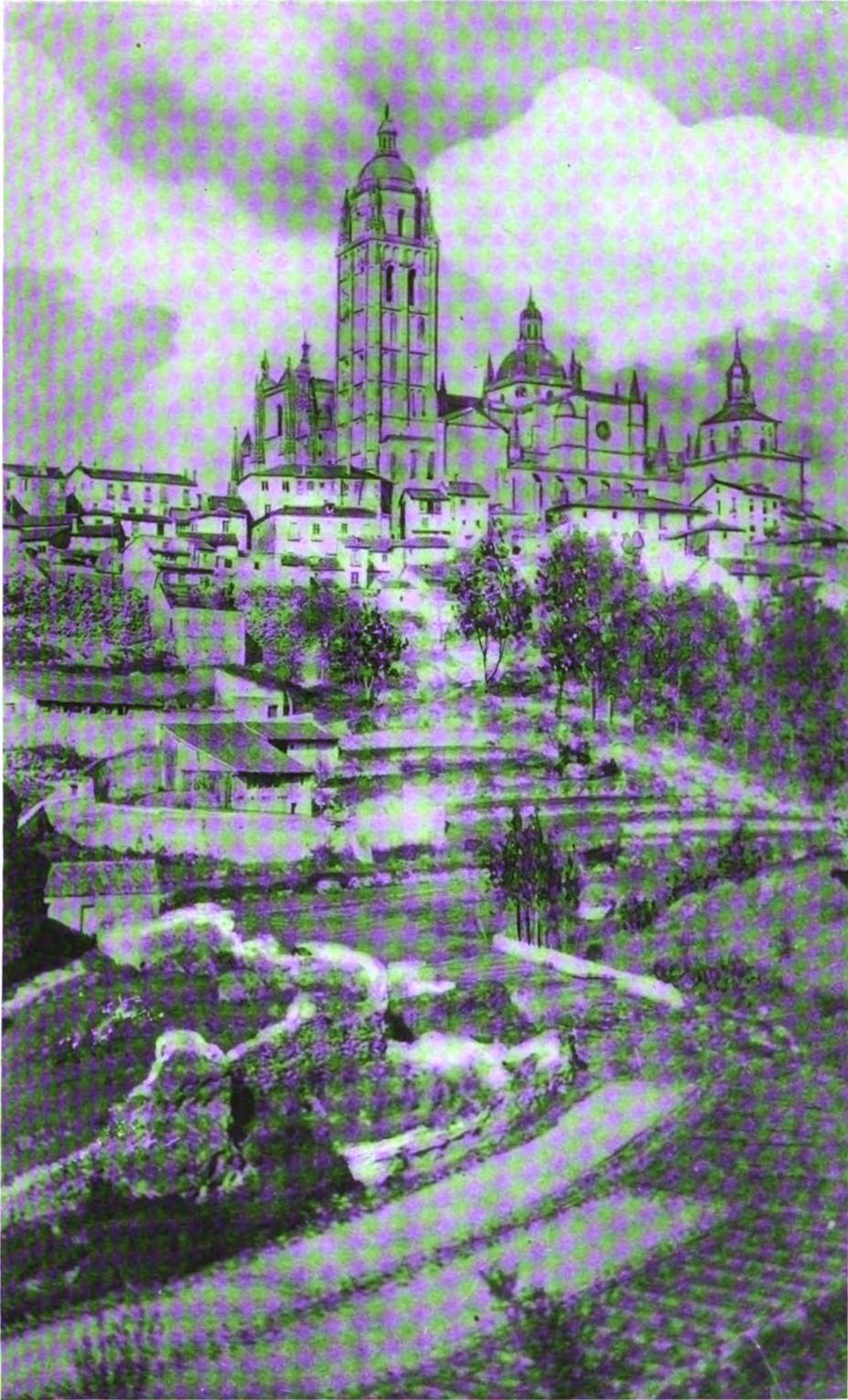
king of Castile, who was besieging Baeza, asked him to execute a diversion in the south, but no. In the autumn, Alfonso of Castile had taken a town, had killed many Moors and many Moor-esses, and had driven off much cattle, but in January he lay three weeks before Baeza and could not take it. Horses died, and mules, and she-mules, and asses, and the folk ate them, and thereafter the folk died of hunger. In that time a measure of grain cost sixty sols. And the host came up to Toledo; and the famine was in the kingdom till summer, and most of the folk died; and they ate the beasts and the dogs and the cats, and what children they could steal. This was in Toledo, and wheat went up to —." Oddly, however, he never set down the figure, leaving it, presumably, to be verified—a trustworthy chronicler.

These are the years when Vera Cruz of Segovia was lately finished, and perhaps S. Millan, and



SEGOVIA—A DOORWAY

From a photograph by E. H. Lowber



SEGOVIA—THE CATHEDRAL

From a photograph by E. H. Lowber

S. Martin must have been a-building. Brief are the entries of things that must not be forgotten: one king's marriage, another's death; how the convent of Oña was founded; how in such a year the Moors took Osma. In 1017 died the Count D. Sancho, he who gave the good laws; in 1019 they killed the Infant D. Garcia in Leon. In 1094, My Cid took Valencia; anon, in 1109, died My Cid el Campeador in Valencia. Over leaf, there stands how, in 1111, Alvar Fañez took Cuenca from the Moors in the month of July; then how, in 1113, the Segovians, right after Low Sunday, killed Alvar Fañez. He was the nephew of My Cid and the closest in his confidence, who had ridden out with him into exile and brought back his daughters, Doña Elvira and Doña Sol, from the wood of Corpes when the Infants of Carrion had used them shamefully; and led his armies on the day when My Cid scattered the Moors once more from before his dead face; and yet, at the last, they of Segovia murdered him. The Cid's men were "of the Mountain," old Castilians, to king and king's men rough and bitter, and so the story stands. Most likely it is true.

At the dawn of the thirteenth century was finished the Templars' church at Segovia, which lies across the river where, out on the dusty plain, a white road climbs wearily to the far horizon; on the tympanum may still be seen the double-barred cross that belonged to the Order of the Holy Sepulchre. It seems that the Knights of Christ possessed a relic of the true cross and built this sanctuary to enshrine it, without a memory of the East, except in the actual planning of the church as centripetal and concentric. At the heart, below, a low-vaulted chamber stands and supports a lofty upper sanctuary where a symbolic sepulchre is set for an emblem and an altar, and the ribbing betrays Mozarabic hands. The four ribs cross to leave the central space free. Windows, as at Torres, are pierced in the haunch of the dome, and not below it; beneath, a lofty aisle turns about the central structure. The Spaniards showed at one moment a fancy for these annular vaults, circular or pointed; one such may be seen at S. Maria de Cambre, and others in early Cistercian work at Moreruela and Melón where, as here, windows are pierced through the curving vault to light the ambulatory.

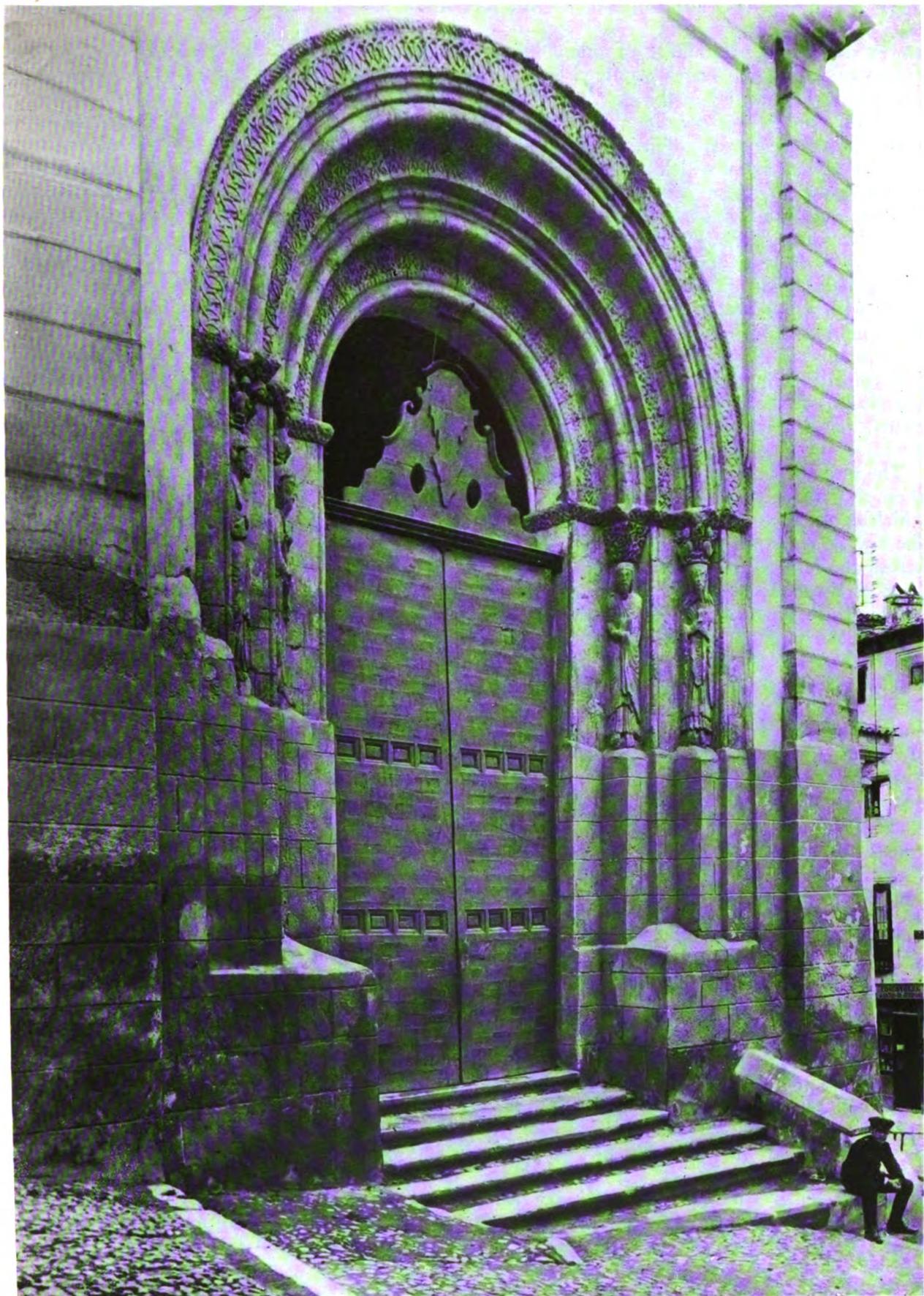
Eastward project strongly the three parallel

apses that Spanish Romanesque can so hardly spare, and, to the southeast, a square tower that affords in its lowest story another chapel. Add to this that, though the central fabric is a true lantern, the roof of it hardly shows above the high face of the outer walls, and these are finished at every angle with pilaster buttresses set on the axis of the ribs inside, and with a cornice on arches and corbels like all the parish churches.

It is a poor forlorn place now; the keys are always somewhere else, the guardians always out of the way; but with its strange acceptance of intentions outlandish and international, its stubborn adaptation, notwithstanding, of the exotic to the regional, it sits out there in the white and arid land like Rachel in Rama with dust upon her head, and will sit. It waits as though for the Templars, who left in 1312, to come home and unlock the door again. In that high, pure air it would seem that even mortality could hardly know corruption, that it is proof against time, like the work of Arnaut Cadell "*qui claustrum tale construxit perpetuale.*"

The parish churches of Segovia afford the perfect instance of what is meant by a regional style. No two are quite alike, and yet not one is different. In 1592, when Enrique Cock, the guardsman, was in Segovia with the escort of Philip II, there were, besides eleven monasteries and seven convents, twenty-three of these parish churches. The traveler today can easily run up his count above a dozen, though sometimes there will be little more than a doorway and, at others, not much beyond an apse or so. Some will have pointed arches and others round; some vaulted roofs and others timbered. With the mountain at their back, they had timber aplenty in Segovia, in fact, better timber than stone.

The lordly, Romanesque S. Millan, which basks on its ochreous hillside above the silent bed of the Clamores, would seem to have been planned for such a grand timber roof, carried on alternate piers, as S. Miniato above the Arno; and the little church of S. Facundo, or another, where the Museum is, commences with a square apse of late Gothic and continues with a choice ceiling of artesonado; S. John of the Knights had always, belike, a timbered roof, and so had S. Lorenzo once, but now enjoys a moulded plaster ceiling of the seventeenth century; S. Martin,



SEGOVIA—DOORWAY OF S. MARTIN

From a photograph by E. H. Lowber

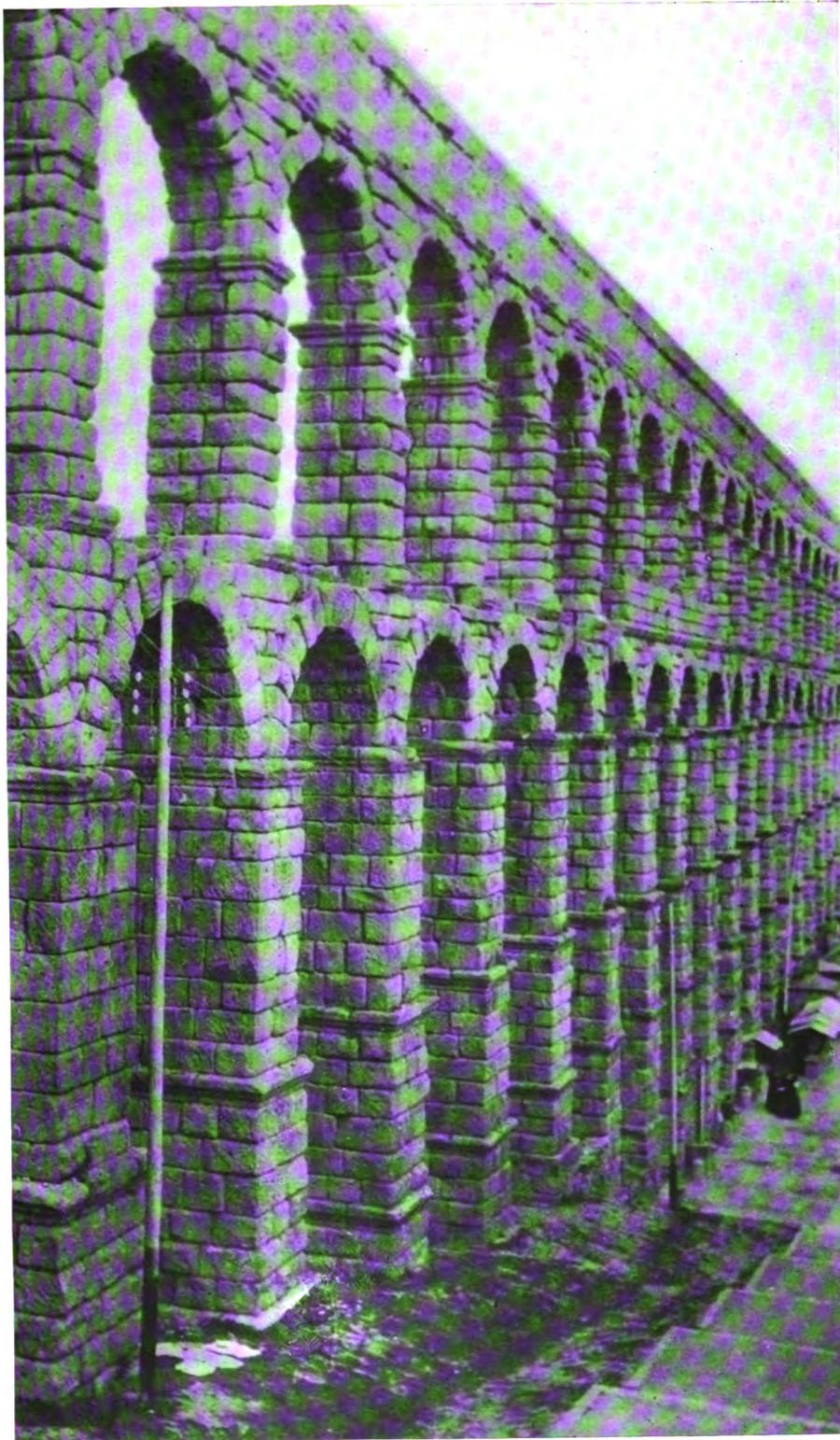
an extraordinary assemblage of dome, ribbed cross-vaulting, and barrel vaults which run toward all the quarters of the sky, but it seems likely that once three parallel and lofty barrel vaults buttressed each other, over nave and aisles of almost equal width. Towers go where chance may set them: at S. Millan and S. Lorenzo over the north transept; at S. Esteban over the south; at S. Andrés over the south aisle; at S. Martin and the Trinity over the central bay. That of S. Lorenzo is lofty, brick-built, with a touch of the Mudejar; that of S. Juan de los Caballeros has neither the grace of this nor the far-off Lombard look of the rest (mostly unnamed here), but, with thick buttresses at the corners and more massive forms, recalls rather the heavy belltower of Zamora.

The rare and precious feature, however, of all these churches is the side cloister, or long porch, which flanks one or both aisles, commencing at the transept or its place. It is often returned across the face to meet a true porch, as at S. Juan, S. Esteban, and S. Martin. In other cases it stops with the aisle wall, or just short of it, as at S. Millan, where the western face with its pilaster strips, set of small windows, and larger window above wears an air quaintly north-Italianate. The porches, though a *spécialité*, are not confined to Segovia. The earliest appearance of the form, logically speaking, is in the eastern Pyrenees, where, in the Valley of Andorra, for instance, the tiny mountain churches show, along with tall Lombard belfries, a shelter for mules and donkeys while their masters are at mass, constructed by continuing the roof on one side well beyond the walls and supporting it on posts or stone pillars. The older country churches in America have met the same need in much the same way, with a shelter-shed along the back fence. Among the snows of the Pyrenees such a structure could not be spared; it was needed against the winds of the Guadarrama. With the Lombard-looking towers it may have passed straight from Andorra to Segovia. Those little mountain churches have no date, as they have no shape; they are timeless. There are signs that the art of the Segovian churches is belated, and that even the Romanesque belongs to the thirteenth century. Visibly, none of these antedated Vera Cruz, and that is dated positively 1208.

Another wonder, however, of this Segovian style is found in the rich carving of capital and cornice, modillion and corbel, and those decorative aspects of the last which are called in Spanish *mensula* and *canecillo*. Birds and lions, harpies and griffins, figure in the cloister of S. Martin; in that of S. Lorenzo, below a Romanesque flower, saintly legends suggest at every turn the thirteenth century; and around the apses, above the flanks, under the eaves, present everywhere, but most amazing at S. Juan, a wide range of little arches descends upon grotesques and encloses others intermediate.

The Old Cathedral, which stood close to the Alcazar, was possibly of this style, but most likely not. It was founded in 1136, consecrated in 1228, and destroyed in the fighting of the Commune in 1520. That it was massy, and most of all the tower—this is all we know; the phrase suggests Zamora. A little like that of Durham was the site, and too close to the steep bank. In 1470 a new cloister was built; then a new palace was planned for the bishop, but the fighting around the Alcazar in 1507 disturbed the Chapter, and, in 1510, they secured the king's license to move. They bought their ground in the High Street (so to speak, literally in the Plaza Mayor) from the nuns of S. Clare. In short, it is not Juan Bravo and his republicans, but the bishop and his canons who are accountable, as at the last so at the first, for a New Cathedral fine as that at Salamanca. Probably, as there, the Old Cathedral, but for ill-luck, might still have been *in situ*. But it was battered, it was burned, it was all to bits, and the new was needed in a hurry. The story of the building of it is written in a long *Relation* preserved in the cathedral archives. Canon Juan Rodriguez, who was in charge of the works from their commencement in 1522 until ill health forced him to resign after forty years of service, spent a year thereafter upon it. One likes to think of the old cleric brooding and blinking over his memories in the sun at noon, pacing the checkered warm and cold of the pavement in his cloister, so cleverly removed and set up again taller than it was before; or, in shell-rimmed spectacles, writing beside his brazier in the chilly hours of early day and nightfall; the image evoked is as a portrait by Greco.

It is not, after all, so curious a thing where Vera Cruz was built in transitional times and



SEGOVIA—ROMAN AQUEDUCT

From a photograph by E. H. Lowber

the parish churches fall all, more or less, within the thirteenth century, that right there in the sixteenth the cathedral should be a lovely late Gothic work, lofty, fair as minted gold and as pure, with none of the trumpery stuff that the Catholic kings affected, as you may see it in Segovia at S. Cruz and El Parral, with its debased arches and disheveled tracery, its fringed and tasselled buttresses. Trained in the noble tradition of cathedral building, Juan Gil de Hontañon and his son Rodrigo were directing the *chantier* there for five and fifty years—for so long that the memory of those living could not reach back, and on the slab in the cloister which marks the grave of Master Roderick, they wrote that he set the first stone of the church. Thereafter building went on by its own momentum, for a great *chantier* formed men and depended on none, till in 1615 it was time to close in the crossing and to set a dome above, and no man could be found who knew how to make one in the Gothic style, as domes had been made, for instance, at Salamanca, Toro, and Zamora. At last a Biscayan, Juan de Mugaguren, planned one in the classic style, that sets not so ill as might be thought with the leveled lines of roofs and flying buttresses, and the sharp, small pyramids on corners and angles. He repaired,

also, the tower in the same style, after it was struck by lightning; he got a good half, doubtless, of his craft, from the cathedral; he gave a good deal, visibly, to it; and there is little of the incongruity that offends. In truth, Spanish Gothic, like Italian, being of the sort to which Professor Moore will not allow the name, keeps always those qualities—draws its life from those—which it shares with Romanesque and Renaissance, and changes come only as maturity and age come to a beautiful woman, without loss of individuality or charm.

When, at the end of the seventeenth century, the windows were to be set in the ambulatory chapels, the Gothic art of glass-painting, in its turn, was forgotten and had to be restored. The cathedral keeps, laid up with Canon Rodriguez's *Relation*, a treatise on stained glass written by Francisco Herranz, Chapter's Verger. The clerestory windows of nave and aisles are filled with strong reds and hot yellows, the eastern windows of Francis the Beadle are yet more furious in color, but in the golden twilight of their altitude they content the eye. This church is, when all is said, like the rest of the great Spanish, very grand, complex yet lordly, dim yet glorious. Street's word for it, at the last, is "awful solemnity."

Regional Surveys—Their Aim and Importance in War and in Peace*

By C. GRANT LA FARGE

The privilege of addressing you has doubtless been conferred upon me, rather than on some more able speaker, because of a visit I made to this district something over two months ago, as an investigator for the Housing Bureau. I am not here to tell you how to do the work we have asked of you, for there is no need of that. The kind of talent and energy we have appealed to needs only to be told what is wanted. So I had better do just that, and say also why we want it. It will hardly be practicable to separate these two statements or to arrange them in any sequence, nor shall I try to do so.

First, then, as to the task of the Bureau of Industrial Housing and Transportation. As an arm of the United States Government in its paramount present undertaking, the winning of the war, its function is to provide homes for those workers whose labor is essential to the production of the munitions with which the war must be waged. Where these homes are lacking in the vicinity of industries

*An address before the Home Registration Service Committee of the State Council of Defense, August 5, 1918, at Chicago.

producing munitions, and by this lack production is impeded, the need is met in more than one way. It may be that vacant residences are discoverable within a distance that would be reasonable and satisfactory were improvements made in transportation; these improvements should then be undertaken. It may be that in the very neighborhood are vacancies not known about because no systematic effort has been made to find them; in this case, the systematic search is made, accompanied by the setting up of a Homes Registration Service to help connect the workman and the vacancies. And even with all these things done, houses may have to be built.

The demand is widespread and enormous, presenting itself mainly as an incident of the great industrial expansion due to the war. But concerning this demand in its very many and various aspects, it may quite fairly be said that the war urgency is really acting as a sort of searchlight upon things which the community has hitherto permitted to go, if not unobserved, at least uncared for. Because, although it may appear at first sight a rather simple propo-

REGIONAL SURVEYS—THEIR AIM AND IMPORTANCE

sition to determine, in any given case, that a given number of war-workers need houses and so to provide those houses, yet, as a matter of fact, when we begin to investigate the conditions that must be known in each case, we find that there is hardly any social factor safely to be left out of consideration. It is obviously of the first importance that whatever is built with the people's money shall not only produce the immediate result aimed at, the stabilizing of labor in sufficient quantity where required, but shall be also a good investment of that money. Therefore, we must make as sure as we can of two things: that what we do will be attractive to the workmen, that they will be content to live in what we build and want to stay there, and that the investment is one that will be absorbed by the community after the war. Otherwise there is a double waste.

As to attractiveness, it is not sufficient merely to build some good houses. They have to be of such cost that upon the basis of a fair, even if low, rate of return, they may be rented or ultimately sold at prices within the reasonable reach of the wage-earners who are to use them. Assurance is essential of proper health conditions; of adequate shopping and market facilities; of educational and religious and recreational provision.

To forecast the soundness of the investment, the industrial status of the locality before the war has to be ascertained, and the best estimate possible made of its stability when war-pressure ceases. To do this intelligently, we must know all we can of the whole body of industry whether or not now engaged in making munitions.

It is plain, then, that without in the least going outside of the wise limitations imposed by law upon our spending of public funds, we still are obliged to take into our reckoning pretty much every factor of communal life before we decide when, where, how and to what extent to spend them. And here is where the searchlight comes in.

It is true that the influx of workers due to war activities often produces intolerable congestion; also that, for the same reason, local transportation systems are overtaxed. It is when the heavy burden falls upon you that you learn where your weak places are. And what we actually find, over and over again, is that if congestion did not actually show itself before the war, something very near it existed. By the same token, poor transportation was somehow tolerated until war exigencies made it insupportable. Aside from this are many things not due at all to the war: if workmen lived in slums; if the speculative builder furnished inferior houses to them; if industrial housing was squalid and dreary; if rational amusements were lacking for them and their children; if health conditions were bad; if employment agencies did little better than to increase labor overturn to their own pecuniary advantage; if renting systems looked no further toward usefulness than to collect all the fees they could; if water-supply was largely drainage; if traction companies laid out their lines upon plans that suggested more the exclusion of rivals than the giving of convenient service—for these and such as these we may not hold the war responsible. But we may indeed say that the war has forced them upon our attention today, no matter how reluctant we may be to face and deal with such unpleasant facts.

I shall not attempt to detail what we have found in

this district; you must all know it far better than I. Suffice it to say that it has appeared that various improvements in transportation were feasible and that some of these are already under way, with promise of beneficial results; that an unknown but apparently large number of vacancies in Chicago existed, and that these are being surveyed, while at the same time a Homes Registration Service is in process of establishment here, cooperating with branches in the Steel Towns, already rendering valuable service.

In speaking of this district I ignore the political division separating Illinois from Indiana, for despite that and despite the further very appreciable demarcation between the "wet" and the "dry" state, the Indiana Steel Towns, geographically and industrially, form one great group of which this city is the metropolis. Without, as I said, going into any details, let me make one general statement.

Whoso studies the map of this region must see at least these things: the great open-pit mines of Minnesota; the continuous long procession of ore-laden vessels from the harbor of Duluth; the illimitable tributary wheat and cattle country; the nearby coal-mines. And he must see here one of the vastest of those huge aggregations of manufacturing plants that are so distinctive of the development of this civilization of ours and so fraught with their potentialities for weal and woe to that civilization. Serving all this, binding all this together and uniting it with every corner of the earth, is as close-gathered and complex a network of railways, to say nothing of water-borne traffic, as perhaps the world can anywhere show. With these facts before him, the student of the map must conclude that about the southern shore of Lake Michigan lies a force, difficult to assign bounds to today, destined to grow beyond anything we dare calculate, incalculable in the effect it may have upon the future. It is with this in mind that we have asked you to make a survey and a plan.

We entirely realize that we may not expect our present action, limited as it is by the inadequacy of the appropriation available for our use, to be a full measure of relief. We anticipate relief from it, but we also anticipate a further demand. When that comes, should we be able with further appropriation to meet it, we most urgently desire that every dollar we may spend here shall be spent in the best and the wisest way; that the future shall not disclose to us that had we known better all the conditions, their interrelation and the possibilities for their development or their correction, we should have made a more constructively permanent contribution to the welfare of the locality and hence of the country. To secure just such knowledge and understanding, a plan is necessary with, of course, its accompanying report. To make such a plan, in the clear, suggestive, graphic way that architects and town planners know how, there must first be a survey to gather and to arrange the great multitude of facts which are to be expressed in the plan, as well as described in the report. But it is not enough that the plan should stop at a mere statement of what is, however beautifully presented. There is required the kind of constructive vision that will see and show how evils may be overcome, inequalities adjusted, awkwardnesses corrected, waste eliminated, order substituted for disorder; show further how every

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future step may be toward a known, foreseen, predetermined goal.

To the production of such a result the concerted efforts of many people must be invoked; to lead the work, to coordinate and combine the fruits of all the various efforts in such a plan as I have indicated, where could you go to find better or more proven skill and imagination than are possessed by the distinguished planners whom you have made your Committee? You will be in good company. Besides an interesting survey in the Boston district, there is the one made by the Philadelphia Chapter of the American Institute of Architects. This has been presented by Dr. Hamerschlag, Director of Industrial Research for the General Staff of the Army, to that Staff, to the War Industries Board, to our Bureau and to the War Department. The Journal of the American Institute of Architects states that "All agreed that such surveys were of vital importance, and well-nigh essential to the intelligent solution of problems which confronted the Construction Division, the Housing Bureau of the Department of Labor, the Ordnance Department, the Bureau of Storage and Traffic, and the Motor Transport Division." It speaks of a conference to be held by the heads of these agencies and indicates the need of a survey of the Baltimore district, "where there is now great congestion of traffic and a bad road system, and tremendous industrial expansion." Here, surely, is an indication of the widespread value that such work will have. We may even, without being fantastically optimistic, permit ourselves to imagine its extension, region by region, to the point where we shall have something like a great National Survey.

Gentlemen, before I close, I beg your patience with what I wish to say concerning the patriotic aspect of this undertaking, as I see it. To win the war we must undoubtedly win a military victory. But if we would make our victory in very truth complete, there is more than that for us to do. For if it be true of a man that should he conquer himself he is greater than one who takes a city, the same thing is also true of that aggregation of men we call a nation. The war lays upon us all a stringent necessity for work and sacrifice; it also offers to us an almost unimaginable opportunity. The justification of the sacrifice is to be found in the seizing of the opportunity; unless we shall do this, then at least a great part of our lavish outpouring of blood and treasure will have been in vain. But if we look clear and unafraid at what the fierce searchlight of the war reveals to us of our failures, our shortcomings, our unthrift and our injustices, and if then we strive with all our strength and all our intelligence to cure these things and set them straight as a heritage for those of our children who may mercifully be allowed to live and carry out our destiny, then indeed it will all have been far from in vain—then we may face the rising generation unashamed.

This is why we have felt it but right to propose to you the rendering of a service which will tax your resources of skill, of knowledge, and of money, but which will be a real service, far-sighted and constructive, immediately to us in the work we are charged with, ultimately to your whole community. That you can render it, and brilliantly, no doubt whatever is in our minds, and so with that confidence we commit the undertaking to your able hands.

Status of Technical Students, with Particular Reference to Those in Architecture

Soon after the United States entered the war, technical schools were officially advised to hold their students for graduation to assure a continuing stream of men whose training would be needed. It was foreseen that the schools otherwise would be depleted through volunteering and would be unable to do what they alone can do toward the successful prosecution of the war. Quite naturally, large numbers did nevertheless volunteer from all educational fields, for the college man, be it said, demonstrated that a willing and aggressive idealism goes with higher opportunity.

As the situation developed, with increasing uncertainty as to the future, there came, in October, a reduced attendance at all institutions, excepting only medical schools; but a committee of educators was working with the War Department, the result being that on December 15 there was announced the establishment of the Engineer Enlisted Reserve Corps. Its purpose was to permit students to complete their technical courses in order that they might be available upon graduation "in some one of the engineering branches of the army." It provided for placing on the inactive list students "regularly enrolled" and who "must be pursuing a course required for the degree of Chemical Engineer, Civil Engineer, Electrical Engineer,

Mechanical Engineer, Mining Engineer, or some other equivalent engineering or technical degree." It was also required that the standing of the candidate be equal to that of the best third of the graduating classes during the preceding ten years, and that he pass a physical examination.

Architectural and architectural engineering students were not specifically provided for but were admitted under the words "technical degree" from at least a number of the schools, for these schools believed architectural students were entitled to such consideration by reason of their training.

The Engineer Enlisted Reserve Corps was a constructive step aimed to avoid a repetition of the error made in England, where technical men were allowed to enter general service without a realization that there would presently be a serious shortage of such men. We were urged by England to profit by their experience. This Reserve Corps also stabilized technical instruction in institutions crippled in point of staff and income and created a better feeling among students who, being thus enlisted, felt that they were doing something by completing their education.

In June, 1918, the regulations of this Reserve Corps

STATUS OF TECHNICAL STUDENTS

were modified to receive architectural engineering students, while it was stated that those in architecture "may be construed as eligible, provided they have taken, or agree to take, sufficient work in physics and mathematics." A request for a definition of "sufficient work" and a statement of the technical and scientific subjects pursued by architectural students, brought the response of July 23, that extra work in mathematics and physics would not be insisted on since the enlisting of students in higher institutions of learning was under consideration, and that *architectural students* would be accepted this fall. Since the above, the general press has announced a splendid general plan prepared by the War Department which will lead to a great student army training corps, and which will, to some extent, stabilize all higher education.

The status of the architectural schools thus seems satisfactory; they are apparently to have the full recognition they deserve, and the graduates have a much greater likelihood of being used where their particular training will enable them to do the most effective work.

At this moment the Engineering Council is making further efforts on behalf of engineers, as was done by the Institute for architects. The increasing recognition given architects will react favorably on the schools. That this is needed is shown by statistics gathered by the writer for

the Association of Collegiate Schools of Architecture. These show that the decrease in enrollment in fifteen of the older and larger architectural schools was between 45 and 50 per cent, while that of new or entering students for the year 1917-18 was in some cases as high as 65 per cent. The total decrease is about what was expected, and many of those who did not return are known to be in the service, and in practically all branches of it. The reduction in *entering* students means, of course, a small second-year class for 1918-19, and so on through the remaining years. It must be apparent that the schools will need the fullest coöperation of all who are interested in the future of the architectural profession. We must not forget that well-trained architects will also be needed after the war, and that they will not be available unless the professional schools are reasonably well sustained during the war.

The general situation and the possibilities of technical service for the Government certainly suggest some readjustment of courses. Most schools could, without undue sacrifice, readily allow or require the election of additional courses in science or construction and certain allied subjects, such as surveying and testing materials, which would permit a wider range of immediate usefulness now and also be of value in civil life.

EMIL LORCH.

On Town-Planning

Town-planning is just now a much used and much misunderstood word. The one who practises town-planning is referred to as a "town-planner," as if this were a recognized profession or occupation. As a matter of fact what is included in the term is a very complex group of problems that belong in no one profession, and which require for their solution the help of many professions and advice from a wide field of experts.

Broadly speaking, town-planning may be divided into two quite distinct parts. One is laying out a town from the start. It may be a wholly new town established in the open country, or it may be a suburb developed in the open country, but near, or forming a part of, a town. In this case the problem includes all the necessities of a complete community, but is wholly, or to a large extent, unhampered by existing town conditions. The other is town-planning in an already established community. In this case the problem includes a comprehensive study and analysis of the existing conditions; to find what is good and essential to retain, what is bad and must be remedied, and what is bad and must be endured.

Anyone who has had experience with municipal work, whether it be the board of health, the street commissioners, the school committee, or the trustees of libraries or hospitals, will recognize at once how difficult and complex a task it is to make municipal improvements. Each is so involved with all the others, and coöperation is so difficult, unless there is some supreme authority to demand, and in a position to enforce, coöperation.

At the present time the Government, through the United States Housing Corporation, is carrying on both

branches of town-planning, building new communities and making substantial changes in, and additions to, old communities; and the Government is in a position of supreme authority. Of the two problems the latter is undoubtedly the more complex and the more difficult. If, then, one considers first the simpler of the two, the new community, one may see what is expected of the man who is called a town-planner.

To lay out a town well requires knowledge of topography, drainage, water-supply, street-planning and construction, the planning and construction of all buildings which go to make up a town, and the proper relation of all these buildings to each other, parks, playgrounds, transportation, industrial, social and economic problems. It is a large order for any one man, and, as a matter of fact, no one man knows all these fields and is competent to solve all these problems.

If this is true of the new community planned from the start, it is infinitely more true of the substantial addition to the old community, for here one must add to the difficulty of solving these problems on virgin ground, all the hampering conditions of that which already exists.

In all complex work requiring many minds and many points of view, it is essential to success to have a single control. Some one authority must be the final one; some one central control must assemble, coördinate, compare, and arrive at the eventual compromise (a bad word to use, but one which really expresses the usual best result) which establishes the final town plan.

It is evident that one needs many men of many professions to study the different problems. Most of them

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concern the architect. Most of them are problems which he is in the habit of studying. Many concern the engineer. These two recognized professions have certainly clearly defined work. Besides these two there is the profession of the landscape architect, whose field is less clearly defined but is concerned chiefly with topography, parks, and gardens. Then there are questions which involve railroads, transportation, education, hygiene, social and industrial problems, and here one must have the help of physicians, lawyers, railroad men, real estate men, social workers, and educators.

In all this crowd of experts who is the town-planner? The one who gathers up all the information and makes the final decision must obviously be a man with wide vision and good clear common sense. These are the essential qualities for almost any professional work. Professional men value rightly their purely technical and professional education, but most of it they forget in practice. Most of what they learned in the schools is obsolete in their years of mature work, and what they rely on most is the exercise of their well-trained brains. This is but another way of saying that common sense, well-balanced judgment, based on wide experience, and, above all, based on a profound belief in the unreliability of scientific "facts," is the essential in the problem of town-planning, as in any other complex problem.

Of the various professional men whose knowledge is needed for the solution of a town-planning problem, the architect is the only one who has had experience, more or less complete, in all the phases of the work. Topography, streets, drainage, he must know, superficially at least; buildings of all kinds are his regular work, and these involve study connected with hygiene, education, and recreation, for he plans hospitals, schools, and theatres, and plans playgrounds and parks. As a matter of fact, however, almost any thoroughly well-trained mind would be as fit as the architectural mind to weigh, sift, and decide, when the facts are assembled. The man who did this would not therefore be entitled to be called a town-planner, nor is a profession, independent of others, hereby established. If anyone is entitled to be called a town-planner it would be the man who assembles the data and puts them in graphic form, and this must be the architect, for, primarily, the problem is one of buildings.

There seems, however, no real need to invent a new title for this particular phase of architecture, which cannot

be divided, as the medical profession is, into groups of specialists. Specializing is always narrowing. The orthopedic surgeon has forgotten all he ever knew about digestion. The architect who calls himself a specialist in schools will generally be found to be poor in other fields and probably not first-class in schools. The best architects are, without exception, those who habitually study and solve every kind of problem which comes their way. The problems connected with town-planning are in every respect the kind of problems the architect is in the habit of studying. A modern commercial building, whether it be an office building or a city hall, involves every kind of engineering. A large country house involves topography, roads, drainage, and water. There are innumerable variations of the problems, which give the architect an insight into medical, educational, social, and industrial questions.

The architect is, therefore, the one best fitted by training and experience to gather together and coördinate the miscellaneous information necessary to the solution of the plan for a new town or a new suburb, but it does not therefore follow that the architect is, or ought to be, the final judge of his own solution, or that it would necessarily be another architect who would render that decision.

The United States Housing Corporation is organized on this basis. The chief is a builder of wide experience, whose standing is recognized throughout the country. The General Manager, under whose control are the architectural, engineering, landscape, contractual real estate and legal divisions, is an architect. This is absolutely sound and should give good results.

This country is new at the business of planning industrial or any other kind of communities. Our old towns, like Topsy, "just growed;" our new towns, under the guidance of unimaginative engineers, seared a gridiron plan on land irrespective of its nature. When we experimented with model towns we failed, for a variety of reasons. We have, therefore, no background of experience, still less of success, that warrants the assumption by anyone of the title of town-planner. Until we have accomplished something that is reasonably successful, that is within hailing distance of what England has done, it would, perhaps, be just as well to be content with our present professional titles and not attempt to claim that of town-planner.

R. CLIPSTON STURGIS

News Notes

The United States Housing Corporation

There has now been formed the United States Housing Corporation of the division of the Department of Labor known as the Bureau of Industrial Housing and Transportation, and which concerns itself with the problem of providing housing for workers engaged in making war necessities other than the building of the merchant marine. The needs of the workers in this latter activity are still looked after by the Department of Transportation and

Housing of the Emergency Fleet Corporation, with offices at Philadelphia, Pa.

The formation of the United States Housing Corporation affords a greater facility than is possible in the usual Federal agency. It was created as an adjunct of the Bureau of Industrial Housing and Transportation, and is the active operating agency of the Bureau in its administration of the housing program. It possesses the advantage of permitting the use, as a rotary fund, of all money collected in the course of the Corporation's business, a course which

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otherwise would be impossible under the statutory inhibitions.

From the small beginning, as a minor subcommittee of the Council of National Defense, the United States Housing Corporation has developed into a branch of the Government's war-making activities of the greatest importance. Each day serves to show the complex character of what we have commonly accepted as a mere building problem. The hurried investigations which were the beginning, when the housing problems all over the country were pressing for quick solutions, have now developed into comprehensive searchings, by which all the elements which enter into a solution of what the best thing is to do, in any given circumstance, are weighed and considered.

Elsewhere in this issue there is described, for example, the regional survey which the Housing Corporation has asked for in the Chicago industrial district. In Mr. LaFarge's explanation of the necessity for this work and of its scope, there are disclosed the general policies which guide this great organization in its work.

We are so accustomed to the idea of changes after the war, much as we are unable to define their precise character, that it seems trite to refer to the effect which the work of the Housing Corporation will have upon our future. Yet, it would be equally absurd not to recognize that here is a branch of the United States Government which, for the first time in the history of this country, actually seeks to understand and interpret and ameliorate the intolerable living conditions which have not only disgraced us in time of peace, but which have sorely handicapped us in time of war. Who can contemplate this national recognition of a human problem so fundamental that all our social and economic evils may be said to cluster around it like emanations from one poisonous sore, and not be grateful that, even though it be war-born, it has arrived at last.

One might, in studying the organization, be prompted to remark upon the character of its personnel, and to venture the thought that many of the able men in its various divisions, must be there only through the making of considerable financial sacrifices. But we believe it to be true when we say that none of the experts who are working at these problems have ever found a task which approached this one in the character of its human interest and its opportunities for service, and that whatever sacrifice there may be is accepted without a thought of regret.

A Letter from Holland

We are asked by the Secretary of the Boston Architectural Society to publish the following letter, which we gladly do.

Baarn, Holland, June 7, 1918

TO THE SECRETARY BOSTON ARCHITECTURAL CLUB.

Dear Sir. As I am regularly receiving books from the United States as well as papers and periodicals, I am sure

that there is no embargo on books for Holland as you were informed by the Express Company; that information must be a mistake. I hope that you will be kind enough to send me the Year Books for the years 1915, 1916, 1917, and, if published, also 1918, which I am missing. I would appreciate very much the complete collection of these very valuable books which give a high idea of American architecture and are of great use for me and often mentioned in my writings.

With kind regards, yours very truly,

J. N. W. LEHMAN, Architect
Editor of the *Bouwereld*

Using Excess Profits for the Purpose of Providing Recreational Facilities in England

Mr. Patrick Abercrombie, Professor in the Department of Civic Design in the University of Liverpool, writes to call our attention to a development in connection with housing in England, which indicates the ever-broadening attitude of the people, the employers, and the government of that country, on questions of this character.

Under the Inland Revenue administration it is now permissible for manufacturers to divert a proportion of their excess profits for the purpose of providing recreational facilities for their employees. This permission was availed of quite extensively, at first, in providing canteens. From these it was a natural step to rest-rooms and play features, but a marked departure became possible when it was decided that a certain sum per worker might be utilized for this purpose, and that manufacturers could merge the sums so available in combining for providing mutual facilities for their respective plants. The work is being taken up by an independent organization on which the firms are represented, and the recreational facilities will be made available to the general public.

The matter is yet in its very early stages, but it represents an extremely important item in the sharing of the products of production along lines which are not subject to the fallacious premise that they are shared under the present system of attempting it through wage-raises.

Changes in Requirements of Civil Service Examinations

In the Journal last month, there was published a list of the positions of Architect, Structural Designer, Architectural Designer, Senior Architectural Draftsman, Junior Architectural Draftsman, and Architectural Tracer, for all of which the Civil Service has announced examinations. We are now advised that the requirements have been modified, so that those who have not been graduated from a school or college of recognized standing, may still be eligible, providing they have had two years' additional experience for each year lacking in the college course.

Notes by the Wayside

FOOD CONTROL, taxes on luxuries and apartments at \$7,500 to \$15,000 a year do not seem to be very congruous. It seemed so shocking to think that when workmen could hardly be housed decently at all; that when necessary essential production was undoubtedly being held down by lack of merely decent homes, energy and capital should be devoted to apartments at \$15,000 the year! Yet there it was, an elaborate, luxurious building just being completed, covering two whole blocks of ground. An inviting archway entrance leads to a great court laid out as a formal garden. Around this garden court the apartments face. Result—air, light, and privacy—a shutting out of the noise and dust of the street. These apartments are worth more than the ones around them. Yet the things that make these apartments worth more to the tenants are not the things that make them cost more to the owners. What a blessing it would be if the apartment builders in the crowded poorer districts of cities, instead of outdoing each other in the imitation of Louis Quinze foyers, would devote their energies and thought to a coöperation which would result in buildings of considerable area arranged around garden courts, giving light and airy apartments away from the noise and dirt of the street, to rent for from \$500 to \$1,000 a year! A dozen buildings in a block, with as many small, dark courts, planned merely to conform to the law, would be coöperatively combined for everybody's good.

A NARROW shop-front, a few stories high and three-quarters or more in plate-glass, does not offer a very flexible opportunity for design. It has been tried in all ways from the attenuated pilaster treatment to sgraffitic and imitation roof of tiles. It is not a problem for the novice but rather for the master. A brilliant, almost great, solution by one who is considered a master has just been completed in Fifth Avenue, New York City. Ivory and black terra-cotta with Sienna marble all go to make a charming composition. Just a little too much black, especially in the central area above the lower part, makes

the façade miss its mark. The lower stories themselves are superb. The whole thing is a gentleman well dressed in a rather conglomerate crowd, only a little too conscious of his dress.

PASSING the new St. Bartholomew's Church the other day, we thought of how inappropriate was Schelling's figure in his "Philosophy of Art," calling architecture "frozen music." Crystallized poetry would seem much better. We do not know whether academicians would call this building good architecture or not, nor do we care. It vibrates with life and personality. Despite some rather far-fetched idiosyncrasies of the designer, it thrills and charms. The old porch by Stanford White and Saint-Gaudens does not seem to lose its identity by having the new building for a background, nor does the new church suffer on account of the rather grandiose old porch. The two sides of the building are quite similar in silhouette but entirely different in treatment. One is full of light and shade, color, tracery and fenestration, the other a brilliantly designed blank wall! Both seem to express the plan and function equally well. It is to be regretted that the dome and fleche had to be omitted for the present. We should like to see the dream of the architect completely expressed in a design as promising as this.

SOUTH OF St. Patrick's Cathedral is a loft building which makes one wish that architects would more often respect the surroundings of their buildings. There is no question that St. Patrick's dominates its block. It would seem almost as incongruous to place a Renaissance façade facing it as to make one bay of the cathedral itself of Renaissance design. Yet this loft building is the only one around the cathedral which harmonizes with its Gothic. Despite this harmony and influence, it preserves its character as a loft building. How much more charming our cities would become if their architectural character would change gradually from one dominating center to another, rather than violently every twenty-five feet!—TRAVELER.

List of Members of the Institute in War Service

The following list has been compiled with all possible care, and yet so numerous are the changes which occur from day to day that the Journal begs its readers to communicate any information which may lead to the correction of any misstatements, as well as to the addition of names which are omitted through entire lack of knowledge at Institute headquarters.

Names of members who are serving in an active capacity alone are given, although many members are serving the Government in civil capacities of the greatest importance.

Chapters and Members	Branch of War Service
<i>Alabama</i> Martin, Hugh	1st Lieut., Signal Reserve Corps, Aviation Section, 470th Aero Squadron.

Chapters and Members	Branch of War Service
<i>Boston</i>	
Aldrich, Wm. T.	Capt., Ordnance R. C.
Bellows, Robert P.	American Red Cross. Reconstruction.
Cummings, Charles K.	Lieut., U. S. Navy.
Gray, Ralph W.	Captain, Infantry U. S. R., 301st Ammunition Train.
Little, J. Lovell	1st Lieut., Signal Corps, Const. Dept., A. E. F.
Lowell, Guy	Major, Red Cross Deputy Commissioner to Italy. Head of Military Affairs.
Luquer, Lynch	War Trade Board (Abstractor Dollar Army).
Richardson, F. L. W.	Lieut., Red Cross in France.
Shaw, Thomas Mott	1st Lieut. Const. Div. Aviation Sec. Signal Corps, U. S. R.
Will, George G.	Major, Q. M. C., N. A.

LIST OF MEMBERS OF THE INSTITUTE IN WAR SERVICE

Chapters and Members	Branch of War Service	Chapters and Members	Branch of War Service
Brooklyn		New York, continued	
Leeming, Woodruff	Chief Renting Officer, Rents, Requisitions and Claims in France.	Hewitt, Edward S.	2d Lieut., Assistant to Division Quartermaster, 77th Division.
Snook, Curtis P.	2d Lieut., Signal Corps, Aviation Section, Const. Squadron, 483rd Aero Squadron.	Kolbe, Arno	Captain, E. U. S. R., Supervising Cantonment Construction at Newport News, Assistant to Constructing Quartermaster.
Snook, Jr., Thomas E.	Capt., Engineer Reserve Corps, Co. B., 306th Engineers, 81st Division.	Levi, Julian C.	American Red Cross, France.
Buffalo		Murchison, Kenneth M.	Captain, Engineer U. S. R., attached to Council of National Defense.
Hudson, Harry F.	Y. M. C. A., France.	Stoughton, Charles W.	Ninth Coast Artillery, 5th Battery.
Mann, Paul F.	1st Lieut., 106th Field Artillery, Battery A.	Price, H. Brooks	Captain, Surgeon-Generals Office, Washington, D. C.
Central New York		Tracy, Evarts	Directing Camouflage work in Europe.
Bonta, Edwin W.	Army Y. M. C. A., Camp Hempstead, L. I.	Trowbridge, A. B.	1st Lieut. N. Y. Guard. Attached to staff of the Inspector General.
Young, Jr., George	1st Lieut., Signal Reserve Corps, Const. Division.	North Carolina	
Cincinnati		Northrup, Willard C.	Lieut. Signal Corps Construction.
Baldwin, Bert L.	Major, Engineer Reserve Corps, U. S. A.	Philadelphia	
Cleveland		Cret, Paul P.	Interpreter Stagiare French Army, Headquarters 1st. Division, A. E. F.
Richardson, E. A.	Captain, Engineer Service.	Marie, Louis E.	Lieut. U. S. Naval Reserve Force, assigned to Public Works Office.
Illinois		Meigs, Arthur I.	Captain, Field Artillery.
Bollenbacher, J. C.	1st Lieut., Aviation Section, Signal Corps. Lieut. (J. G.), U. S. Navy, Naval Reserve. Flying Corps, in France.	Register, Henry B.	1st Lieut., Signal Corps, Aviation Section, Construction Div. (Overseas Service.)
Burnham, Hubert	Lieut. (J. G.), U. S. N. R. F., Naval Station, Great Lakes, Ill.	Rush, Louis H.	1st Lieut., Quartermaster Corps, U. S. A.
Clark, Edwin H.	Captain, Engineer Reserve Corps, U. S. A.	Tilden, Jr., Marmaduke	1st Lieut., Aviation Section, Signal Corps, Const. Division.
Granger, Alfred G.	Captain, Aviation Section, Signal Officers' Reserve Corps.	Zantzinger, C. C.	Representing War Trade Board in Sweden.
Hammond, C. H.	Y. M. C. A. work.	Pittsburgh	
Lowe, E. C.	Major, 108th Engineers, 33d Division.	Barney, William Pope	Sergeant, 446th U. S. Engineer Corps, Depot Detachment, R. R. Work, Field.
Swern, Perry W.	War Secretary for the Y. M. C. A. in France.	Schwab, Harvey A.	Captain, Infantry, U. S. R.
Van Bergen, John S.	Major, Q. M. C., N. A., Cantonment Division.	San Francisco	
Wright, Clarke C.		Allen, Harris C.	Captain, Aviation Section Signal Corps, U. S. R., President of Aviation Examining Board.
Iowa		Baur, John A.	Captain, Signal R. C., Aviation Section.
Schulzke, William H.	Inspection Section, Signal Equipment.	Hatch, John Davis	1st Lieut., 62d Regt. Coast Artillery Corps.
Watrous, Charles A.	Major, Commander 313th Supply Train, Camp Dodge, Des Moines, Iowa.	Hirschfeld, B. S.	Officers' Ground Training School, San Francisco.
Whitsitt, Hammond W.	Captain, Ordnance Dept.	Parker, Walter H.	Aviation Section (in France).
Louisiana		Raiguel, William O.	Aviation Section, Signal Corps.
Koch, Richard	Lieut., Gerstner Field, Lake Charles, La.	South Carolina	
Bernard, Joseph	2d Lieut., 463d Aero Squadron Signal Corps, A. E. F.	Simons, Albert	U. S. N. G., Private in the Headquarters (Cavalry) Troop, 30th Division.
Armstrong, Charles R.	Lieut., Construction Quartermaster, Camp McArthur, Waco, Texas.	Southern California	
Owen, Allison	Colonel, Commanding 141st Field Artillery.	Allison, D. C.	Red Cross, France.
Louisville		Farquhar, Robert D.	Red Cross, Italy.
Gray, George H.	Major, Engineer Reserve Corps, Asst. Engr 90th Division.	Vawter, J. T.	Engineering Corps.
Hutchings, E. T.	Captain, Engineer Officers Reserve Corps, U. S. A.	Washington, D. C.	
Tafel, Arthur G.	Officers' Reserve Corps, C. A. C.	Boal, Theodore Davis	Captain, Cavalry, Aide-de-Camp, Major-General 28th Division.
Michigan		Brown, Ward	Captain, Engineers, U. S. R.
Keller, Walter S.	Captain, Engineer Corps (Pioneer).	Macncil, Robert L.	Lieut., Canadian Engineers, Engineers' Training Depot, St. Johns, Quebec.
Minnesota		Totten, Jr., George O.	Major, Engineer Officers' Reserve Corps.
Brown, Edwin H.	Field Director Camp Service, American Red Cross, formerly at Camp Cody, N. Mexico. Now stationed at Washington.	Wheaton, Francis B.	Major, Quartermaster Reserve Corps.
Hewitt, Edwin H.	Y. M. C. A., formerly with <i>les Foyers du Sold</i> , at Paris, France. Now stationed at Washington.	Wyeth, Nathan C.	Major, Sanitary Corps, Hospital Work.
Jackson, Jerome P.	Captain, Engineers U. S. R. (Over Seas).	Washington State	
Jones, Roy Childs	Co. F., 24th Engineer Camouflage.	Alden, Charles H.	Captain, Q. M. U. S. R., Assistant to Depot Quartermaster, Boston, Building Construction.
Stone, Jr., Jacob	1st Lieut. Engineers, U. S. R.	Coté, Joseph S.	In France.
New Jersey		Somervell, W. Marbury	On duty overseas.
Campbell, Shiras	1st Lieut., Aviation Section, Signal Corps.	Wisconsin	
Tubby, Jr., Josiah T.	Construction Division, Signal Corps, Oversea Service.	Balch, H. C.	(Detachment) 86th Division Headquarters Troops.
Armstrong, Wm. T. L.	U. S. Naval Reserves.	Rotier, Henry J.	Capt., 3rd Precinct, 18th Ward, Milwaukee Co., Council National Defense.
New York		Scott, Fitzhugh	Capt., Headquarters Co., Warehousing Division.
Bosworth, F. H.	American Red Cross, France.	Unassigned	
Aldrich, Chester H.	American Red Cross, Italy.	Harris, Thomas W.	Lieut. Com., U. S. S. Texas.
Embury, II, Aymar	Captain, Engineers Corps, U. S. R.	Members of the Office Force of the Octagon now on active duty	
Emerson, William	Head of Construction Department in France, American Red Cross.	Albert Jacobson	(Journal), Master Engineer, 419th Depot Detachment, in France.
Ford, George B.	American Red Cross, in France.	Lawrence Smith	(Institute), Light Artillery, in France.
		Harris Whitaker	(Journal), Corporal, Co. H., 302d Infantry in France.

Housing Developments Projected by the United States Housing Corporation

- Erie, Pa.**
Architect: Albert H. Spahr, Pittsburgh.
Town Planner: C. D. Lay, 15 East 40th St., New York City.
Engineer: Chester & Fleming, Pittsburgh; W. McCulloch, Niagara Falls, N. Y.
- South Charleston, W. Va.**
Architect: Godley, Haskell & Sedgwick, 244 Madison Ave., Charleston.
Town Planner: James L. Greenleaf, 1 Broadway, New York City.
Engineer: Philip Burgess, 828 Columbus Savings & Trust Bldg., Columbus, Ohio.
- Bethlehem, Pa.**
Architect: Zantzing, Borie & Medary, 112 S. 16th St., Philadelphia.
Town Planner: T. W. Sears, 1424 Walnut St., Philadelphia.
Engineer: L. J. H. Grossart, Bethlehem Steel Co., Bethlehem, Pa.
Alexander Potter, 50 Church St., New York City.
- Washington Navy Yard.**
Architect: York & Sawyer, 50 East 41st St., New York City.
- Washington Navy Yard.**
Architect (Temp.): James A. Wetmore, Acting Supervising Architect's Office, Washington, D. C.
- Washington Dormitories.**
Architect: Waddy B. Wood, 816 Conn. Ave., Washington, D. C.
- Bath, Maine.**
Architect: Parker, Thomas & Rice, 110 State St., Boston.
Town Planner: Loring, Underwood, 16 Exchange St., Boston.
Engineer: Weston & Sampson, 14 Beacon St., Boston.
- Quincy, Mass.**
Architect: J. E. McLaughlin, 88 Tremont St., Boston.
Town Planner: H. J. Kellaway, 12 West St., Boston.
Engineer: Ernest W. Branch, 21 Adams Blvd., Quincy.
- Bridgeport, Conn.**
Architect: R. C. Sturgis, 120 Boylston St., Boston.
Town Planner: A. A. Shurtleff, 69 State St., Boston.
Engineer: Alfred Terry, 886 Main St., Bridgeport.
- Puget Sound, Wash. (Bremerton).**
Architect: A. H. Albertson, 725 Henry Bldg., Seattle, Wash.
Town Planner: E. T. Mische, 394 Jackson St., Portland, Ore.
Engineer: Sawyer Bros., 410 Lindelle Bldg., Spokane, Wash.; Geo. B. Sawyer (Sawyer Bros.), 407 White Bldg., Seattle, Wash.
- Norfolk and Portsmouth, Va.**
Architect: Geo. B. Post & Sons, 101 Park Ave., New York City.
Town Planner: Geo. B. Post & Sons, 101 Park Ave., New York City.
Engineer: Hill & Ferguson, 100 William St., New York City.
- Norfolk and Portsmouth (Colored).**
Architect: Russell Edw. Mitchell, Norfolk, Va.
- Watertown, N. Y.**
Architect: Davis, McGrath & Kiessling, 175 5th Ave., New York City.
Town Planner: F. Vitale, 527 5th Ave., New York City.
Engineer: E. W. Sales, City Engineer, Watertown, N. Y.
- Philadelphia Navy Yard.**
Architect: Rankin, Kellogg & Crane, 1012 Walnut St., Philadelphia.
- Mare Island (Vallejo) Calif.**
Architect: Geo. W. Kelham, Sharon Bldg., San Francisco.
Town Planner: P. R. Jones, care of G. W. Kelham, San Francisco.
Engineer: S. E. Kieffer, Mechanics Institute Bldg., San Francisco.
- Alliance, Ohio.**
Architect: Walker & Weeks, 1900 Euclid Ave., Cleveland, Ohio.
Town Planner: Alling DeForest, 222 Sibley Block, Rochester, N. Y.
Engineer: R. Winthrop Pratt, Hippodrome Bldg., Cleveland, Ohio.
- Indian Head, Md.**
Architect: Dunn and Deming, 808 17th St., N. W., Washington, D. C.
Town Planner: Stephen Child, 613 G St., N. W., Washington, D. C.
Engineer: E. V. Coonan & Co., Baltimore, Md.
- Niagara Falls, N. Y.**
Architect: Dean & Dean, 137 S. LaSalle St., Chicago, Ill.
- Davenport and Bettendorf, Iowa.**
Architect: Temple & Burrows, 208 Main St., Davenport, Iowa.
Town Planner: Geo. E. Kessler, 423 Security Bldg., St. Louis, Mo.
Engineer: W. S. Shields, Hartford Bldg., Chicago, Ill.
- E. Moline, Rock Island, and Moline, Ill.**
Architect: Cervin & Horn, Rock Island, Ill.
Town Planner: Geo. E. Kessler, 423 Security Bldg., St. Louis, Mo.
Engineer: W. S. Shields, Hartford Bldg., Chicago, Ill.
- New London, Conn.**
Architect: Hoppin & Koen, 4 E. 43d St., New York City.
Town Planner: C. N. Lowrie, 101 Park Ave., New York City.
Engineer: Tribus & Massa, 86 Warren St., New York City.
- Bethlehem, Pa. (Club House).**
Architect: A. W. Leh, Post Office Bldg., South Bethlehem, Pa.
- Hammond, Ind.**
Architect: J. C. Llewellyn, 38 S. Dearborn St., Chicago.
- Niles and Warren, Ohio; Sharon, Pa.**
Architect: Geo. H. Schwan, Peoples Bank Bldg., Pittsburgh.
- Lowell, Mass.**
Architect: Henry Lawrence Rourke, Lowell, Mass.
- Portsmouth, N. H.**
Architect: Allen & Collens, 40 Central St., Boston.
Town Planner: W. H. Punchard, 284 Dartmouth St., Boston.
Engineer: H. K. Barrows, 6 Beacon St., Boston.
- Elizabeth, N. J.**
Architect: Chas. W. Oakley, 1259 Clinton Place, Elizabeth, N. J.
- Aberdeen, Md.**
Architect: Sill, Buckler & Fenhagen, 11 E. Pleasant, Baltimore, Md.
Town Planner: Stephen Child, 613 G St., Washington, D. C.
Engineer: Norton, Bird & Whitman, Munsey Bldg., Baltimore, Md.
- New Castle, Del. (Housing for Bethlehem Loading Co.)**
Architect: Chas. C. May, 15 E. 40th St., New York City.
Town Planner: Geo. F. Pentecost, Jr., 15 E. 40th St., New York City.
Engineer: G. L. Robinson, 39 E. 28th St., New York City.
- Lowell, Mass.**
Architect: James H. Ritchie, 8 Beacon St., Boston.
Town Planner: Warren H. Manning, North Billerica, Mass.
Engineer: George Bowers, 359 Westford St., Lowell, Mass.
- New Brunswick, N. J.**
Architect: Trowbridge & Livingston, 527 5th Ave., New York City.
Town Planner: C. N. Lowrie, 101 Park Avenue, New York City.
Engineer: Chas. R. Ward Engr. Corp., 32 Court St., Brooklyn, N. Y.
- Washington Navy Yard (Houses).**
Architect: Ray and Waggaman, 1211 Connecticut Ave., Washington, D. C.
- Newport, R. I.**
Architect: Clarke & Howe, Turks Head Bldg., Providence, R. I.
Town Planner: A. A. Shurtleff, 89 State St., Boston.
Engineer: S. B. Palmer, Thayer Bldg., Norwich, Conn.
- Waterbury, Conn.**
Architect: Murphy and Dana, 331 Madison Ave., New York City.
Town Planner: Frederick W. Hinchman, 52 Broadway, New York City.
Engineer: George W. Fuller, 170 Broadway, New York City.
- Staten Island, N. Y.**
Architect: Delano & Aldrich, 126 E. 38th St., New York City.
Town Planner: A. F. Brinkerhoff, 527 5th Ave., New York City.
Engineer: C. S. Pollock, Park Row Bldg., New York City.
- Florence, Sheffield, and Tusculum, Ala.**
Architect: Warren & Knight, Birmingham, Ala.
Town Planner: Harold A. Caparn, 220 W. 42nd St., New York City.
Engineer: Julian Kendrick, Birmingham, Ala.

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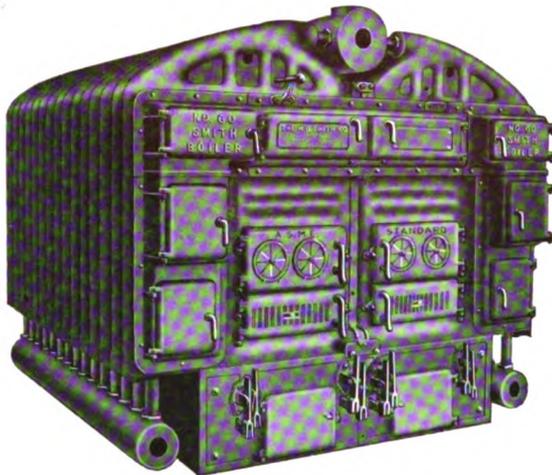
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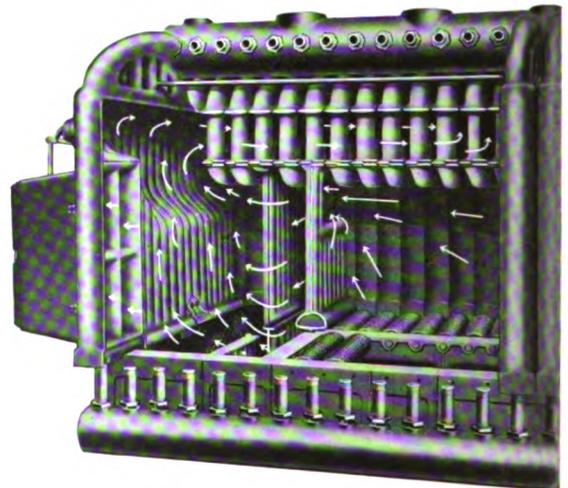
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AVILA.—Walls
From a photograph by E. H. Lowber

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Shadows and Straws

THE MOST IMPORTANT LESSON that Life has to teach is the difference between What and How. Slow and painful is the learning of it, and yet one dares to say that never before has the world been so intent upon that study. Failure to learn it has cost man so much through all the ages, and yet we hardly dare hope that out of this war there will come a full knowledge such as will save us from future costly failures. But we shall take a great step, perhaps the greatest step that mankind has ever taken, for in many things the world will have learned that How to do anything is of little value until you have first found out What is the thing to do.

THE WORLD IS FULL of men who can tell us How to do almost anything. But, in comparison, we may say that the world is almost empty of men who can tell us What to do. That is the essential difference between great men and small. And yet there are so many men who pass for great by reason of the magnitude of their achievements that it is small wonder the world is deceived. Too late it finds out that they were only How men, after all, and that a What man must be summoned to undo the mischief done. The really great man is the man who knows What is the best thing to do, not for the moment, or the immediate profit, or the expedient compromise, but the thing which is best to do as seen from its total results. In finding this difference between What and How there lies the secret to the peace of the world! If nations only knew What to do and spent their effort in that direction instead of feverishly following in the devious and

haphazard path of first one How and then another, think what that would mean as a beginning!

SUPPOSE THAT INSTEAD OF a blind, hit-or-miss, happy-go-lucky, devil-take-the-hindmost arrangement for conducting the affairs of the world, that we had a plan—a world plan! No such thing has ever been thought of, and yet it is toward the preparation of such a plan that destiny is driving us with relentless strokes. We, in our selfish concerns as individuals, as communities, as states, as nations, have never even thought of such a thing. Indeed, it is only on the smallest scale that we have ever done any planning at all in the sense of ordering our physical development. Town-planning has sprung into existence,—really it has been resurrected from the past,—but up to the present it has hardly served as more than a peg on which a few men may hang their signs. As an infant science, still in its swaddling clothes, it has only the possibility of indicating a very few of the things which go into the making of a plan. It is limited by the traditions out of which it was born, and still more limited by its inability to fit its little plans into a larger plan. Yet the greatest thing which hampers its development as a genuine science and a profession is the unwillingness of men to believe in a plan.

But the very fact that many towns and cities have endeavored conscientiously to have a plan made by which they could wisely regulate their physical growth, shows clearly that those communities have grasped the necessity of knowing What to do. For years they have sat idly by watching each other show How to do things. The result is such an appalling disorder that

every community that possesses the vestige of a conscience shudders in dismay when it can be made to see itself in the mirror. And in the new anxiety born of that shudder it turns naturally to the man who can tell it What to do. It forgets the problem of How, for the moment, and thus What comes into its rightful place and How follows on behind.

LET US NOT SEEM to be unduly hard on the How men. They are vitally necessary to the world. We could not get on without them. They follow after the What men like the perfect complement they are—but do not forget that they follow. So long has the world been caught with the glamor of How things are done that it has quite lost interest in finding out What things to do, as a guide to its actions. It has rather preferred to give, under the guise of freedom, a *carte blanche* permission to the How men to do as they liked. It has blindly followed them as leaders. As a result, we have grown up with no plan whatever. Each man has been for himself—for which he is in no sense to blame since that is the manner in which he has been ordered to live—and the more magnitudinous, the more daring, the more costly have been the schemes and the works of the How men, the more we have applauded. It is not so long a time since the name Krupp was almost a symbol of the highest attainment in the How system of haphazardness. England worshipped its Armstrong and its Vickers, while we struggled along rendering homage to some lesser lights. Now, in the fearful ordeal through which we must pass, we utter the fervent hope that this is to be the last war and that the peace which is to come out of it will be founded upon something far more enduring than treaties, or diplomatic arrangements, or incessant racing for the goal of might and power. But there can be no answer to any of our hopes in these directions until we shall have joined together as men of all lands and climes and agreed upon a plan by which the peaceful development of the world shall be ordered, and under which there shall be justice and fair play for the last toiler and the lowliest human beings. The Plan of that Destiny which takes cognizance of all things will some day prevail.

BEFORE WE GET THROUGH with the war, indeed, we shall have learned that the greatest

fundamental is a plan. If one tries to define the difference between What and How in words, one might very safely fall back on the single word "plan." One of the ablest minds in all the professions has said that the difference between What and How is the difference between the profession of architecture and the profession of engineering. It is the function of the architect to tell his client first of all What to do. No matter how rarely he is permitted fully to perform that function, nor how few are the successes which he attains, his profession stands primarily as one which deals with What to do. Too often he is given no latitude for advice; too often he is called in after the first mistake has already spoiled his opportunity for full service; too often he must make the best of physical conditions where What to do leaves little room for his ability; and far too often he comes to this first essential of his task with an incomplete equipment. But architecture still stands as the science which seeks to answer its problem by finding out What is the best and the right thing to do. After that decision has been taken, the question of How to do it becomes easy of solution. Unless that question is answered first, all the labor of the men who know How will have been thrown away and the whole undertaking will come to naught. It might truthfully be said that the test of an architect's service would be the number of years during which his work endured and rendered useful and economical service. All things decay in time and, under the impetus of modern progress, many often lose their usefulness even before physical decay sets in. It is the man who can see farthest into the future of all the forces which will act and react upon the work he proposes to do who will best answer the problem of What to do.

Ah! the failures that occur in all our undertakings—political, social, and, above all, in the feverish activities through which we build in terms of size and extent that stagger the imagination. The failures seem endless and the successes few, as we seek to evaluate our work in terms of a fuller life for all men. The history of the world since time began seems to be the story of man searching the earth and the heavens for one who could tell him What to do. If we would chide him because his search is spasmodic, because he only seeks the What to do after the How to do it has failed and brought him only

SHADOWS AND STRAWS

trouble or anguish of heart so deep that it seems beyond his power to bear it, we must remember that he is, after all, only human. The Divine Plan which he tries to grasp in his trouble does not yet seem to suit his everyday life, and so, like the child that he is, he rebels and is punished. Thus it is not at all surprising that communities, states, and nations pursue the same path. They are far less sensitive than the individual man. Their needs to know What to do are governed less rigorously than are his. They are more immune to pain, and the trouble which finally brings them to face the disease they have allowed to grow into their life takes longer to make itself seen and felt. As a whole, they look little ahead, and are quite content to see How things are done without caring much about What are the things to do.

In war, everything changes. We may begin by asking ourselves How we shall defeat Germany, but we shall end by asking, "What is the plan by which we shall conquer?" for without a plan we are lost.

THE LONGER THE WAR LASTS the truer we shall find this to be, and we shall become more and more critical of the plan as time goes on. It is not within our province here to discuss that plan in detail, for it is a colossal plan and not yet wholly matured. We have already noted what the How men have done to our aëroplane necessities, and their blunders in other ways have been costly and dangerous. But is it too much to expect that as our whole plan unfolds itself more completely; as we become more and more accustomed to a degree of regulation which would in ordinary times seem intolerable; as we begin to understand that both victory and the price we shall have to pay for that victory will depend upon how skillfully and loyally we, as individuals, fit ourselves into the plan, we shall realize the value of knowing What to do?

Shall we not also be given to see that just as we could not escape being drawn into a war, although three thousand miles of ocean rolled between us and an enemy who covertly sought our life, our plan for victory must also fit itself into a still larger plan? Just as our army must fit itself into the plan of General Foch, so must our consumption of food be based upon world-supply, and world-needs. Everything that we produce and consume must be studied in its

relation to the production and consumption of the world.

Think what this means! Surveyed in its entirety, it indicates the first attempt the world has ever made to plan for a method of production and consumption founded on the idea of wise conservation and not based upon some petty scheme for taking a grand profit, never mind what the result was to the world at large, —not even if that result meant that nations must be plunged in war in order that the profit might be taken or kept. We are making a world-plan for war, yet for peace the world has no plan. It has never bothered itself with thinking about a plan. It has even taken the ground that there was no place in the world for certain people, and that nations might kill them off if they were in the way. We have only to think of the Armenians, of the Jews in Russia, of the Chinese in Manchuria, of the rubber-gatherers of the Orinoco and of the Congo, not to mention the toll taken by industry in the world every year.

But all our labors for peace will go for nothing until we can determine What to do for the world. The German problem will no sooner be solved than we shall have fresh problems on our hands. What, just to look for a moment at one of the many questions we must face, will be our answer to Japan, whose incredible increase in population indicates a fast-approaching day when her tiny island area will no longer contain her people? What will be the thing to do? There must be a plan—and the world must make the right one, or else we shall sow the seed and reap the whirlwind, by allowing the problem to answer itself.

A WORLD-PLAN! How visionary! How fantastic! And yet it is the thing toward which we are working, postpone it as we may, and the only basis upon which a genuine democracy can come into existence. But in order to make a world-plan, we must first have a national plan. No such thing exists in any country, except in the most fragmentary form. As a result, every country is planned and arranged by men who know How to do things and care nothing about What to do. The regional surveys which have already been noted in these columns are indications of the need for planning on a larger scale than ever before. It is not only town-plans and

city-plans that we find we need, but plans which will enable us to know What to do in relation to an ever-widening circle of human interests and activities. The ripples of our human contact are spreading faster than we dream, and we can never again seek that solitary way which Washington pictured as freedom from entangling alliances. We are forevermore a part of the world, and we must prepare to play that part.

All things are today claiming their relationship to each other. That is the wonderful effect of war. Today, in the heat of the struggle, we cannot estimate what our ineffectiveness, through lack of having our nation planned wisely and for the common good, will cost us in either lives or in money. Tomorrow, after the struggle is over, we shall be able to approximate that cost, and then we must either resolve to continue and enlarge the present plan which is growing out of our unparalleled effort to mobilize our resources, to save and conserve and render efficient toward a common end, or else we must go back to the old hit-or-miss method. Shall we choose this or shall we choose to adopt the method of a nation-plan which shall seek rightly to fit into a world-plan?

THINKING UPON THESE THINGS, one might well ask where the profession of architecture fitted in to the essential fundamental of knowing What to do, but the truth is that architects have concerned themselves too little with this question, in its relationship to the whole problem of our physical development. Perhaps it would not have been possible for architects greatly to have changed the disordered method of community growth to one where location and arrangement of streets, buildings, and factories was governed by a decision based on study of What to do. But a certain price has been, and will continue to be, exacted of them for the failure, let the fault lie where it may, for there is a well-defined relation in the public mind between the architect and physical growth as expressed in buildings. Protest this as we may and charge the public with inappreciation as we will, it is too much to think that the profession as a whole has not been measured and gauged, in this respect, after all these years.

But the world will make new demands after

the war, and how shall we prepare ourselves to meet them? In what form will they come?

THE PROFESSION OF ARCHITECTURE has been much discussed since our entrance into the war, and most of the discussions have been based upon an erroneous assumption of facts, while the remedies suggested covered the whole field of the *materia medica* of business. They varied between pretentious schemes for advertising and those whereunder the architect should become the contractor as well, thereby eliminating professionalism entirely. Therefore it must be obvious that there are as many minds on the subject as there is a general and profound failure to envisage all the factors which enter into the approach to the problem of the future of the architectural profession.

It is for that reason that the new Committee on War and Post-War Problems, of the American Institute of Architects, will be called upon to undertake perhaps the most serious task which has ever fallen to an Institute group. Although the Committee is of the Institute, it will engage upon its work in the name of the whole profession of architecture in this country. It will enter into correspondence, and very likely into much closer relations, with architectural societies throughout the world. It will attempt to approach its problem not by seeking How to accomplish a plan by which architects may make the most money, but by seeking What are the things to do by which the profession of architecture may become a great and universal human service. Too long has it remained a luxury of the few!

In the October number of the Journal we shall publish the personnel of this Committee, together with the preliminary outline of its program. These matters are now receiving the final consideration of the Board of Directors. In continuing numbers of the Journal there will be developed an analysis of the profession itself, of the Institute's relation to the profession, and of the relation of both to the problem of building and to the even greater problem of a new and changed relation which will undoubtedly come out of the war. But as the title of the Committee indicates, it will deal with war problems as well as with post-war problems. Out of this study of present and future, of fact and surmise, the Institute may render a contribution worthy of the ideals for which it stands.

“Beyond Architecture”

By LEO STEIN

MR. A. Kingsley Porter's book, "Beyond Architecture," contains one chapter of quite unusual interest. It is entitled "Paper Architecture," and traces in a summary, though stimulating manner, the consequences for architecture of the use of paper instead of parchment. He shows how, in the Middle Ages, when parchment was the scarce and unadaptable writing material, there was no method of drawing practicable for the master mason, except freehand drawing. It was not possible, either, to work with instruments of precision or to make elaborate studies of details. In consequence, the master had to be in closest contact with the building, and the workman had to exercise no small initiative. The use of paper gave to the directing mind a progressively greater control over the work in all its features, subordinating the worker and, at the same time, separating the chief from the actual processes of building. Facility in the use of instruments led to mechanical precision in direction, and to equally mechanical precision in carrying out what had been directed. In this way the artist's contact, on the part both of the architect and the craftsman, was lost, with the consequences that we see everywhere about us. This tendency began with the Renaissance and grew gradually more pronounced with the dying out of the old traditions of the crafts and the continuously greater intrusion of machinery and machine-like precision. Of course, many things coöperated with the use of drawing-paper to bring about this result, though it is also true that hardly anything in our modern civilization has been unaffected by the increased use of paper in some form. In any case, it is eminently worth while to have brought into relief the specific consequences for an art of the use of a specific medium, for no type of discussion throws a more far-reaching light upon its course. This chapter on "Paper Architecture," however, stands rather by itself, and the others, which form, though apparently without premeditation, parts of a coherent argument, demand discussion.

Mr. Porter is with warrant a devotee of the

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Middle Ages. He recognizes fully to how great an extent that period was distinctively a period of artistic achievement and how, with the Renaissance, began a new era in which science played a part that tended progressively to become more and more nearly the whole. Unfortunately, Mr. Porter neither understands nor appreciates science, and recognizes in it nothing except its utilitarian aspects. He does not even recognize the distinctive character of medieval science, and is apparently quite blind to its problems. He is at his best when he seeks to set forth the virtues of the medieval mind in its esthetic expression, and he invariably falls down when he leaves this congenial theme. He recognizes how completely art was for the Middle Ages a satisfactory form of statement and gives abundant detailed instances to show this. He sets forth amply the inherent logic of medieval art, and is enthusiastic in his admiring exposition of it, but, unfortunately, his inability to understand either the purposes or the accomplishments of science makes everything except his art appreciation rather futile. His antithesis of the medieval and the modern is essentially false because he does not understand the fundamental nature of the difference, although he recognizes and insists upon the fact of difference. It is unfortunate that he should presume so greatly beyond his proper theme.

Mr. Porter's ignorance of philosophy and science makes his discussion of the intellectuality of the Middle Ages, a theme on which he insists enormously, quite utterly absurd. He finds, in their practice of dialectic, evidence of their exuberant "delight in intellectuality for its own sake." Of course there was a great deal of mere disputation but those terribly earnest persons, from Erigena to William of Ockham, Roscellinus, Abelard, Albertus Magnus, Thomas Aquinas, and the rest would have been less than flattered by such an estimate of their activities. They were, of course, engaged in problems that seemed to them of the most immediate and the most practical importance and were employing for their solution the dialectic, as the only scientific method at their command. Porter,

in his disparagement of the modern mind, makes a particular point of its neglect of dialectic, entirely ignoring the fact that this has been abandoned because of its sterility as a method of discovering truth. He finds that "we moderns are eminently lazy, and our speculation has primarily a practical and utilitarian scope. . . . If we wrestle with an intellectual problem it is that thereby we may attain some material end." Passages like this are numerous and could be disregarded if the author did not take them seriously as part of his discussion of the problems that modern art presents. But an instance like his comparison of the logic of the gothic vaulting and the illogic of Michelangelo's dome will show how failure to understand these matters leads him quite astray concerning things that are of the essence and not of the accidents of the book.

He tells us that the medieval builders "experimented until they discovered how much was necessary to support the weight of the vaults," when the important thing, from which they derived enormous advantage, was that they did nothing of the kind. They had no means of experimenting otherwise than through actual building, and so their method was really that of trial and error. When a vault fell in, they discovered its weak points and were enabled to correct them next time. When a vault bulged, they learned where it was necessary to apply a counter-thrust. Thus they built up their system by the effective logic of experience and not of calculation. But Michelangelo was in different case. His dome was a *tour de force* based on no extended series of preliminary trials. Neither did he have the experimental material and the mechanical science that would have enabled him to calculate the proper placing of the ribs. He tried to think out a difficult problem all at once and could not do it satisfactorily, whereas the logic of the gothic builders had the effective warrant of its actual working. This, and not their intellectual superiority, gave them their advantage, and they had many others which Porter fully recognizes, though he fails to see how they affect the whole problem of modern art. To this theme I wish to devote a few words. Why was the period of the Middle Ages the period of esthetic achievement *par excellence*, and why has there been since then a more or less continuous degrada-

tion? Why is it that modern science is, in its tendencies, antagonistic to art? The Middle Ages, too, were interested in nature and in thought, and yet their studies, though carried out as earnestly and with as little reference to artistic utilization as those of modern times, were perfectly compatible with progress in the arts. Why was it so?

The difference between dialectic as a scientific method and experimental science, is that dialectic accepts its data while experimental science investigates them. It happens that there is a tendency in the human mind to create symbols and to elaborate these symbols into myths, and these symbols and the myths in which their actions were elaborated, assumed, for the medieval mind, the validity of fact. The innumerable forms that clustered on the churches and civic buildings, and whose stories were illustrated in picture and relief, and told in popular recitation, or collected into books of so-called history, sacred, profane or natural, had a kind of reality for all, though different grades of intelligence might give them different refinements of interpretation. They were essentially facts to be dealt with and to be elaborated, and even those who didn't believe in them literally considered them as valid counters and true symbols. They served as a pictorial language which was generally understood to some extent, and quite fully understood by many.

The tendency of critical science is to break up popular symbols, to destroy the illusion of their authenticity, and to leave them, in so far as it leaves them at all, as mere conventions. Therefore, in a scientific age, and progressively more so as science develops, we are reduced to actual natural fact as the only common language of form. It becomes therefore the only genuinely acceptable language of form, and the old symbols, as well as those which are at times invented out of hand, come to have only the validity of fancy. All that ancient credulity had available, in its plastic creations, has been lost to us as a means of genuine utterance.

Another activity of science has been deleterious, in an almost equal degree, to architecture. I spoke above of the absurdity of attributing to the medieval builders experimental methods instead of methods of trial and error. They and the ancients knew nothing of the strength of

"BEYOND ARCHITECTURE"

materials and the power of thrusts, except as they learned them in the processes of building. No new construction could be invented all at once but had to be developed on the basis of actual experience. Therefore there was a genuine growth of architectural forms that had in them an inner evolution. Everywhere there was continuity—an onward movement till the perfect balance was established, and then, degeneration as the need for change led to wanton elaboration and excess. Today our knowledge and our command of mechanics frees us from all restraint, and we can invent a new kind of building out of hand and make it work. This is all to the good for engineering but fatal to architecture as it has been understood in the past. Today science is real, and art is rather an arbitrary invention. Unquestionably we still want it. We insist upon its importance and try to resurrect it, more or less, upon the old terms. Our success is not very conspicuous, and the result is something of an artifact. We are rather trying to create than following a necessity in creation. We continually revert to former ideals in order to have any ideals at all. Antiquarianism is the pathway of our escape from science. We assume, in general, that it is the only way.

Porter takes it for granted in the concluding chapter of his book, in which he discusses the future of art, that there must be a turning back to the ages of art, that the artistic degeneration which has been so marked in many fields during the nineteenth century must be arrested. "A dam must be built," he says, and "the only serious divergence of opinion has been as to how high the cross wall should be raised. . . . But it is only a question of degree. Upon the fundamental issue of backing up there is universal agreement. The dam is the training of artists." And then he goes on to say that the public, too, must be trained by museums, courses of study, and so on.

This notion of going back to something or other has great fascination for minds that find their ideals realized at some time in the past. Philosophers arise with their slogans of back to Kant or Plato or Aristotle, as the case may be; religious leaders are continually backing up; even statesmen and economists are urgent for revivals; and in art it is a commonplace. The extremest position is that of those who would go back of our whole civilization and return to

nature. The notion of the return seems to offer chances for a fresh departure and for new conquests, as it apparently supplies conditions for combining the new and the old. "*Si la jeunesse savait.*" But the impossibility is the same. Porter in one and the same volume protests against the restoration of the gothic monuments ruined in the war and advocates the restoration of the modern arts by recourse to the Middle Ages. Not, of course, that he means that there is to be imitation of old models, but rather fecundation of the new. The old order is somehow to inject its saving virus into the rank new order, or rather disorder, and so reform it all together. It seems practicable but, really, it is not and for good reason.

According to old notions, man was a producer rather than a product. Of course, it was always recognized that he was conditioned by his environment, but, none the less, the insistence was always upon his capacity to alter that environment in accordance with his determined purposes, rather than to consider him and his environment as so complexly inter-related that the element of his determination by it was quite as important as the reverse. Therefore there was always great hope entertained of the value of education in producing effects of an immediate kind. Of course, I do not mean immediate in time, but in consequences. Today, among the scientifically minded, these expectations are no longer entertained. We know now that even the products of man himself bring about changes that he is unable to deny. There is no essential distinction between art and nature, for everything that happens becomes a part of the natural order. It may be undesirable and destructive, as many things in nature are, but in order to overcome it we must go on beyond it, for we cannot go back of it. The Wordsworths and Tolstoys and all the others who felt that the burden of this unintelligible and undesirable complex civilization should be thrown over and make way for the return to a simpler order, richer in spiritual possibilities, were making this distinction between the natural and the unnatural. They assumed that something could be sloughed off—the portion that was bad—and leave the basal good to become the root for a more desirable growth. The notion advocated by Porter, of profit to art from education regarding what is

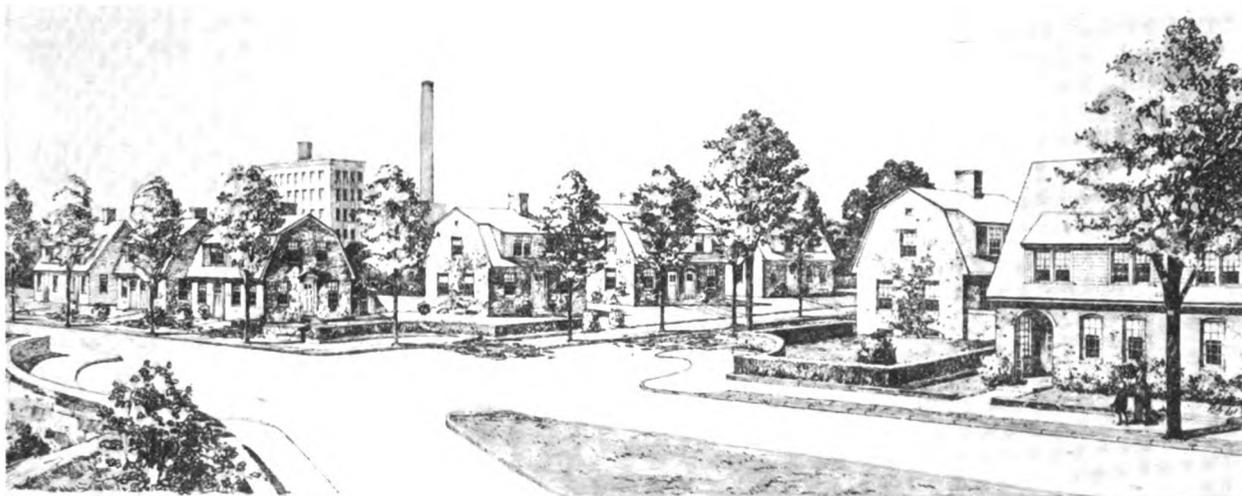
good and bad in art, has underlying it a similar fallacy, because it also assumes that what is prejudicial is the result of error and is susceptible of removal by the judicious application of remedial measures.

The facts are otherwise. We have seen, in recent years, the kind of results that culture can bring about. There has been noticeable, in our time, a distinct improvement in taste in building, dress, and furnishings. Our rich men buy better pictures and build better houses. Summer dwellings have a grace and charm that they had lacked for many years. Hangings and wall papers and innumerable other things are improved, and yet, in spite of all this, creative activity in the arts is conspicuously sterile of significant products. Taste, which is all that education can provide, is entirely different from creation. We can take direct measures to provide the one, whereas we can take no direct measures, perhaps no measures at all, to provide the other.

It is entirely within the reach of possibilities that our scientific civilization will never again afford us a period of art that is in any way comparable with the Middle Ages. It may be that we will have to be satisfied with landscape gardening, decoration, music, and minor poetry. Architecture may become engineering decoratively and spacially adapted. Some things seem quite certain, as, for instance, that painting and sculpture, whether apart and still more in relation to architecture, can never come to much until craftsmanship is born again. But the rebirth of craftsmanship depends on social conditions and cannot possibly come about until the war between capital and labor, which brings with it the spirit of sabotage, has come to an end. Perhaps the essential difference between art and manufacture is that art is a stimulus in the whole process of its production, even if the thing made is of the simplest and the most utilitarian kind, whereas manufacture is something made with a stimulus entirely from the outside. It does not follow that even craftsmanship will restore great art, but certainly it will provide the conditions for a more general production of something artistically valuable.

It is generally assumed that a civilization that does not produce great works of art must necessarily be inferior, but this is not at all

obvious. It is one of those conclusions drawn from the past without a felt necessity for critical examination. We are so accustomed to pointing to monuments of architecture, sculpture, painting, music, and poetry, which are all the actual survival of former eras, and to say "all else is transitory, only art survives," that we ignore the fact that what is really important for any epoch is the sum total of vital and interesting experience in it, and not particularly that portion of the experience which happens to have qualities of self-immortalization. To the vital interests of any period, great art contributes relatively little. The current cant to which almost all, even those who neither know nor care about great art, give their adhesion, enormously exaggerates its importance. Everybody needs art, but there are very few who need it in its greatest forms. Most people, even of the better kind, take this in very moderate doses and can easily be distracted from it by something that is a little more exciting. Today, in this era of automobiles, Boy Scouts, and, in general, out-of-door ideals, the world of nature replaces greatly the world of art. It supplies a continuously greater part of people's great sensations. Gardens, parks, and national reservations are going on to play a continuously more important part in people's lives, and art, except the genus minor poetry, which, whether done with brush or pen, is essentially the personal, individual note, may very well dwindle in the future from lack of impulse for ambitious creation. This would not necessarily mean an inferior civilization. It would mean a different one. Art is for man and not man for art. Only a few score people or less are doing at any time the thing that counts for the future, and the time may come when a more general joy in all kinds of activity may be looked on as vastly more characteristic of a fortunate moment in history than the production of some things whose beauty interests a subsequent generation. The so-called "fine" arts may play a relatively small part then. Such a thing is quite conceivable. Art may become, in time, less a means of "expression" and more the means for the creation of a desirable environment. Of course, I am not prophesying. But if we are to recognize the possibilities of the future we must be prepared to scrap our conceptions that are based upon an uncritical study of the past.



ATLANTIC HEIGHTS.—VIEW OF KEARSARGE AND PREBLE STREETS FROM CRESCENT WAY

The First War Emergency Government Towns

III. ATLANTIC HEIGHTS

Site

THE Atlantic Corporation is building ships on the Piscataqua River at Freeman's Point, just above the city of Portsmouth, N. H., and so within easy and safe distance of the sea. The extensive works of a defunct paper mill have been adapted to the needs of shipbuilding, the central structure of which rises in somewhat gaunt picturesqueness and contributes the note of industry, with its echo of war, to a wholly beautiful and thoroughly New England landscape. Happily, this note of gauntness will in some measure be relieved by the new community now being built to furnish homes to the workers in the shipyard.

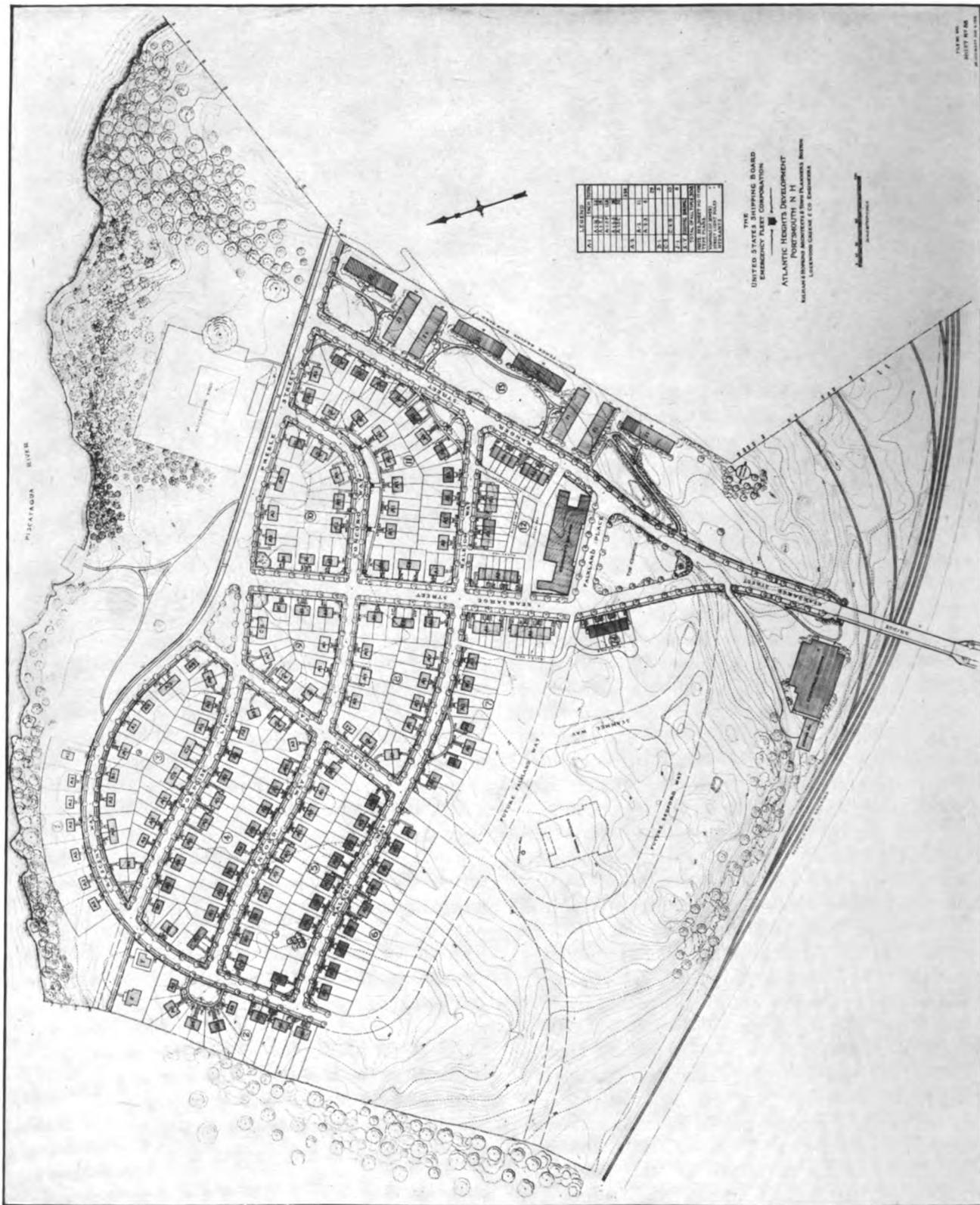
The site of this community is some sixty acres of ledgy, undulating land, which, rising abruptly from the Piscataqua, stretches back in a continually rising slope. Westward, the river winds in a broad curve with the New Hampshire hills blue in the far distance. Northward rises the domelike top of Agamenticus, in Maine, with a foreground of farm and forest. No fairer spot exists upon which to found a community, and at sight of this carefully thought out plan upon which such rapid progress is now being made, one pauses to wonder whether

these war-time activities of the Government may not at last teach us a hard-learned lesson, in so far as the building of houses is concerned.

Atlantic Heights—so runs the name—lies about a mile from the railway station of Portsmouth, N. H. Ships once came up the river and landed (or received) cargoes at a wharf which had long ago fallen into disuse and become well-nigh forgotten. Today the wharf has been revived and has contributed not a little to the quick and cheap deliveries of materials.

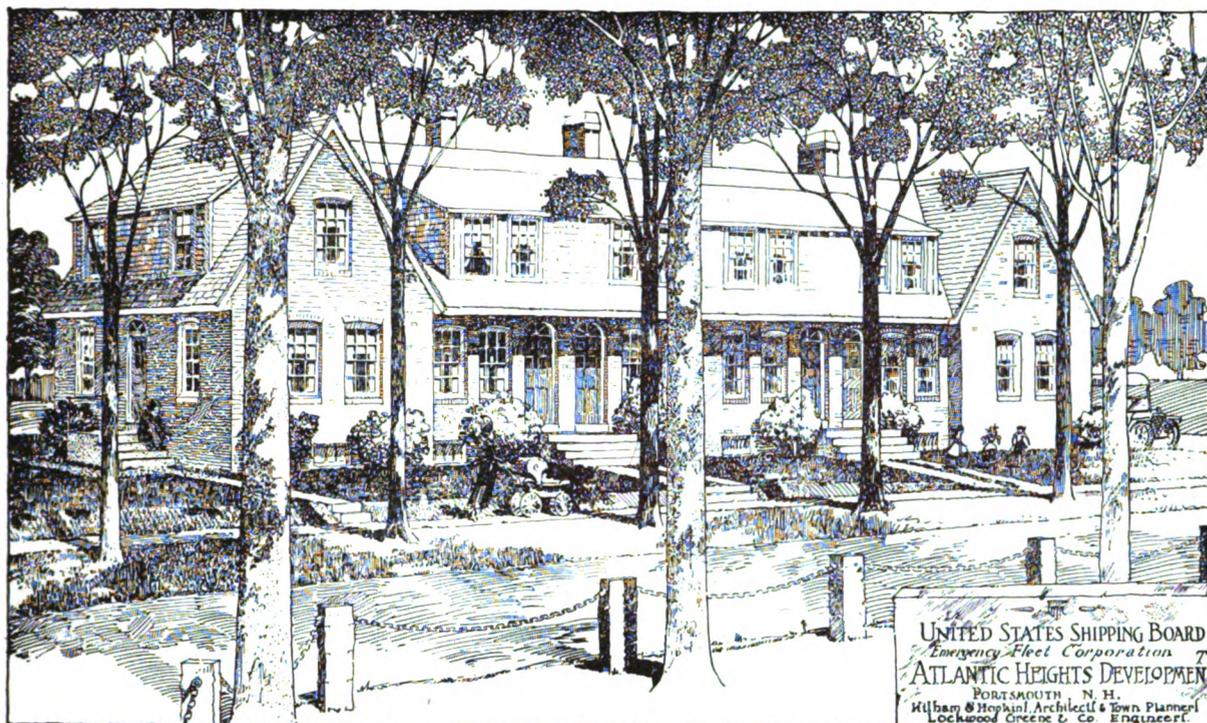
A clump of trees stands guard at the west, somewhat obscuring the view, but a fortunate grove of pines on the other side gives promise of recreational facilities and a playground. Ledges outcrop at irregular intervals and offer opportunities for picturesque variations in plan which the architects have been quick to seize.

The three points which were the determining factors of the town plan were: First, the best location for the approach bridge which spans the valley (between Portsmouth and Atlantic Heights) through which the railroad runs; second, a natural transverse depression or swale which would carry the drainage sewer for most of the tract; and, third, a picturesque cove, with the old wharf, which provides the only landing-place on the river-bank.



ATLANTIC HEIGHTS.—PLAN

THE FIRST WAR EMERGENCY GOVERNMENT TOWNS



ATLANTIC HEIGHTS.—GROUP OF SIX HOUSES

Accordingly, Kearsarge Street, the main throughfare, (incidentally the streets are all named for United States war vessels built in Portsmouth mostly during the periods of the Revolution and the War of 1812), starts from the site determined by Nature for the bridge and heads across for the cove about midway of the village site. Saratoga Street follows the natural drainage valley and joins Kearsarge at a point which affords a striking view over the river and the charming Maine country beyond; while Ranger Street, named for John Paul Jones' old ship, diverges diagonally from Kearsarge Street just at the bridge, leaving between the two streets a typical New England triangular town common; not a plaza or square, but like everything else in Atlantic Heights this little common "just happens" easily and naturally, fitting the contours of the land as if a drawing-board had never interposed between its creator's brain and the contractors' workmen.

The angle of Ranger Street is determined by the line of the shipyard fence, and along this line, nearest the gate, are placed the eight dormitories containing single rooms for 50 men each. These eight buildings are arranged with ample park spaces between and separating the

houses from the factory plant. They are already completed and partially occupied.

Kearsarge and Saratoga streets have another objective than a view, for just south of the cove is the beautiful stand of pines, right on the rocky bluff. Together with an adjoining level tract, it is reserved for a park and for the recreation fields to which we have referred. The other streets are located with special reference to the contours of the land. Crescent Way, which, though named for a Revolutionary ship, is actually in the form of a crescent, sweeps around the edge of the bluff with charming views of the deep Piscataqua and distant countryside. On this thoroughfare several sites have been reserved for possible future houses of a somewhat higher cost than the rest, which might be needed for foremen and superintendents.

If critics should say that the town-plan of Atlantic Heights lacks balance and that technique which is typical of the town-planner's work, the architects would be able to reply with the truthful rejoinder that the topography of the site did not permit a street-plan of the drawing-board type; an informal plan was obligatory. Moreover, the architects were wise



ATLANTIC HEIGHTS.—ALONG THE PISCATAQUA

enough to realize that the spirit of the community should be kept in consonance with that of old New England; thus the curving roadways and irregular blocks perpetuate the tradition of the old eastern seaports. Probably they would not have attempted actually to create a second Marblehead, but in several places where out-cropping ledges border the streets the houses have been set back on the upper levels and the sidewalks carried up over the ledges, sometimes with steps; in the pockets of soil there will be planted running vines to creep over the rocks, and shrubs to break the bareness. Wherever attractive clumps of trees occur they have been reserved for small parks, which will diversify the perspectives and provide shady playgrounds, and it is this easy naturalness and absence of

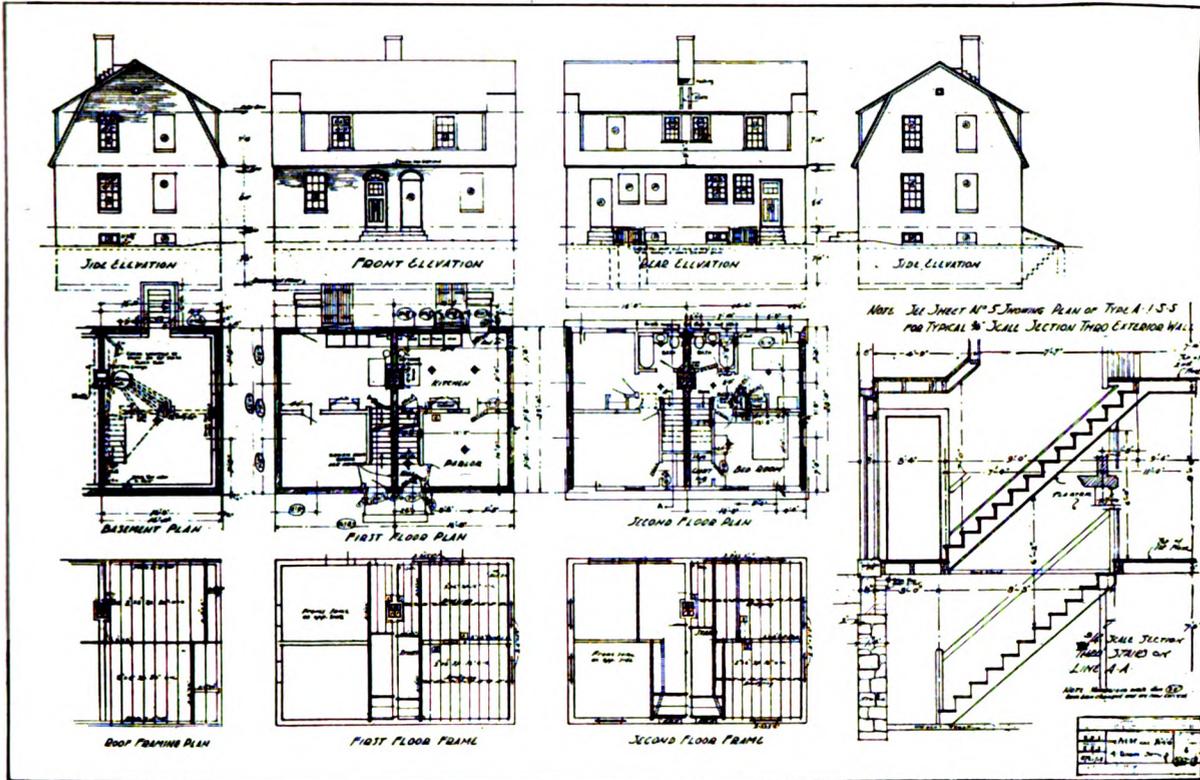
sophistication which will be first among the charms of Atlantic Heights.

Kearsarge, Ranger, and Preble streets are 50 feet wide; all the others are 40 feet in width. The lots are generally 100 feet deep, and, as Atlantic Heights is practically free from row houses, there are only one or two alleys. A space for shops and community buildings is reserved, fronting the Common, but at this writing the character of these buildings has not been definitely determined. A school has been projected and will be located on an extension of Saratoga Street, on an elevated and slightly location, while the cafeteria is to be placed just below the bridge, convenient to the shipyard gate as well as to the village.

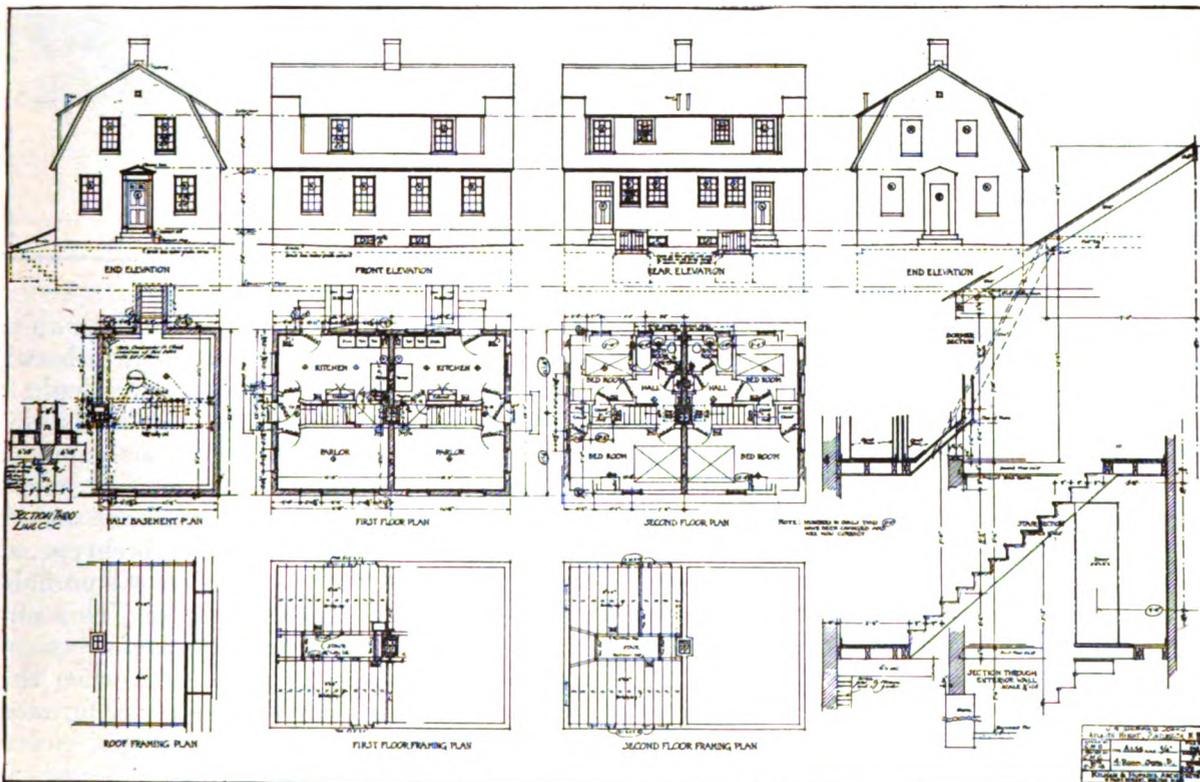
Such are the physical features of the project.



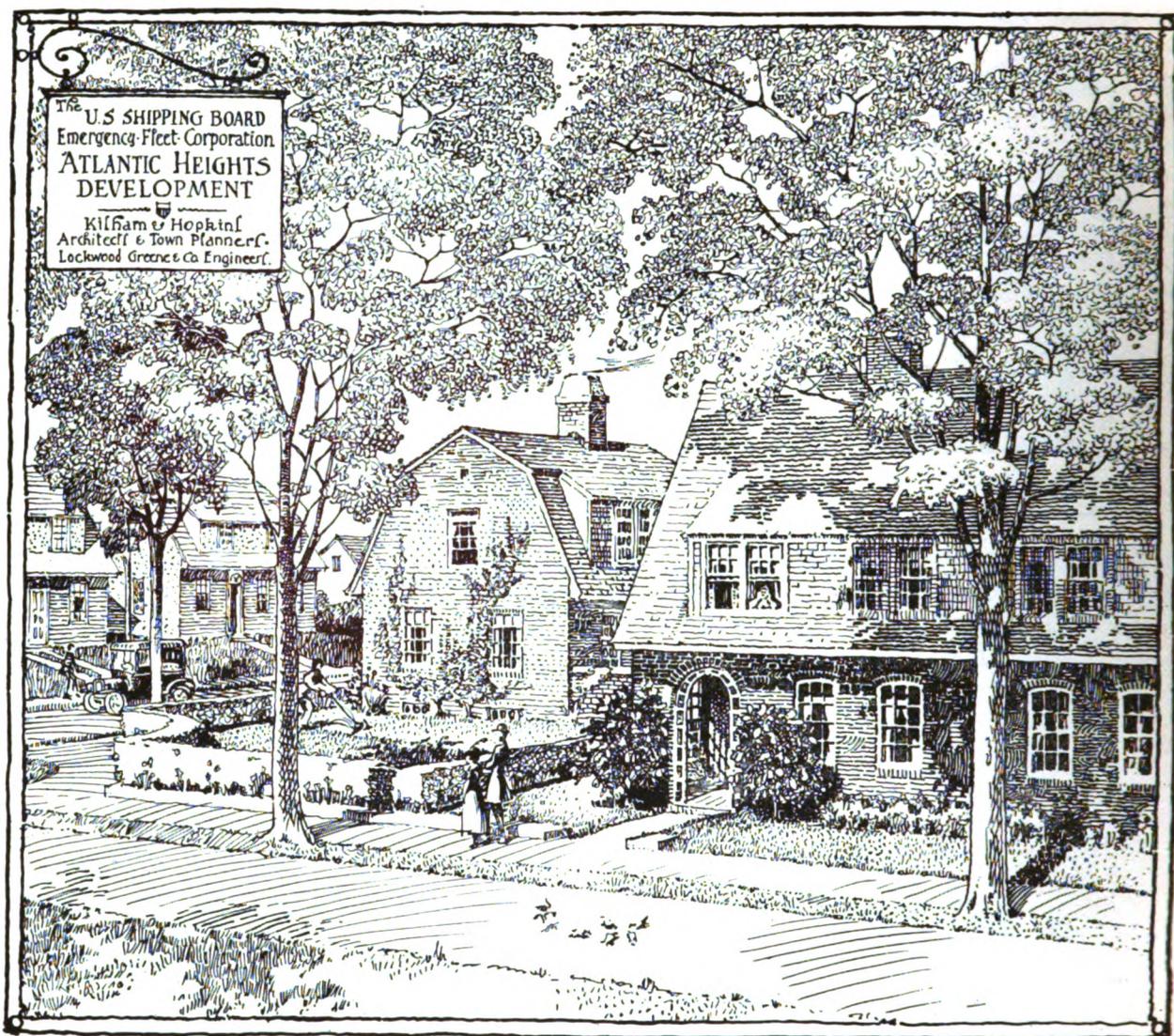
A TYPICAL PORTSMOUTH DOORWAY



ATLANTIC HEIGHTS.—SEMI-DETACHED HOUSE



ATLANTIC HEIGHTS.—SEMI-DETACHED HOUSE



ATLANTIC HEIGHTS.—SHOWING THE PROPOSED EFFECT OF PLANTING

Water will be supplied from the Portsmouth system, augmented by a booster pump and a tank which the architects hope to be able to screen with poplars. The sewage goes overboard into the swiftly flowing tidal river. Electricity comes from Portsmouth. Gas will not be introduced on account of the expense.

The total developed area for houses and dormitories is 30 acres, of which 9 acres are occupied by streets. There are, therefore, ten houses to the gross acre, or fourteen if the space occupied by streets is excluded.

Houses

The houses are nearly all built of brick, a very few frame houses being introduced by way of

variety. These will be built last in order to use up and save all lumber which might otherwise be wasted. Some of the houses are single, of four and five rooms and bath, but the vast majority are semi-detached, of four rooms and bath, with a few rows of four and six houses. Several different types of plan are used, and the roofs, which are mostly of the gambrel type, are varied by gables, but the observer will probably consider them as very much alike. This similarity was intentional, since the architects confess to having aimed for restfulness rather than variety. All the houses are heated by furnaces, and all are supplied with coal-ranges, electric lights, baths, sinks and wash-trays. Porches are not very plentiful on account of cost. The

THE FIRST WAR EMERGENCY GOVERNMENT TOWNS



ATLANTIC HEIGHTS.—VIEW OF RALEIGH WAY

doorways show considerable variation, all the designs being studied from old Colonial types in Portsmouth. There are 300 houses and dormitory accommodation for 400 single men.

Provision for the very necessary boarding-house is made by arranging a goodly number of four-room, semi-detached houses so that a door can be cut in the party wall, allowing an extra four rooms and bath to be added to the household which wishes to take boarders, whose rooms will be well separated from the family quarters yet at the same time easily accessible.

Progress

At this writing (August 10, 1918), the dormitories are finished and some 150 houses are either complete or well under way. The archi-

ects, Kilham & Hopkins, of Boston, who also acted as town-planners, were appointed April 29, 1918. Three weeks later their house-plans, specifications, and street layout had been completed, passed, and orders given to start. The dormitory plans had been approved even sooner, and materials had begun to arrive so that work was started about May 20. The first two dormitories were ready for occupancy about July 15. These are permanent frame buildings, plastered inside and covered with stucco outside. Fifty houses are promised complete by the contractors on August 15, and the entire project is to be finished by October. The engineers who worked out the details of the waterworks, sewerage, streets, and other utilities are Lockwood, Greene & Co., of Boston. The con-

tractors for the entire work are the National Engineering Corporation, also of Boston.

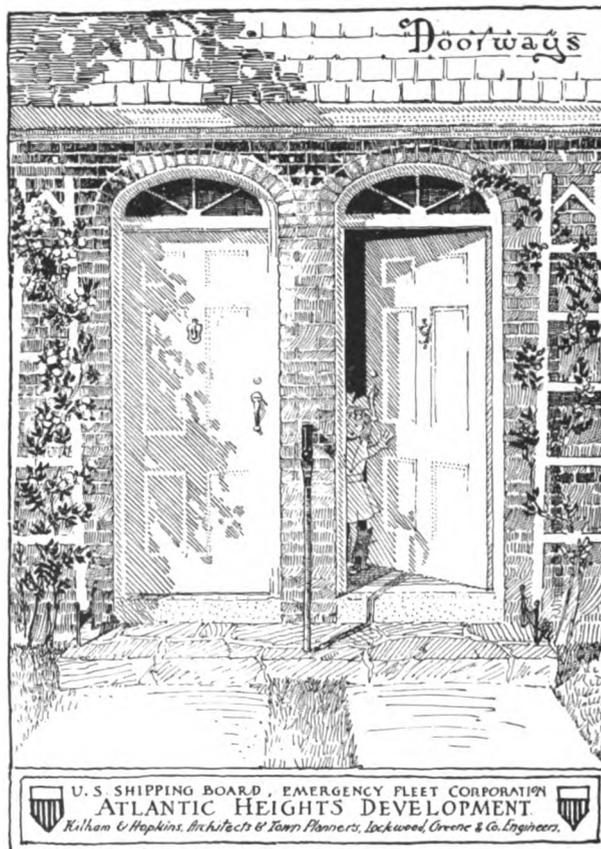
Cost

The average estimated cost of the houses is about \$2,750, but the actual total can only be definitely told after completion, for the effect of the vexatious labor and "overtime" questions cannot be predicted. It is pleasant, however, to know that the completed dormitories show a saving of some \$3,000 each from the original estimate. Some of this economy was due to the reconstruction by the contractors of the old wharf and the bringing of the lime and some other materials direct to the work by water.

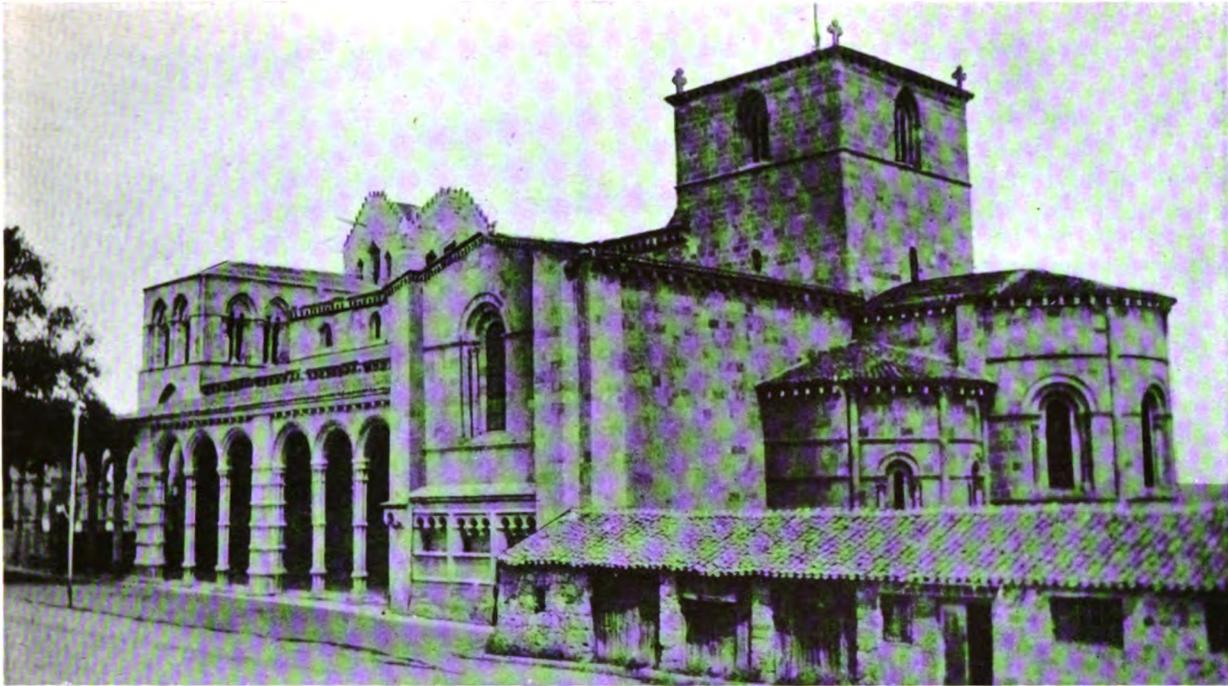
To an unusual degree the future of Atlantic Heights seems to be assured. The shipbuilding industry is strongly backed, and its continuation after the war seems a probable certainty; but even without it the natural beauty, picturesqueness, and healthfulness of the locality would make it desirable, even as a summer resort, which perhaps can not be said of many of the other projects to which the Government is

committed. Portsmouth, an ancient maritime city, asleep for sixty years and now becoming a busy center, is composed mostly of old and congested buildings. It is no great exaggeration to say that Atlantic Heights contains more bathrooms than all the rest of the low rent houses in Portsmouth, and this new, modern, and attractive suburb is not likely to suffer for want of tenants in any case.

If there still be doubters of the value of good houses, they might inquire what will become of all the Government-built houses now under way if the war should stop. Have they ever paused to think that, even if the war should come to an end tomorrow, these houses, many of which are now visible facts, would be absolutely the only tangible permanent assets, aside from the merchant fleet, which would be left from all of the twenty billions expended in the war for Liberty? And it is also worth while to remember that no private capital would have had the courage to take the situation in hand with such foresight and forethought as the Government has shown.



ATLANTIC HEIGHTS.—DOORWAYS



AVILA.—S. Vicente
From a photograph by E. H. Lowber

Early Churches in Spain

II. AVILA

By GEORGIANA GODDARD KING

SEATED both on the northern slope of the Guadarrama Mountains, Segovia and Avila were for long frontier fortresses, till Alfonso VI had taken Toledo and pushed the line of the Reconquest down to the basin of the Tagus. Both were Roman towns; both lay long under power of the Hagarenes; both were taken and lost more than once before Count Raymond of Burgundy undertook to repeople them. Here the parallel ends. In Segovia the story reads like that of Capulet and Montague and culminates in the gallant, foredoomed struggle of the Comuneros; after that the Renaissance built fine palaces and churches finer than they, for no Spaniard would leave his God less well lodged than his family; lastly quiet came—"quiet of old men dropping to the worm." Wide-walled Avila, that had no citadel but the fortified cathedral itself, was a scene apt for history, where more than one king's tragedy was played out before she was handed over to *frailes* and *monjas*, to priestcraft and ecstasy,

soft-footed inquisitor and barefooted reformer, Torquemada and Teresa.

Saints and stones are what Avila can show, says the Spanish proverb, though it is, unfortunately, all too possible to go to Avila and not find S. Teresa there. But on the wide plain which, higher than mountains stand, runs out to the farthest edge of the sky, one sharp road cutting it into a right hand and a left, pale and burning under the incandescent dome, out there you meet her traveling, with a patience as long as God's, about God's work, along the slow and lonely miles. To Count Raymond of Burgundy, the husband of Doña Urraca's youth, Avila owes—after the Romans—those indomitable walls within which the city lieth foursquare; and owes, furthermore, the style of the group of Romanesque and transitional churches that begins with S. Vicente and the cathedral, and suffices for a visit or for an essay. Even S. Tomas, which belongs to other rulers and another age, keeps somehow the illusion of

twin western towers and a narthex sunk between them, as surely as it keeps the Florentine loveliness amid Iberian enrichments in that tomb of the young D. John, which was to set the fashion in graves for a long while. It substituted the free-standing altar-tomb for



AVILA.—S. Vicente, West Door
From a photograph by E. H. Lowber

the niche, but Spaniards were apparently as stubbornly determined to lie upon a shelf as Russians to sleep on a stove, and the cathedral illustrates in a dozen instances the final triumph of the national determination.

The present cathedral is not Count Raymond's, more is the pity, for it spoils a great

scene; how Alfonso VII, who was indeed Raymond's son, was brought to Avila by the party of Queen Urraca, his mother and the wife of Alfonso of Aragon; how El Batallador demanded to see his stepson and to that end a safe-conduct within the city for himself and an escort of seventy; how the meeting took place in what was neither within the walls nor without, in the so-called *cimborio* or fortified apse of the cathedral. The one Alfonso came up with his seventy true men of Aragon, the other, who was only a little lad, stood stiff there, ringed round with Castilian nobles and the men at arms of Avila; the two kings louted low to each other, and the elder turned on his heel and returned to his camp. But of a truth, the older part of the cathedral, which comes down to the transepts and includes the small eastern apses of these, belongs to the days of Alfonso VIII *el de las Navas*, who had an Angevine queen, at the close of the twelfth and the beginning of the thirteenth century. It must be counted as an *Iglesia-Castillo*, like those of Tuy and Turegano, Puerto Marin and Ujué, and as the greatest of them all. With three lines of defense, one within the other, it juts through and protects the single curtain of wall that is easily accessible, as from the railway station today, so always from the plain. The double ambulatory and its nine small chapels in the thickness of the wall are explained, the one as supplying a strong support to a passage where troops would march, the other as lightening and at the same time strengthening the vast mass of solid stonework. This eastern part had once a true triforium gallery, vaulted in a quarter-circle and opening by *ajimez* windows, horse-shoe shaped, under a high, round arch. Later, that was torn away and a second set of flying buttresses applied at the angles between them. All this early part is very brilliant transitional building, inventive. The nave, on the other hand, lags and shows still Romanesque traits, though the work went on through the thirteenth century and under Bishop Sancho (1312-55) the vaults were closed in; by 1432 the cathedral was finished and a bull of Eugenius IV provides for its preservation. The western front, however, in between the towers, is palpable and very bad Renaissance, and there is evidence that here was once such a narthex as that at S. Vicente, with passageway between

EARLY CHURCHES IN SPAIN



AVILA.—S. Vicente, South Door
From a photograph by E. H. Lowber

the towers. It is very possible that the purely gothic door in the northern flank has been removed thither from the west, though the writer is not certain, remembering the symbolism of those doors and their frequent appearance in Spanish churches, and French that were in touch with Spain, from S. Benoit-sur-Loire to S. André of Bordeaux.

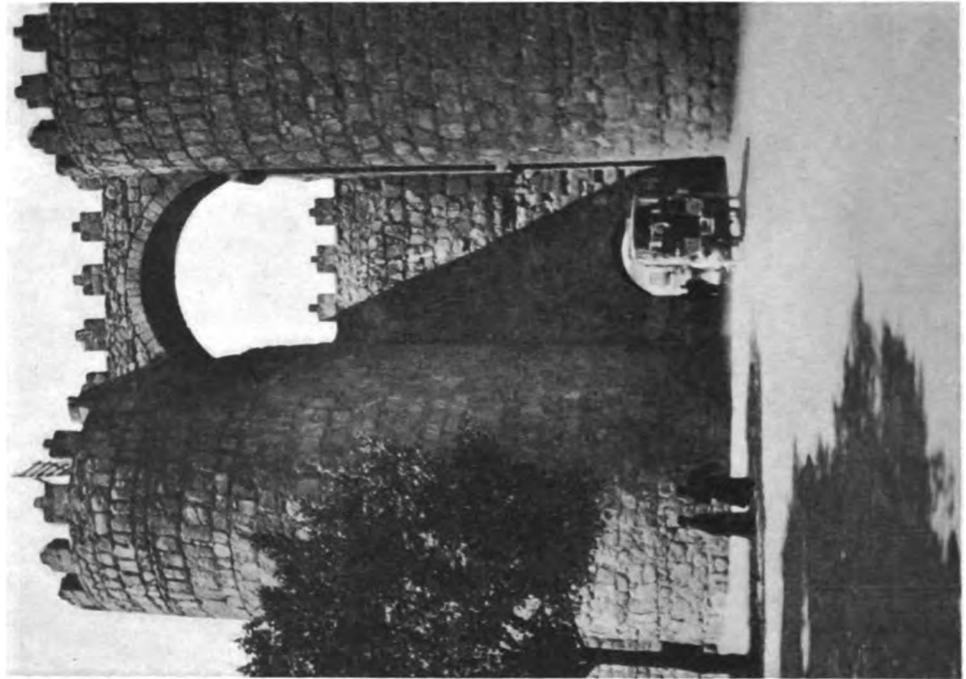
Within, the cathedral of Avila stirs a feeling of France, an odd sense that the traveler may recollect in a moment what thing it should recall in Champagne or Normandy or Aquitaine, or, if not there, then elsewhere. It tastes of France. Not, however, of France, nor yet of anywhere else in the world, is the grey and austere beauty of the granite walls; the extraordinary magic of the mazy eastern end, turning and winding in sun-streaks and bewildering colored lights, with dim vistas and dimmer withdrawals, clues that open and baffling side recesses; the tender and morbid loveliness of Tostado's tomb and S. Catharine's altar, where marble seems to flush and pale, and breathe and shrink, under the

carver's passion. The high altarpiece is very fair and fresh, with its cool greens and goodly crimsons and soft carnations, Italianate and comely, indebted to Francia and Perugino; the work of Juan de Borgoña and others. In the transepts and their chapels, from a few dim retables, the halos glimmer like full moons and the colors burn dark as sunset lights on still waters. On every hand, in a wall-recess, lies the figure of an armed knight, bareheaded and ungloved, his hound or his page on guard there at his feet, like the quiet ending to all *Libros de Caballerias*.

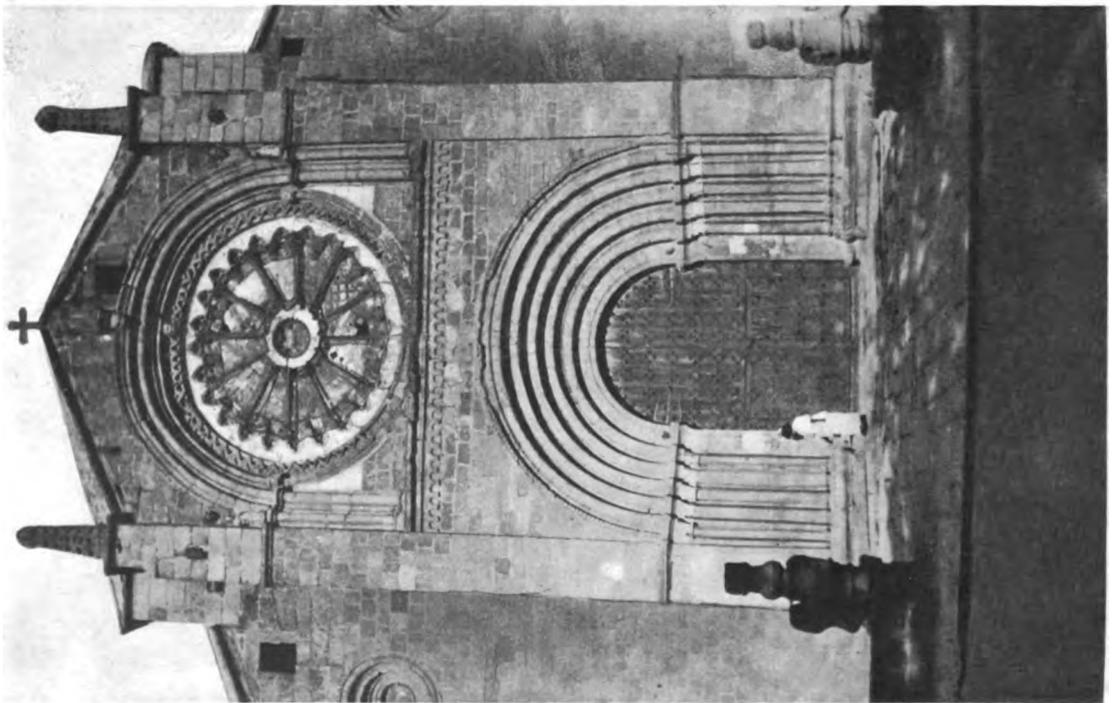
With its low lantern, its long and level nave,



AVILA.—S. Vicente, South Door
From a photograph by E. H. Lowber



AVILA.—Puerta S. Vicente
From a photograph by E. H. Lowber



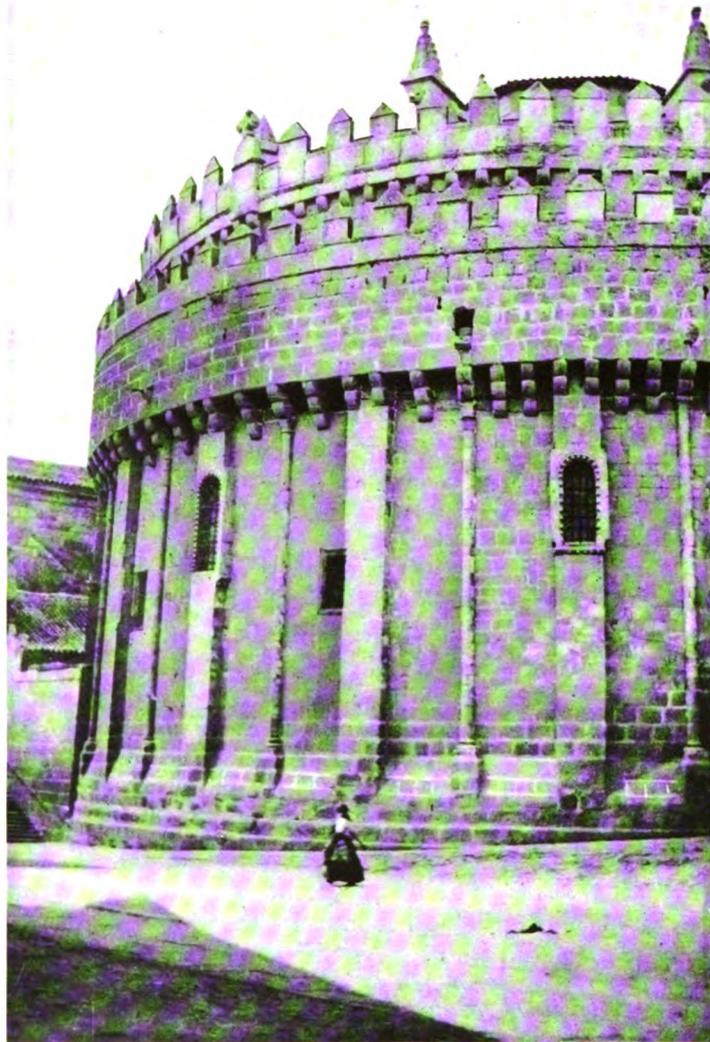
AVILA.—Door, S. Pedro
From a photograph by E. H. Lowber

EARLY CHURCHES IN SPAIN

and its lost narthex outside; within, its strongly ribbed vault, its recognition of a difference between nave and aisle, its noble altitude, the cathedral, when all is said, partakes of the same style as the other churches, and the dominant's persistence is the note of Count Raymond and the Burgundian masters of *jometria* and *piedras taller* whom he fetched for the walls, who founded the *chantier* of Avila. They built, presumably, S. Vicente, since in 1109 the work was well along. By the middle of the thirteenth century, however, the fabric was out of repair and gravely endangered: Ferdinand the Saint in 1252, Alfonso the Wise in 1280, and Sancho the Brave, in 1290, yielded for the necessary works certain incomes, "*que estava mal parada para se caer*;" it was likely to tumble down. The church was planned in the Burgundian style, like a daughter-in-law of Cluny, with parallel apses, strongly marked transept, barrel-vaulted lantern, vaulted triforium, and narthex at the west between two towers. Only the north transept has a portal, the southern door being set in the second bay of the aisle, and down this flank runs a very beautiful open porch or cloister, of the Segovian kind, later than the rest. Segovia, which lent this and could not match its airy grace, took in exchange, perhaps, the art of the figures that stand in the door-jambs at S. Martin there. The aisles have groined vaults, those of the nave are ribbed, and the diagonals descend upon capitals that have been set askew on the angles of the piers. Men planned the nave, in effect, for a barrel-vault, and then either altered their intention or rebuilt; the latter is the less likely because the western doorway shows no signs of alteration, and it is possible that the portals were erected and finished before the vaults were commenced, by a method of horizontal rather than vertical procedure. This, though rare, we know was what happened at S. Sernin of Toulouse. The carving is all Burgundian.

Long ago, M. Enlart pointed out that the

broken scenes in the tympana over the western doors here, which represent the history of Dives and Lazarus and have nothing to do with S. Vicente, are copied straight from S. Lazare at Avallon; so likewise the beautiful rinceaux



AVILA.—Apse of Cathedral
From a photograph by E. H. Lowber

of the archivolts. It should be confessed in passing that the single figure left standing on the door-jambs at S. Lazare looks more like those at S. Martin of Segovia than any figures do in Avila. Now Avallon lies only a few hours' walk from Vézelay, where the great abbey,



AVILA.—Apse, S. Pedro
From a photograph by E. H. Lowber

contemporary with Cluny, preserves also a narthex that opens, in the upper story, on the nave, like that of S. Vicente; it is, however, completely closed in by a western wall, like the churches of Dijon, whereas S. Vicente has an open porch like the twelfth-century Chartres and S. Lazare of Autun. The workmen of Avila knew Avallon, Vézelay probably, and Autun certainly. Among the fragments of the shrine of S. Lazare there are two figures* which were copied by the workmen for the south portal here at Avila. The sitting king beside them, and the angel and Virgin opposite, are too much in the same style not to make the door count as a single piece, though it may be the work of a single man's entire life. With its conspicuous affinities, not only with the school of Toulouse but also with that of Vézelay, the style passes almost imperceptibly into that of the western doorway. Here the standing figures on the jambs, and the great seated Christ of the central post, will recall to every traveler the prophets, and the Creator Mundi holding the *orbis terrarum*, in the same situations at Vézelay; if, however, he has ever made the pilgrimage to Santiago de Compostela he will recognize that

*Published by M. de Lasteyrie in *Monuments Piot* VIII.

the figures turn one to the other, hold converse with gesture and glance in the same way there, but not at Vézelay; that apostles, likewise, there are set on the inner face of the jambs; and that the central sitting figure here, clothed in white samite, mystic, wonderful, bears much less likeness to the *Beaux Dieux* of France than to the far traveler, S. James, who rests upon his staff in the Gloria of Master Matthew. That was finished 1188. It should be added that this figure from Avila was, in the fourteenth century, copied upon the capital of the central shaft at S. Salvador de Leyre, in Navarre. What appears then, is, first, that the *chantier* at Avila was in constant and wholesome intercourse with Burgundy from the close of the eleventh century till some time in the thirteenth; and, secondly, that the current of intercourse was circulating freely between Avila, Santiago, and places on the pilgrims' road. One other point must be admitted and then left, namely, the painful likeness of style, in parts, between the towers of S. Vicente (twelfth century?), those of the cathedral (fourteenth?), and the west end of S. Tomas (nearly sixteenth).

Outside the Puerta del Alcazar, where the Market is still held, though now it is a part of

EARLY CHURCHES IN SPAIN



AVILA.—Puerta del Alcázar
From a photograph by E. H. Lowber

the compact town, was played in 1465 a solemn ceremonial almost as cruel as an *auto de fe*, for which Archbishop Alonso Carillo of Toledo, after taking the city of Avila and the *cimborio*, the cathedral fortress, had sent to collect all the Grandees of Castile. His party at the moment was large, though some stood by the king. Henry IV, to all seeming, was a sort of preliminary study for the invariable protagonist of J. K. Huysman's novels, but it is possible that he was only such another as the English Richard II, though he wanted a Shakspeare; fantastical and unhappy, wayward and corrupt, wanton and *ennuyé*, who wore his shame like purple with the pitiful effrontery of the helpless. This was his hour of Westminster Hall; that of Pomfret Castle was to come, and thereafter a state funeral at Avila, with mourning cloaks trailing around the nobility, and sobs and bitter weeping offered by the populace, which, however, is not the present tale. A scaffold, I say, was raised and thereon a throne set up, and on the throne an effigy of the wretched king, in mourning weeds, crowned, with sceptre and great sword of office. There stood the nobles close about, backed by two thousand soldiers

and a thousand cavalry, while heralds read aloud ensamples out of history, how kings had been deprived in old time of their kingship, and followed with all the charges that could be rehearsed against the luckless brother of Isabel the Catholic; and the great lords stepped closer to declare the doom. "Unfit to reign," spoke the Archbishop, and took the crown from the kingly head. "Unfit to judge," spoke the Count of Plasencia, and took away the heavy two-handed sword. "Unfit to rule," said the Count of Benavente, and took the sceptre. "Unfit for a king's place," and Don Diego Lopez de Zuñiga threw the poor image down and cursed it foully. The people all the while stood round in silence outside the ring of soldiers. Then a child was brought forward, the poor king's brother, Don Alfonso, eleven years old, and lifted up in the arms and on the shoulders of these great lords, and at a signal from the military a loud cry went up, "Castile for King Alfonso." So the Grandees installed and enthroned him with crown and sceptre and heavy two-handed sword, and first they, and then all of the king's own men, tramped up to kiss his little hand. This was not indeed the end even of the chapter; a

day was soon to come in Simancas when the horse-boys of the town should mock this mockery, and, likening the Archbishop to the brother of the Count Don Julian that betrayed his king and his country to the Moors, with an envenomed *copla* that has come singing and stinging down the centuries, they burned his effigy in a huge bonfire.

On the Market at Avila, where the sorry pageant of Henry and Alfonso befell, still stands, as then, S. Pedro. The architecture is hardly less noble than S. Vicente and the cathedral; if left to itself in some lonely hill town, it would draw travelers, unaffronted by comparisons. The style is falling back into normal Spanish, but the church seems not so much younger, as, in the comparison, plainer and less first-rate, humbler. At S. Pedro the tower stands off to one side and farther east, but the apses are very fine. The church has lapsed upon a façade, plain except for the glorious wheel window, and characteristically Castilian and parochial. The many orders of the quiet western door, like those of the north and south, are turned in concentric arches without a tympanum, and carved with the lily in many forms,

the billet, the double zigzag, and so forth. It carries, like S. Vicente, a low tower above a ribbed lantern, but wants a triforium, and, being prepared for a barrel vault, received one quadripartite and well-ribbed. Tawny without, reddish and blackened within, S. Pedro is beautiful in every view; grave, quiet and strong. Inside, the noble height breaks into an exaltation of the spirit. The light is silent there. The vistas across aisles and transepts here can make S. Segundo, on the river, seem no more than a pretty girl, with its blithe, round arches, like the colonnade of S. Vicente, and its comely marble bishop by Berruguete; the meek quietude of S. Pedro can touch, and can abide, as long as the virile power of S. Vicente or the cathedral's mingling of austerity with splendor, like scarlet and ermine over a hair-shirt.

The rare air of these altitudes lends itself to exaltation; the blue of the wide plain is like a Holy Land; the white city, in the pale fierce heat, is like the foot of Jacob's ladder. Inside the town not a leaf will burgeon of itself; outside, not a blade of grass pricks up between the tumbled stones. *Santos y Cantos* alone flourish at Avila—saints and stones.



AVILA.—S. Segundo
From a photograph by E. H. Lowber

War and the Building Industry

IN the form of little whines and snarls—sometimes in growls that are bolder and louder—there is a persistent propaganda being circulated with the very apparent object of forcing the Government to permit a revival of private building. Paragraphs and editorials in the public press bear so close a resemblance to the statements appearing in those publications that are controlled or strongly influenced by one closely knit group, that a common source seems to be indicated.

It is unfortunate that these covert attempts to hold a club over the Administration should continue. They are not likely to produce the desired effect in the first place, and they are beginning to give the impression that the building industry has taken the trials of war in a manner which is thoroughly unpatriotic, to say the least. It is a pity that the writers of this propaganda are not willing to sign it publicly. It would then be worth while to send it to the wounded in our hospitals in France and ask them what they think about it.

If by chance any of these particular whines and snarls do come to their ears, let us hope they will be sensible enough to realize that the vast majority of those in the building business will meet the sacrifice exacted of them in the spirit of men. A small minority will protest and make considerable noise and try to organize an opposition, but they will eventually be lost in the discard, and the Government will continue the plan it has marked out for itself. At least that is the belief which I am willing to record.

The building business has suffered, and it must continue to suffer, quite in common with many other industries and businesses. This seems unjust because in other lines of activity large profits are being taken. It seems unfortunate, as well, since the decline in building means that we shall be under some handicap at the close of hostilities. But this is war, and the loss must be measured in terms not of money; we must be men and we must put the question fairly: How can we save the most lives?

We need houses and the Government is building them. We need factories, and they are being built. We know that in this work we are

saving lives by developing means for shortening the war. If we had more men and materials than we could use in war, then we might go on with private building as usual, but this is not the case. From now on—these lines are being written on Registration Day, September 12—this nation is face to face, as never before, with the problem of utilizing its whole man-power in a maximum effort to end the war and to save every human life which can possibly be saved.

Faced with this solemn consecration,—with this clear obligation to give our last atom of strength and intelligence in manfully safeguarding the army now in France and the larger one yet to go,—confronted with this grave duty and difficult responsibility, whining and snarling seem evidences of a spirit for which the language has no words sufficient to express the contempt one feels.

Satisfying the war needs of our army in France is one thing today and will be quite another next year, when we shall have to depend more and more upon our own industrial output. Toward that effort for 1919 nothing should be left undone, and I believe no greater tribute could be paid to an industry than the honor system under which it must now proceed with all building. The building industry cannot fail the nation, no matter what the sacrifice demanded; nor will the nation be misled by any selfish activities on the part of any group or any interest into believing that they represent the industry with which, unfortunately, they are identified.

The problem before us is to adapt and adjust and ceaselessly to seek means of fitting men into jobs where their work will count in shortening the war. This will involve hardships, sacrifices, losses, and some suffering. But to those whose hearts and souls are tuned to the solemn litany of war,—who think in terms of human life and who are alive to the meaning of those daily casualty lists as measured in the anguish for which there is no balm,—to such there will come a compensation ample to requite all hardships. To save the life of one soldier—toward what greater end can a man strive today, tomorrow, and every day?

C. H. W.

Notes by the Wayside

AT A HEARING held to consider reasons for and against the demolition of St. John's Chapel in New York, an elderly lady gave three reasons that she thought excellent for tearing down the venerable building: first, she owned some property adjacent to it and the unused, neglected structure depreciated the value of her ground; second, the building was an eyesore in the neighborhood; third, the old church was unsafe and dangerous because its framework at the roof and other places, instead of being nailed, was held together with wooden "pegs!" Of course, we cannot believe that the Board holding the hearing would be swayed by the first reason, a purely selfish one; nor, with so many architects at the hearing testifying to the architectural worth of St. John's, can we believe that the second reason would prevail; so it must have been the third, for St. John's is being torn down. The old gem of Varick Street is fast disappearing and in a few days will be only a memory. It is hard to believe that in this country, with so few of the best things of olden times still standing, this really charming example of the monumental Colonial style would be sacrificed, and it is to the everlasting shame of the Trinity Corporation, owners of the chapel, that they gave neither assistance, nor even sympathy, to the movement for its preservation. In a later issue of the Journal, perhaps, there may be published some illustrations of St. John's and its quaint surroundings.

THE DEMOLITION of St. John's Chapel only reminds one of how fast landmarks of interest are disappearing in New York. Nine years ago the City History Club listed some sixty or seventy places of historical interest in the old Greenwich Village and Bowery Village sections of the city. Many of these were of considerable architectural worth—fine old houses with lovely stoops and porches were numerous. A walk the other day showed that hardly a half-dozen of these specifically listed landmarks remained. Most of the rest—like Peter Stuyvesant's pear tree, which thrived and bore fruit for the colonists for over two centuries, and should for that reason be remembered now by a spot of green or flowers—were merely warehouse or tenement sites, sometimes marked with a tablet. The outlying districts have fared little better—subway extensions and the contagious apartment-house fever have raised havoc with the physiognomy of New York.

AS MATHEMATICIANS would say, the New York subway is a world of two dimensions. This little world offers an opportunity for exercises in visualization and imagination in the third dimension, especially for architects. As a rule, riders in the subway are well acquainted with but few of the stations, and it is great fun, as you come to a station you know well, to visualize the physical appearance of and activity in the streets above. Still more fun

and better exercise is to visualize imaginary scenes at the stations you do not know. Here you may build "castles in Spain," noble squares and great monuments—you may imagine things as you would like them. The rude awakening when, on emerging from the underground station, you find a group of tawdry shops or tenements and dirty streets, only acts as a stimulus for the picturing of things as they should be. So may unpleasant subway travel be made an interesting, profitable game.

SOMETIMES things are done quite precipitously, even in quiet, dignified Philadelphia. A few years ago a pool and formal garden, with their architectural accessories, were laid out and built in Rittenhouse Square. At the head of the pool was a wall faced with brilliantly colored tile. One night the tilework disappeared and was replaced with cement plaster. It was done quickly and quietly, no one knows how, just when, or by whose orders! No trace of the tiles has ever been found. If the deed was merely one of vandalism, it is to be deplored. If it was the violent expression of citizens outraged at a modern encroachment of old Rittenhouse Square, it is a hopeful sign.

HOW reminiscent a walk down New Hampshire Avenue in Washington is! Volume after volume of our architectural library is recalled before us. Here is a page from "Edifices de Rome Moderne," here a page from Palladio; there a leaf from "Hotels et Maisons de Paris," or perhaps the "Renaissance in Spain," and here, again, one from "Old English Homes." Those street blocks look like exemplars of architectural styles after the best manner of *old architectural books*. They are not copies of architecture; they are merely copies of drawings of architecture. The spirit and reason of the old work are lacking, though the profiles and shades and shadows may be there.

THE PRESENT beauty of Washington is not its most inspiring quality, but the possibility of its future grandeur is. One may wander up and down the Mall, loiter at the Monument or the Capitol, around Lafayette Square, or perhaps on the heights of Wisconsin Avenue near the new cathedral, and imagine those great schemes which have been planned, as already carried out, or perhaps imagine schemes of one's own. The setting is there, the beginning is there, and as you stand meditating, slowly those great structures of the future rise, mirage-like, to complete the picture. The whole composition comes before you and thrills you, only to fade away and leave you with a chill and an emptiness and a fear—a fear for what the future may really bring. Yes, the inspiration of Washington is not so much in what it is but in what it may become if everything goes well. To have conjured up those pictures has enriched you.—TRAVELER.

A Brief Record of Progress in the Government's War Housing Program

A MILLION American workmen, more or less,—probably more,—during the last two years, left their former homes and moved to the vicinities of new or enlarged shipyards and war-munitions plants to work directly or indirectly for the undoing of the Kaiser. They filled to overflowing the existing housing facilities. Beds worked three shifts, and several beds were crowded into a room. Men lived in tents and cooked their food in holes in the earth. Landlords grew rich. The speculative builder came not to the rescue because the job was far too great for his credit or organization. All of which is a twice-told tale in these columns!

Many of the new plants handled explosives and were necessarily located remote from any existing habitation in broad reservations of wilderness fenced by miles of high barbed wire and armed soldiery. In sixteen of these cases, housing of some sort was necessary, and it has been built by the agent and operator under the instructions of the Ordnance Department, the cost being merged with that of the plant and the product. A "Housing Branch" in Ordnance, in which a firm of architects, Mann and McNeille, of New York, played a valuable part, supervised these housing operations. This branch has been practically discontinued since June 4, for then the signing of the specific housing appropriation made the further use of general funds inapplicable, and future housing additions, which the growth of the plants will necessitate from time to time, must, according to the Judge Advocate General, be built by the Bureau of Housing of the Labor Department.

A congressional appropriation of \$50,000,000, followed by another of \$45,000,000, gave the Emergency Fleet Corporation its chance to develop its Department of Transportation and Housing under the direction of A. Merritt Taylor, at Philadelphia. About \$20,000,000 of this is reserved for Transportation, in which Mr. Taylor has great faith, and, in September, \$50,000,000 had been allotted for housing projects at twenty different points, leaving about \$25,000,000 still to be allocated.

The appropriation of \$60,000,000 (of which \$10,000,000 was reserved by the Act for Washington, D. C.) for a new Bureau of Industrial Housing and Transportation in the Labor Department, under the direction of Mr. Otto M. Eidlitz, was signed in June and was followed by a second appropriation of only \$40,000,000, although Mr. Eidlitz urged that it be \$100,000,000. In September all this had been allotted among about sixty-five localities for the benefit of the manufacturing programs of the Army and Navy, and large additional appropriations must be asked for from Congress in November.

There have thus been three Federal industrial housing authorities, one being now discontinued. It is understood to be the President's ultimate intention, under the powers of the Overman Act, with Mr. Hurley's consent, to consolidate the Fleet Corporation's bureau into the Labor Depart-

ment's bureau, but neither Mr. Eidlitz nor Mr. Taylor consider this practical or desirable at the present time.

As might be expected, policies and results have been diverse.

Ordnance Department Towns

The ordnance towns are mostly temporary and serve temporary plants, and interest centers in the ways that freak problems have been met.

Nitro, near Charleston, W. Va., for example, is a wooden city of 1,700 bungalows and many dormitories, bunkhouses, and the like, planned and created on vacant land by a single builder, Thompson-Starrett Co., for the Hercules Powder Corporation. September finds it complete and crowded. The bungalows are ready-cut construction and can be taken down again and sold when the war ends. The town includes a Y. M. C. A., stores, restaurants, schools—all the paraphernalia of a complete American community of 15,000 population, but its temporary nature has discouraged architectural attempts at variety or charm.

The largest Ordnance project is Old Hickory, a Dupont powder plant near Nashville, with a temporary population of 10,000 employees and many families now on hand and perhaps 5,000 more to come.

Muscle Shoals, Ala., is a permanent Ordnance town, a city of 1,300 dwellings (including negroes) near Sheffield for the Air Nitrates Corporation, whose plant will continue to manufacture, for fertilizer purposes, after the war. A great hydro-electric plant just started by the Army engineers gives additional assurance of permanency. Muscle Shoals is well planned on an attractive site, and the housing, while of low grade by northern standards, with many two- and three-room cabins, is superior to that generally available for workers in that region and has superior sanitary engineering and community facilities. Work on the village has awaited the finishing of the plant, but several hundred houses are up, and the village will be completed this fall.

The highest-grade village is at Perryville, Md. It catches the eye from the Pennsylvania R. R. trains crossing the Susquehanna—a pleasant town of white cottages with green roofs. These houses have three or four bedrooms, fireplaces, furnaces, good electric fixtures, living-rooms 11 by 18, and spacious porches. Only a few types are used, but monotony is avoided by adroit spotting and a good street-plan. The housing is for higher grade workers than elsewhere,—chemists, for instance—and, except for the lack of servants' rooms, would satisfy any \$5,000-a-year man.

At Morgan, N. J., near South Amboy, is found an Ordnance village of different type—for men only—with all varieties of housing from open bunkhouses and dormitories with two men and two-tier beds in tiny bare rooms, up to seven-room clap-boarded cottages and bachelor apartments with private baths, for office workers and exec-

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utives. About 1,500 are housed here now, and more housing will come later when the plant gets into full operation. The scene suggests any army cantonment, crude and raw, a sea of red mud crossed by wooden walks, houses all unpainted, barbed wire and sentries to exclude visitors, a field full of weather-beaten Fords, which, with the trolley extension, carry many workers home to neighboring towns, a cheerful atmosphere of hustle and crowds and war. The plant employs some women, but they do not sleep here. A bus service carries workers from the village over the long hill to the plant whose galvanized iron roofs show on the horizon beyond another wire fence.

At Woodbury, N. J. (near Camden), on the other hand, is a nunnery, labeled "No Man's Land," with a fenced and guarded group of two-story dormitories, grey, with green trim, housing sixty girls each in single rooms, with matron's office, parlor, writing-room and screened porch; 850 girls altogether and 1,200 more to come, many of them being school teachers and college graduates or undergraduates who joyfully don yellow bloomers to do their bit weighing exact propellant charges into silk bags with a precision that determines the accuracy of future gunfire in France. On occasion they mass on the newly sodded lawns for songs and folk-dances or to hear singers and speakers.

In all the Ordnance towns the employer is also town builder and landlord, which has advantages and disadvantages. The agency contracts give the War Department continuous control, but the employers have varying ideas of social and living standards, and, in some cases,—at Old Hickory, for instance,—conditions have been neglected and the workers treated with a lack of consideration which has found its reaction in a very high labor turnover and slow costly production. Ordnance accordingly has organized a Community Organization Branch, headed by Fred C. Butler, to deal with such conditions. He has found it necessary, for instance, to establish a War Department School System to provide schooling for 6,000 pupils at some ten plants where the remoteness of the location and the fact that these are non-taxable Government reservations made special provision essential. The schoolhouses are all on one model, with arrangement for serving two simultaneous shifts of pupils on the Gary principle. Mr. Eidlitz will draw upon that agency for the teachers and books which will be needed in certain of his projects.

Emergency Fleet Corporation Towns

The Emergency Fleet Corporation's towns are the most interesting because they are permanent and large, giving opportunities for town-planners and architects to show America how workmen may be housed properly when there is an authority adequate to handle the task on a bold scale. The first 907 houses at Yorkship Village, Camden, their largest venture, are almost ready for occupancy, and a thousand more are under way. The charm of the architecture and town-plan is already evident, and when the mud gives way to grass and paving and good order, America will come to see and marvel and wonder "why not more of this after the war for its own sake?" The plans have already been illustrated in this Journal.

The Emergency Fleet Corporation finances and supervises the creation of these towns by lending about 95 per cent of the necessary funds to special local realty com-

panies organized for the purpose by the ship-builders whom the housing serves, with a proviso that an appraisal after the war will determine the extent of the war-cost to be written off the Government's loan. Substantially, the employer is landlord. No sales of individual houses are contemplated for the present.

Labor Department Towns

Mr. Eidlitz's problems in the Labor Department's Bureau of Industrial Housing have been far more diverse and difficult, his machinery has been more elaborate, and his results usually less captivating to the imagination.

To begin with, he serves two departments, Navy and War, and must balance their rival needs and wait upon their certificates of the relative urgency of easing the labor-shortage of this or that embarrassed manufacturer. His investigations of congestion and housing needs must deal not with one manufacturer but with all the war industries of a region, and with statistics of employment which are difficult to get and subject to incessant change. The actual solution of the housing problems disclosed up to date is \$300,000,000 beyond his appropriation. The unity of his projects is often shattered by the fact that he must aid manufacturers at opposite ends of town, e.g. Niagara Falls, or Rock Island. Most of his projects being for \$1,000,000 or less, can be, and therefore must be, placed where utilities are already installed; hence he has few separate new towns or suburbs to give him scope for broad planning and showy results but must sandwich in his houses here and there where empty lots are available. In some cases he must provide a few temporary dormitories or a cafeteria to supplement the facilities of an arsenal or an Ordnance town.

By an order of the Secretary of Labor, the important policy has been fixed for Mr. Eidlitz of "no sales until after the war; meanwhile direct Government construction and operation; no loans to local companies nor division of control with local private capital." The adoption of this policy in June upset several pending negotiations, but it has saved time and effort in the attack on new problems and cleared the way for thorough study of the disposal problem.

An operating division, headed by Allen Robinson, of New York, has been created. It is planned to have a manager at each project, always a non-resident at the time of his appointment, and subject to transfer and promotion to larger projects. Local advisory boards of five, including one representative of the employees and one of the employers, will probably be organized to assist the Division.

A feature of Mr. Eidlitz's policy has been an insistence that the architects shall ascertain the likings of the workers and their wives. It has been found that workers are conservative and prefer to follow familiar local housing traditions, disliking toy towns or novelties of architecture or anything that sets their homes apart from those of other people's. Practically all the dwellings are for skilled mechanics, since it is always this class of workers whom the war manufacturers need most, common labor being obtainable somehow, even where congestion is bad. The Government, therefore, is not solving the old conundrum of how to house common labor.

PROGRESS IN THE GOVERNMENT'S WAR HOUSING PROGRAM

In the future is one town that deserves special mention—Neville Island—for there lies the greatest chance of all. Neville Island is a long bar in the Ohio River, 2 miles below the city limits of Pittsburgh, where the United States Steel Corporation is building for the Government a great permanent cannon and shell plant at a cost of \$140,000,000. It will employ upward of 12,000 men—possibly 25,000. The region is already congested, and a great housing development is indicated on an admirable site of farmland on the southern shore. The land is 400 feet above the river, broken by ravines, and from a low bridge across the shallow and unnavigable branch of the river a roadway will lead a mile up to the town through one of these wooded ravines, following a brook which at one point could make a small lake. From the head of this ravine the plateau spreads like a four-leaf clover between other ravines, which would naturally be parks. The \$7,000,000 which is reserved for this project is only a starter. At least \$20,000,000 more will be required from later appropriations, and a new city of at least 5,000 dwellings—25,000

people!—seems certain to be put there before the end of 1919.

The Problem Before Us

The bulk of future appropriations to Mr. Eidlitz's bureau will probably be used for the expansion of present projects. The existing schedules are all utterly inadequate, and, in fact, the mere expansion of industries is in some cases faster than the provision of houses, leaving towns as congested as before. There are several points where \$20,000,000 worth of houses would be instantly absorbed, and would pay their way a dozen fold by speeding up the plants to full three-shift capacity.

The grand total of population housed, or to be housed under present approved plans, by Ordnance, Fleet, and Labor Departments combined, figures up to about 275,000, of which approximately half are women and children of the workmen's families. Impressive as this figure is, it probably covers less than 25 per cent of the problem!

A List of Government Housing Projects Under Way and Proposed with the Size and Character of the Accommodations Provided

Emergency Fleet Corporation Projects

Abbreviations—ds., dwellings; apt., apartment; sch., school; dorm., dormitory; bdg.-h., boarding house.

		Architects
Bath, Maine.	90 ds., 6 dorms. for 288, mess-hall.	R. Clipston Sturgis, Boston.
Bristol, Pa.	42 bach. qtrs. for 840, 14 bdg.-hs. for 840, 20 apts. for 250, 258 ds., 1 sch.	Carroll H. Pratt, New York City.
Camden, N. J.	2,107 ds.	Electus D. Litchfield, New York City.
Chester, Pa.	227 ds., 1 bdg.-h. for 25, 23 apts. for 319, 1 hotel.	Simon & Bassett and C. E. Brumbaugh, Philadelphia.
Chester, Pa.	548 ds.	Ernest Flagg, New York City.
Essington, Pa.	200 ds., 1 apt.	C. W. Braser, New York City.
Essington, Pa.	6 dorms. for 500, mess-hall and recreation-room.	Durling, Okie & Ziegler, Philadelphia.
Gloucester, N. J.	500 ds.	Bissell & Sinkler, Philadelphia.
Jacksonville, Fla.	165 ds., 3 bdg.-hs. for 86.	H. T. Klutho,
Lorain, Ohio.	244 ds., 2 apts., 1 sch.	Abram Garfield, Cleveland
Manitowoc, Wis.	100 ds., 1 dorm. for 300.	Earl Franklin Miller, Manitowoc.
Newport News, Va.	500 ds., 4 apts. for 372.	F. Y. Joannes, New York City.
Pensacola, Fla.	200 ds.	Geo. M. Bartlett, New York City.
Philadelphia.	960 ds., 16 dorms. for 800.	Kilham & Hopkins, Boston.
Portsmouth, N.H.	300 ds., 8 dorms. for 400, 1 sch.	A. C. Bossom, New York City.
Port Jefferson, N. Y.	9 ds., 1 dorm. for 400.	
Savannah, Ga.	230 ds., 1 hotel for 180, bdg.-hs. for 255.	
Sparrows Point, Md.	827 ds., sch., stores, etc.	E. L. Palmer, Jr., Baltimore.
Vancouver, Wash.	100 ds. and hotel.	
Wilmington, Del.	506 ds., 3 apts. for 51, community bldg., sch.	Ballinger & Perrot, Philadelphia.
Wyandotte Mich.	200 ds.	

Under consideration—Groton, Conn.; Newburgh, N. Y.; Wilmington, Del. (dorms.); Staten Island, N. Y.; Seattle, Wash.; Philadelphia; Alexandria, Va.; Suisim Bay, Calif.; Tacoma, Wash.; Chester, Pa. (dorms.); Duluth, Minn.; Superior, Wis.; Ashtabula, Ohio.

Ordnance Department Housing

(Not including housing built solely for construction gangs)

		Employees Housed
Bethlehem, Pa.	16 dorms., dining-hall.	960
*Brunswick, Ga.	636 ds., 12 dorms., cafe, sch., etc.	1,600
Edgewood, N. J.	dorms., barracks.	5,000
†Eric, Pa.	738 ds. and apts., dorms., clubs, etc.	2,200
Hammondton, N. J.	dorms., barracks.	1,550
Mays Landing, N. J.	193 ds., 46 dorms., sch., etc.	2,776
Morgan, N. J.	ds., apts., dorms., com. bldgs.	1,500
Muscle Shoals, Ala.	1,300 ds., sch., stores, etc.	2,600
*Neville Island, Pa.	12 dorms., stores, etc.	3,072
*Nitro, W. Va.	1,850 ds., 33 dorms., schs., clubs, stores, etc.	5,400
Old Hickory, Tenn.	1,703 ds., 287 dorms., misc.	10,302
Penniman, Va.	448 ds. and apts., 110 dorms., com. bldgs., etc.	5,918
Perryville, Md.	87 ds., 3 bdg.-hs. com. bldgs., etc.	220
Sheffield, Ala.	300 ds., 2 dorms., sch. (Nitrate No. 1).	650
†Tullytown, Pa.	14 ds., 8 dorms., hospital	230
†Woodbury, N. J.	12 dorms., 12 converted houses.	850

*Construction-gang housing intended also for operatives.
†Sec. also, U. S. Housing Corporation List.

Department of Labor (U. S. Housing Corporation) Projects

		Architects
Aberdeen, Md.	5 convertible houses for 60, 40 ds.	Sill, Buckler & Fenhagen, Baltimore.
Alliance, Ohio.	181 ds. (2 sites).	Walker & Weeks, Cleveland.
Bath, Maine.	45 ds. and alterations for 90 families.	Parker, Thomas & Rice, Boston.
Bethlehem, Pa.	1,193 ds., apts. for 60, 25 stores, 5 offices, 1 theatre, 1 recreation bldg., a clubhouse.	Zantzing, Borie & Medary, Philadelphia.

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		Architects				Architects	
Bridgeport, Conn.	360 ds., 50 apts.	R. Clipston Sturgis, Boston.	Niagara Falls, N. Y.	390 ds., bldg.-hs. for 150.	Dean & Dean, Chicago.	Geo. H. Schwan, Pittsburgh.	
Butler, Pa.	60 ds.	Edward B. Lee, Pittsburgh.	Niles, Ohio.	125 ds.	Geo. H. Schwan, Pittsburgh.	Geo. B. Post, & Son, New York City; Rossel Edward Mitchell, Norfolk, Va.	
Charleston, S. C.		Favrot & Livaudais, New Orleans, La.	Norfolk & Portsmouth, Va.	1,500 ds., 220 ds. (colored).			
Charleston, W. Va.	85 ds.	Godley, Haskell & Sedgwick, New York City.	*Penniman, Va.	5 dorms.			
Davenport, Iowa.	396 ds.	Temple & Burrows, Davenport.	Pensacola, Fla.		Favrot & Livaudais, New Orleans, La.		
Dayton, Ohio.	120 ds., apts. for 150.	Schenck & Williams, Dayton.	Philadelphia	576 ds.	Rankin, Kellogg & Crane, Philadelphia.		
Eddystone, Pa.	700 ds.	Rankin, Kellogg & Crane, Philadelphia.	Navy Yard.		Allen & Collins, Boston.		
Ridley Park Site, Eddystone, Pa.	400 ds.	Edgar V. Seeler, Philadelphia.	Portsmouth, N. H.	31 ds., 2 hotels.	A. H. Albertson, Seattle.		
Elizabeth, N. J.	210 ds.	C. W. Oakley & Hugh Roberts, Associated, Elizabeth.	Puget Sound, Wash.	400 ds., 3 apts., 1 hotel.			
Erie, Pa.	833 ds., apts. for 76, 12 stores.	A. H. Spahr, Pittsburgh.	Quincy, Mass.	400 ds., dorms. for 960.	J. E. McLoughlin, Boston.		
Hammond, Ind.	163 ds., 11 bldg.-hs.	J. C. Llewellyn, Chicago.	Rock Island, Mo. line and East Moline, Ill.	460 ds.	Cervin & Horn, Rock Island.		
Hion, N. Y.	100 ds., 5 dorms. for 150.	Walker & Gillette, New York City.	*Seven Pines, Va.	400 ds., hotel, 10 dorms., cafes, clubs, p. o., etc.			
Indian Head, Md.	45 ds., 3 dorms. for 99, sch., cafe.	Donn & Deming, Washington, D. C.	Sharon, Pa.	200 ds.	Geo. H. Schwan, Pittsburgh.		
*Indianapolis (Stenotype Co.)	dorms. for 150 (convertible).	Starrett & Van Vleck, New York City.	Sheffield, Ala.	100 ds.	Warren & Knight, Birmingham.		
Kenilworth, N. J.	4 bldg.-hs. for 100.	H. L. Rourke, Lowell, and J. H. Ritchie, Boston.	Staten Island, N. Y.	72 ds., apts. for 30.	Delano & Aldrich, New York City.		
Lowell, Mass.	120 ds. and dorms. and café.	Geo. W. Kelham, San Francisco, Calif.	*Tullytown, Pa.	125 ds., 7 dorms. for 686, 1 bldg.-h. for 46, clubs, sch.			
Mare Island, Calif.	87 ds., 30 apts., 10 dorms., mess-hall, stores, recreation-hall, sch. for 300.	Clinton Mackenzie, New York City.	Warren, Ohio.	75 ds.	Geo. H. Schwan, Pittsburgh.		
Milton, Pa.	60 ds., bldg.-hs. for 300.	Trowbridge & Livingston, New York City.	Washington, D. C.	dorms. and apts. for 5,000.	Waddy B. Wood, Washington.		
New Brunswick, N. J.	192 ds.	Chas. C. May, New York City.	Washington, D. C.	150 ds.	Marcia Mead, New York City.		
Newcastle, Del.	30 ds., dorms. for 514.	Hoppin & Koehn, New York City.	So. Capital.		Ray & Waggaman, Washington.		
New London, Conn.	134 ds.	Favrot & Livaudais, New Orleans, La.	Washington Navy Yard.	224 ds.	York & Sawyer, New York City.		
New Orleans, La.	104 ds.	Clarke & Howe, Providence, R. I.	Washington Navy Yard.	apts. for 252.	Murphy & Dana, New York City.		
Newport, R. I.	47 ds.	Francis Y. Joannes, New York City.	Waterbury, Conn.	204 ds.	Davis, McGrath & Kiessling, New York City.		
Newport News, Va.	1,000 ds., (convertible houses), mess-hall, sch., stores.		Watertown, N. Y.	300 ds., dorms. for 750.	Stanton P. Lee, Troy.		

*Not selected at this time.

NOTE.—The schedules of housing to be provided are subject to incessant change, and the figures given in the above list may vary when projects are finally completed.—THE EDITOR.

News Notes

The Government's Need for Community Managers

The Department of Labor announces the need for men as managers for its various communities which are being developed throughout the United States. Men of special qualifications, training, and temperament will be needed to fill these positions, and it is hoped that volunteers from different parts of the country will offer their services, so that the Government will get the assistance of the best men in the country in this important branch of its war work.

The management of the Government communities will involve, not only the collection of rents, the supervision of repairs and maintenance of the buildings, but will include oversight and responsibility for sanitation, cleanliness, fire and police protection, and the general health and welfare of the inhabitants.

It has been decided, as a matter of policy, that com-

munities are not to be managed by local managers. One of the reasons for the adoption of this policy is that the transfer of managers from one community to another will result in the creation of a corps of trained experts in this line of work.

All men desiring to offer their services to the Government in this capacity are urged to communicate with the Operating Division of the Bureau of Industrial Housing and Transportation of the Department of Labor, 613 G Street, Northwest, Washington, D. C.

Housing in Washington, D. C.

The problem of finding room for war workers in Washington is becoming more and more acute. The net increase in new workers averaged something over 1,000 during each week in August, while in the present month it has risen to about 4,000 a week. Departments are expanding under the continuing pressure of war, and no end to that expan-

NEWS NOTES

sion appears to be in sight. Some fifty private houses have been commandeered through the Department of Labor's Bureau of Housing, but these will only yield accommodations for about 400. The new dormitories being built by the Government will go but a little way toward solving the problem, which is complicated by factors very difficult of solution.

Workers are advised not to bring their families here, but in the case of army officers transferred from various points, no alternative is left them save to bring their families to Washington. Even though they be again transferred to active service overseas, their families like to remain in the Capital. Two major solutions suggest themselves: Either there will have to be a transfer of some governmental departments to other less congested cities, or else those people living in Washington who have no business or occupation will have to find other homes. The situation cannot long rest in its present state, although the absorption into private houses has been greater than was thought possible and can undoubtedly be made still further to help in easing conditions.

On the other hand, street railway facilities are grossly inadequate, while the problem of provisioning aggravates an already difficult problem of transportation, and the cost of living in Washington is today higher than in any other American city.

Housing in Iowa

A great agricultural state seems the last to suggest a housing problem, yet at the conference held at the call of Governor Harding, on September 2, he himself disclosed, in his address, the existence of slum property of the sort which commonly disgraces our nation. "There are," he declared, "shacks within less than a mile of the State Capitol that cost not more than \$300, from which the owners derive an annual rental of \$200." And with a vision of that great National good upon which the eyes of men are fastening with increasing eagerness, he added: "If the bond loan plan inaugurated by the Federal Government is good for the farm, it is good for the man who wants a home."

As a result of the conference there was formed the Iowa State Housing Association, the object of which will be to study and prepare a general law for presentation to the next Assembly. Prof. Allen H. Holmes, president of the Iowa Chapter, is a member of the committee which is to draft the bill.

Housing in New Orleans

Newspaper reports indicate that New Orleans interests have stated that the city has ample facilities for caring for 10,000 workers, if necessary, in connection with war work. But Mr. Frank E. Wood, Labor Commissioner, at once has the courage to point out that the facilities described as existing in such sections as are indicated by the pleasant-sounding names of Jefferson Davis Parkway and Tulane Avenue are of the kind which ought to have been burnt down or destroyed many years ago, while a great quantity of the room stated to be available is included in the recently vacated "tenderloin district,"

which has been an eyesore and a disgrace to New Orleans for years.

Take care, New Orleans! Those who love you as one of the most interesting and fascinating of American cities look askance upon this attempt to deceive yourself! No one is fooled, in these times, on housing questions, except those who deliberately hide their heads in the sand, and consign their future to the hands of speculative interests and the manipulators of real estate.

The British Government's Plans for Better Workmen's Houses

It is expected that the Royal Institute of British Architects will publish the premiated plans submitted in the National Housing Competition, probably with views in perspective. A committee of the R. I. B. A. is to supervise the erection, on sites to be provided by the Government, of some dozen or more houses of the different types judged worthy in the competition. These will serve as patterns of a kind which can be easily understood by workmen and their wives, which cannot be said of plans and elevations. The pattern houses will be furnished suitably and thrown open to the public for inspection, suggestion, and criticism, and will be altered and improved as may be deemed wise.

Billboard Regulation in Virginia

Fredericksburg, Va., famous in history, scene of a bloody battle over fields which still yield up their mementoes of the day, has even a more precious dower. Lying peacefully on the southern bank of the Rappahannock, it has a river frontage which yields to none in this country in its possibilities for communal development. With patience and a little money, its citizens might enjoy a pleasure of which they have seemed too oblivious. Are they completely insensible to the rich beauty of those foliaged shores, where leaf and bough pile up a luscious mass of such exquisite softness and delicacy that strangers, coming suddenly upon it, cry out with pleasure and remember it for many a day?

This little speculation is prompted by the news that Fredericksburg has passed a billboard ordinance, regulating, to a considerable degree, the use of these atrocious abominations, than which no other thing has contributed more to the debauchery of public taste in matters affecting the appearance of our American communities. And so, in applauding Fredericksburg for this courageous action, we wonder whether it may not be the forerunner of others to come, whereby she shall save, ere the opportunity is either gone forever or rendered hopelessly costly, the proud diadem of her river shore, a legacy which nature bestows with meager hand, and which, as a nation, we have so easily and so quickly forgot for the glittering and ephemeral baubles of our day.

New Officers—Illinois Chapter

At a special meeting of the Executive Committee of the Illinois Chapter, A.I.A., on Tuesday, September 10, the resignation of Mr. D. H. Burham as president was accepted, and Mr. George W. Maher, first vice-president, was elected

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president. Mr. Thomas E. Tallmidge, second vice-president, was then elected first vice-president. Mr. Francis W. Puckey, a member of the Executive Committee, was then elected second vice-president, and Mr. John L. Hamilton was elected a member of the Executive Committee to succeed Mr. Puckey. Mr. Melville C. Chatten was elected a member of the Executive Committee to succeed Mr. Robert S. DeGolyer, resigned.

President Maher, in his inaugural address, referred to the fact that Mr. Burham had resigned to take his place in war service, and that two other presidents of the Illinois Chapter resigned before their time of office expired, namely, Mr. Charles H. Hammond and Mr. N. Max Dunning, both of whom are now actively engaged in war service. Mr. Burham therefore makes the third president who has resigned from the Chapter up to the present time.

President Maher also referred to the active steps taken by the Institute toward anticipating the great reconstruction period that will inevitably follow all phases of human endeavor immediately after the war. "This is a mighty problem to solve," said he, "and will worthily tax the combined effort and imagination of the leaders of the Institute. What the future has in store for the individual architect and the profession immediately following the war no one with certainty can predict. That the Institute has settled upon a policy of attempting to arrive at some definite plan of action by visualizing the future at this time is highly commendable.

"We are fully aware that the great ideal of service of the Institute is to make of America a more attractive country in which to abide, where beauty and practicability are properly combined and encouraged so that the humblest hamlet, town, or city, or the country at large will feel the influence of the trained and cultured mind working in a way that will result in a greater and more beautiful America. This principle of service is the very essence of Democracy."

U. S. Navy Steam Engineering School

The U. S. Navy Department has perfected plans for the enrollment and training of considerable numbers of engineering officers, and has established a school for this purpose at Hoboken, N. J.

The school is open to men between the ages of twenty-one and forty who meet the physical requirements of the Navy, who are of thorough ability and officer-like character, who have completed the mechanical or electrical engineering course at certain recognized technical schools, or who possess an education and experience adjudged to be an equivalent thereof.

The course consists of five months of training divided as follows: One month of training at the Naval Training Camp, Pelham Bay Park, N. Y.; one month of technical work at the U. S. Navy Steam Engineering School, Hoboken; two months practical training on board overseas transports and in shops in the vicinity of New York; and one month finishing course of instruction at the U. S. Navy Steam Engineering School.

Applicants will be enrolled as chief machinist mates, and during the course of instruction will draw the pay of this rating, \$83 per month, plus \$60 per month paid as subsistence. Upon graduation, men will be commissioned as ensigns in the U. S. Naval Reserve, with a salary of \$1,700 per year. The duty to which a graduate of this school will be assigned will be that of an Engineer Officer in the Auxiliary Service of the Navy.

Special provision has been made for the continuance of the school with proper material by a Navy Regulation which permits undergraduates of the freshman, sophomore, and junior classes in recognized engineering schools to enroll in the Naval Reserve Force, with the rating of Seaman, Second Class, and continue their courses at the institutions where they have matriculated. Such men will be called into active service after their graduation and may at that time, if they are qualified to pass an

officers' physical examination, apply for admission to the U. S. Navy Steam Engineering School.

Men who are registered in the draft, either graduates or undergraduates, may enroll with the proper enrolling officer by securing from their draft board a letter of release which in all probability can be obtained for this purpose.

Men already in the Naval Service, and properly qualified, should apply for admission to the course to the Commandant of the Naval District in which they are stationed, via their commanding officer. They will be transferred to the school through a weekly quota from Naval Districts, if their commanding officer considers them available for this special duty.

Institute Committees for 1918-1919

Contrary to our expectations, it has been impossible to complete the routine work of creating the new committees of the Institute, and publication of their personnel and instructions must therefore be deferred until the October issue. In our editorial columns, reference is made to the Committee on War and Post-War Conditions, a new committee to be created by the Board for the purpose of making a complete study of the architectural profession in all its relations. This Committee will be discussed at length in the October number, while its progress, as it takes up the study of the many questions at issue, will form the subject of interesting articles to appear in following numbers.

A Curious Housing Emergency

In an article dealing with the progress of housing by the Government, reference is made to the Ordnance Department town of Nitro. Here there arose one of those unusual complications which are demonstrating the related factors which enter into and form so vital a part of the solution of these questions. The Kanawha Valley produced no more milk than the quantity required to satisfy its ante-war population, and it became necessary to provide an adequate supply at once and in some manner not involving the creation of a new local dairy supply. Today, by simple and ingenious means, a well-equipped plant mixes the powders obtained from the dehydration of butter and skimmed milk in Wisconsin and supplies a synthetic milk which is reported to be admirable in its quality.

Annual Meeting of Iowa Chapter

The annual meeting of the Iowa Chapter will be held at Ottumwa, Iowa, on October 24 and 25. An interesting programme is being prepared by the Committee in charge, and it is expected that the President of the Institute will attend and take part in the discussions.

A Partnership Change in Detroit

Preston, Brown & Walker, Architects, 849-851 David Whitney Building, Detroit, Mich., announce dissolution of partnership. J. Martin Brown and Martin A. Preston, having taken over all interests of the former firm, will continue the business at the same address under the name of Brown & Preston, Architects and Engineers. Mr. R. L. Walker, having withdrawn, will follow other activities for the present.

Book Reviews

The English Home from Charles I to George IV. By J. Alfred Gotch, F.S.A., F.R.I.B.A.
B. T. Batsford, London, 1918. Charles Scribner's Sons,
New York City. \$13.50.

This volume, as the author explains in the Preface, takes up the story of the house of the noblemen and aristocrats of England where it was left in a preceding volume on "Early Renaissance Architecture in England." It is an interesting story and of peculiar significance at a moment when the question of better houses for English workers is one of the great problems of the British Government. With that question, however, the work of Mr. Gotch has no relation whatever. His book is for the other professional man. In it there are developed many accounts architectural, with narratives of the professional careers of the architects who have left such a mark upon so large a part of the rural domestic architecture of England.

More than this, one catches a sweeping view of the architectural development of the home of England's "upper class," and perceives the action and reaction of those forces which first emancipated the home from its need of being a fortress as well, and then stimulated its enrichment and adornment, as well as its greater comfort and convenience. Thus we see that, coincident with the disappearance of the baronial retinue of fighting men and the development of government as a police power, England began to tap the wealth of the world. Her ships sailed upon every sea, and her merchants dealt with the products of every clime. Primogeniture and the law of entail were worshipped as the symbol of English solidity and respectability. The squire took his place in English literature, and, like others who had amassed wealth, would build him a new house, set in a spacious park. Great fortunes were made in trade, and greater ones in land, not only in the monopoly which has clung so persistently to English progress at home, but in the development of Colonial possessions.

The noblemen of England toured the world for their pleasure and enjoyment. The merchant went the same way on another errand. Both found much to admire in foreign parts, especially in Italy and France. Thus there began to drift across the Channel a small band of workmen who, invited by the returned travelers or by those who sought to

meet their wishes in the building of a new house, were destined to greatly influence the architectural traditions of insular England—of that England which was even then setting out on the road to Empire.

Mr. Gotch traces all of this in different places throughout his work, but, in pondering upon this era of almost riotous expenditure, we are left to wonder whether it was not founded upon a system which would exact a terrible price when Watts and Stephenson and Hargraves were to throw open the doors for the centralization of industry. Under that system the gulf between the luxurious and the inhuman home was to widen until it threatened to swallow the whole.

These reflections seem almost out of place in the presence of so scholarly a work as that under discussion, and yet they are inescapable to whoever thinks as he reads. But the book is a real joy within its sphere, for it takes one rambling through a past when good taste, exquisite proportions, and simple dignity combined to give us an inheritance of such rural domestic architecture as is not to be found elsewhere in the world, a thing which is at once so pleasant to come upon with its park and its plantations, its gardens and tree-bordered drives, that one worships at the shrine and forgets the system upon which it was built and the dismal hovels on the other side of the gulf. But the whole obligation of architecture is yet to be fulfilled, and out of this precious past of real beauty we must find the means of obliterating the gulf which makes all our communities a general hodge-podge.

If one lays down the book with a sigh, one picks it up again because it is too enjoyable to leave. Mr. Gotch throws new light upon the lives of Webb, Wren, Jones, Vanbrugh, and discusses their works and their professional careers in an interesting manner. There are excursions into the collateral fields of craftsmanship in all its forms. The illustrations have been selected with fine judgment and they greatly enhance the pleasure of reading. A useful appendix completes a book which cannot be ignored in assembling any library on domestic architecture. Its closing words are well worth bearing in mind: "Architecture, like other arts, is immortal; the qualities of proportion, ornament, and fitness can never long be disregarded, for no building is complete which is not beautiful to look upon."—B.

Obituary

John Gaisford

Elected to the Institute, 1915

Died at Memphis, Tenn., August 31, 1918

Mr. Gaisford was born in Warminster, England, in 1876. He there studied architecture and came to this country at the age of twenty. Seven years were spent in Pennsylvania, which he left to locate in Memphis where he

has since been in practice. Mr. Gaisford was a citizen of the United States and was listed for service at the call of the Government. His brother, Mr. Harold Gaisford, was killed at the front in April of this year while serving with the British Army, while another brother also has been wounded in action.

Mr. Gaisford was the architect for a considerable number of churches throughout the South, as well as for numerous private residences in and about Memphis.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

Special War Service

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE
MATERIALS AND METHODS

CONTRACTS AND SPECIFICATIONS
STRUCTURAL SERVICE

FIRE-PREVENTION
QUANTITY SYSTEM

The personnel of these Committees for the ensuing year will appear next month

SPECIAL WAR SERVICE ISSUE

SERIAL NO. 9, SEPTEMBER, 1918

INDEX TO SUBJECTS TREATED IN THIS ISSUE

(For index of subjects previously treated, see Index on page 457 and consult the General Index in Structural Service Book, Vol. I. Serial numbers, whether light face or bold face, refer to the months of the year. Thus 1, light face, refers to the Journal for January, 1918; 1, bold face, refers to the corresponding section in the Structural Service Book.)

War Industries Board	9A	Buildings Already Begun	9D3
Priorities Division	9B	Special Conditions Governing Production of Building Materials	9E
Materials Classifications	9C	Iron and Steel	9E1
Applications for Priority	9D	Brick, Hollow Tile, Cement, Lime	9E2
War Construction	9D1	Allocation and Standardization	9F
Non-War Construction	9D2		

THE war is making history in Structural Service faster than it has ever been made before and leaving little possibility for any orderly arrangement and classification at the present moment. It therefore seems wise to make a departure in the character of the material which has hitherto been published in this department and to endeavor to chronicle the developments and practices growing out of the governmental domination of the building industry of the present time, as made necessary by the demands of war.

These demands cover not only the practices in building construction that are everywhere developing methods and uses of materials not heretofore in common practice, but they also relate to the emphatic necessity for organizing every form of building material production, distribution, and use, in order that the resources of the country in these lines may be made to contribute their maximum to our war effort.

The work of the editors will therefore lie along lines of gathering and presenting such information as will enable our readers to gain

the most comprehensive grasp of this gigantic work, in all its varying aspects, as well as in presenting such methods of practice, standardization, and new uses of materials as are likely to affect the building practice of the future. Among the developments which are so rapidly taking place, the problems of labor are among the first importance. Here is a field which may be said to come first in its effect on the building industry, for all building is primarily a labor problem. We are so accustomed to thinking of a building project in terms of the immediate labor needs of erection itself that we generally quite lose to sight the fact that almost every single step in the production of every kind of material has its own inherent problem of the workman. The war is forcing attention upon these manifold questions, which appear only as isolated factors in times of peace, and our whole system of production is undergoing a scrutiny as rigorous as are the stern demands of war. Our problem is being seen as one which depends for its solution on the skill with which we can mobilize our man-power, but the industrial

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problem of the future will also depend for its solution upon the same answer. It is therefore a part of the task of architects to endeavor to study the effects of this war scrutiny and the changes produced thereby in order that they may later on be able to cooperate, in their work of designing and planning buildings, with such changes in the employment of labor as are found to be beneficial toward making all forms of production contribute their maximum to the common good.

One of the great difficulties encountered in all of this work lies in the fact that the public press devotes scarcely any space to the publication of news relating to the work of those governmental agencies which are charged with the

tasks entering into the problems of building. This is perhaps due to no unwillingness of the press but more to a traditional attitude toward the subject itself—an attitude which leads newspaper editors to believe that the subject is of interest to so small a group as to make it unworthy of anything more than a brief reference. From this dearth of news, however, there has developed a considerable lack of information and many misunderstandings as to the wishes of the Government in regard to general building by individuals. The editors hope that this department may aid in correcting that lack of information, in order that more and more we may become familiar with all the aspects of this complicated problem.

The War Industries Board

9A

BERNARD M. BARUCH, *Chairman*

The War Industries Board was created to deal with the problem of industry in general, but the Structural Service Department of the Journal will naturally concern itself with those functions of the Board which relate specifically to building materials and construction.

The general functions of the War Industries Board are thoroughly explained in the letter of President Wilson of March 4, 1918, in which Mr. Bernard M. Baruch was asked to accept the Chairmanship of the Board. The letter is reprinted in full and is as follows:

THE WHITE HOUSE
Washington, March 4, 1918.

DEAR MR. BARUCH: I am writing to ask if you will not accept appointment as Chairman of the War Industries Board, and I am going to take the liberty at the same time of outlining the functions, the constitution, and action of the Board as I think they should now be established.

The functions of the Board should be—

- (1) The creation of new facilities and the disclosing, if necessary the opening up, of new or additional sources of supply.
- (2) The conversion of existing facilities, where necessary to new uses.
- (3) The studious conservation of resources and facilities by scientific, commercial, and industrial economies.
- (4) Advice to the several purchasing agencies of the Government with regard to the prices to be paid.
- (5) The determination, wherever necessary, of priorities of production and of delivery and of the proportions of any given article to be made immediately accessible to the several purchasing agencies when the supply of that article is insufficient, either temporarily or permanently.

- (6) The making of purchases for the Allies.

The Board should be constituted as at present and should retain, so far as necessary and so far as consistent with the character and purpose of the reorganization, its present advisory agencies; but the ultimate decision of all questions, *except the determination of prices*, should rest always with the Chairman, the other members acting in a cooperative and advisory capacity. The further organization of advice I will indicate below.

In the determination of priorities of production, when it is not possible to have the full supply of any article that is needed produced at once, the Chairman should be assisted, and so far as practical, guided by the present priorities organization or its equivalent.

In the determination of priorities of delivery, when they must be determined, he should be assisted when necessary, in addition to the present priorities organization, by the advice and cooperation of a committee constituted for the purpose and consisting of official representatives of the Food Administration, the Fuel Administration, the Railway Administration, the Shipping Board, and the War Trade Board, in order that when a priority of delivery has been determined there may be common, consistent, and concerted action to carry it into effect.

In the determination of prices the Chairman should be governed by the advice of a committee consisting, besides himself, of the members of the Board immediately charged with the study of raw materials and of manufactured products, of the labor member of the Board, of the Chairman of the Federal Trade Commission, the Chairman of the Tariff Commission, and the Fuel Administrator.

The Chairman should be constantly and systematically informed of all contracts, purchases, and deliveries, in order that he may have always before him a schematized analysis of the progress of business in the several supply divisions of the Government in all departments.

The duties of the Chairman are—

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

(1) To act for the joint and several benefit of all the supply departments of the Government.

(2) To let alone what is being successfully done and interfere as little as possible with the present normal processes of purchase and delivery in the several departments.

(3) To guide and assist wherever the need for guidance or assistance may be revealed; for example, in the allocation of contracts, in obtaining access to materials in any way pre-empted, or in disclosure of sources of supply;

(4) To determine what is to be done when there is any competitive or other conflict of interest between departments in the matter of supplies; for example, when there is not a sufficient immediate supply for all and there must be a decision as to priority of need or delivery, or when there is a competition for the same source of manufacture or supply, or when contracts have not been placed in such a way as to get advantage of the full productive capacity of the country;

(5) To see that contracts and deliveries are followed up to where such assistance as is indicated under (3) and (4) above has proved to be necessary.

(6) To anticipate the prospective needs of the several supply departments of the Government and their feasible adjustment to the industry of the country as far in advance as possible, in order that as definite an outlook and opportunity for planning as possible may be afforded the business men of the country.

In brief, he should act as the general eye of all supply departments in the field of industry.

Cordially and sincerely, yours,

(Signed) WOODROW WILSON

MR. BERNARD M. BARUCH.

Priorities Division 9B

JUDGE EDWIN B. PARKER, *Commissioner*

First, among the Divisions of the War Industries Board in importance to the building industry, is the Priorities Division, which deals with the question of any shortage of materials due to any cause. Such shortages, when ascertained, are discussed by the Priorities Board, which is a body composed of representatives of the Railroad Administration, the United States Navy, Labor Department, the United States Army, Allied Purchasing Committee, Fuel Administration, Food Administration, Emergency Fleet Corporation, and the War Trade Board. The Priorities Board discusses the shortage and its causes, and suggests such remedies as may be possible, either through readjustments of any kind or through the opening up of new facilities. Its directions for handling the shortage are then issued to the Priorities Committee, which is the administrative body in the Priorities Division.

On March 21, 1918, the following resolutions were promulgated by the War Industries Board:

Resolved by the War Industries Board, that in the public interest all new undertakings not essential to and not contributing either directly or indirectly toward winning the war, which involve the utilization of labor, material, and capital required in the production, supply, or distribution of direct or indirect war needs will be discouraged, notwithstanding they may be of local importance and of a character which should in normal times meet with every encouragement; and be it further

Resolved, That in fairness to those interested therein notice is hereby given that this Board will withhold from such projects priority assistance, without which new construction of the character mentioned will frequently be found impracticable, and that this notice shall be given wide publicity, that all parties interested in such undertakings may be fully apprised of the difficulties and delays to which they will be subjected and embark upon them at their peril.

The provisions of these resolutions are enforced through pledges secured from manufacturers, under which they agree

"not to use, nor so far as lies within its power permit to be used, any products of its manufacture now in, or which may hereafter come into, its possession or control, save (a) for essential uses as that term has been or may be defined or applied from time to time by the Priorities Division of the War Industries Board, or (b) under permits in writing signed by or under authority of such Priorities Division; that it will make no sale or delivery of such products to any customer for resale until such customer has filed with it a similar pledge in writing, and that it will use its utmost endeavor to insure that its products shall be distributed *solely* for essential uses."

Materials Classifications 9C

All materials are classified as to use and not as to the nature of the commodity itself. These classifications are as follows:

CLASS AA DEFINED

Class AA comprises only emergency war work of an exceptional and urgent nature.

CLASS A DEFINED

Class A comprises all other war work; that is to say, orders and work necessary to carry on the war, such as arms, ammunitions, destroyers, submarines, battleships, transports, merchant ships, and other water-craft, airplanes, locomotives, etc., and the materials or commodities required in the production or manufacture of same.

CLASS B DEFINED

Class B comprises orders and work which, while not *primarily* designed for the prosecution of the war, yet are of public interest and essential to the National welfare or otherwise of exceptional importance.

STRUCTURAL SERVICE DEPARTMENT

CLASS C DEFINED

Class C comprises all orders and work not covered by priority certificates issued by the Priorities Committee or not taking an automatic rating, in accordance with the provisions of Sections 7, 8, and 9 hereof, which orders and work are to be utilized in furtherance of one or more of the purposes embraced within the "General Classification of Purposes Demanding Preference Treatment" promulgated by the Priorities Board, appearing on page 17 of circular No. 4, as same may be from time to time amended or substituted; or which orders and work are placed by or are to be utilized in connection with an industry or plant appearing on Preference List No. 1, promulgated and published by the Priorities Board under date of April 6, 1918 (as set forth on pp. 18-19 of circular No. 4), and all amendments or substitutes therefor. No Class C certificates shall be issued.

CLASS D DEFINED

Class D comprises all orders and work not embraced in Class AA, Class A, Class B, or Class C, and no certificates will be issued therefor. All orders for work or materials not covered by priority certificates or not taking an automatic classification in accordance with the provisions of Sections* 8 and 9 (circular No. 4), hereof, and not taking a Class C classification under the provisions of Section 5 hereof, will fall within Class D.

The precedence of orders placed with producers under these various classes is automatically adjusted, A and its subdivisions taking place over B, and so on.

(NOTE.—It should be noted that at this time practically nothing but Class AA and A orders in steel and iron products are being filled by manufacturers.)

It should be clearly understood that the system under which priority is operated depends upon the voluntary pledge of manufacturers, the form of which appears above. Each manufacturer who executes this pledge with the Government is also bound to exact a similar pledge from every other customer or buyer with whom he deals. The jobber or wholesaler is also included in this system. He gives a pledge to the manufacturer from whom he buys that he will not sell the materials obtained except for uses which fall within the class or classes to which production is at that time confined. The retailer must also give a similar pledge to the jobber, and, in his turn, must exact a similar pledge from the ultimate consumer. Thus it will be seen that the whole system depends for

*Section 8 deals with general materials and appliances which are only very indirectly related in a few cases to the building industry; Section 9 provides for that automatic classification under Class C, providing that the intending user has filed the pledge referred to above and declared that the materials required will be used for no other purpose described under that classification.

its observance upon the honor and good faith of all concerned.

Applications for Priority 9D

It is the ultimate consumer who must in all cases make application for a priority certificate to cover his order.

9D1 WAR CONSTRUCTION. On emergency war construction, orders duly authorized by an officer of the War Department, the Navy Department, or of the Emergency Fleet Corporation, which fall within Class A, require no priority certificate and automatically take precedence over all orders and work of a lower classification to the extent necessary to insure delivery according to the date specified.

On every other class of order a priority certificate is required and application therefor must be made to the Priorities Committee of the War Industries Board upon blanks provided for the purpose, which may be secured on application, either personally or by mail.

9D2 NON-WAR CONSTRUCTION. The method of application is duly set forth in the following instruction of the War Industries Board:

Should one contemplating building conceive his proposed project to be in the public interest or of such essentiality that under existing conditions it should not be deferred, then he will make a full statement of the facts in writing, under oath, and present same to the local representative of the Council of National Defense, applying to such representative for his approval of the proposed construction. Should such local representative approve the construction project, he will promptly transmit the application, stating clearly and fully his reason for approving same, to the Chairman of the State Council of Defense, for his consideration. If approved by the latter, he will transmit it to the Chief of the Non-War Construction Section of the Priorities Division of the War Industries Board, Washington, D. C., for consideration, if need be further investigation, and final decision. Should the application be finally approved by the Priorities Division a construction permit will issue which will constitute a warrant to manufacturers and dealers who have taken the pledges of cooperation above mentioned to sell and deliver building materials required in the construction of the licensed building project. (Circular No. 21.)

9D3 BUILDINGS ALREADY BEGUN. "Where a substantial portion of a building has already been constructed, manufacturers and distributors of and dealers in building materials may continue to furnish such materials for the completion of such building, pending further

action by the War Industries Board. The local representatives of the Council of National Defense are requested to make surveys of all building activities in their respective territories and report same as promptly as possible to their State Chairmen, together with their recommendations concerning the necessity for the continuance of such construction or deferring same until after the war. The State Chairmen will in turn forward such reports, with their recommendations, to D. R. McLennan, Chief of the Non-War Construction Section of the Priorities Division of the War Industries Board, Washington, D. C."

(NOTE.—The Rules and Regulations Governing Priority in Production are published in Circular No. 4 issued by the Priorities Division of the War Industries Board.)

Special Conditions Governing Production of Building Materials 9E

Iron and Steel 9E1

For the winning of the war steel is now the world's most precious metal. It is consumed, or used to some extent, every day by practically every civilized man in every civilized country, and nowhere in such vast quantities per capita as in the United States. The present and constantly increasing steel requirements of this country and its Allies for direct and indirect war needs, 100 per cent of which must under any and all circumstances be promptly supplied, are so enormous as to well-nigh absorb our constantly expanding producing capacity. The result is obvious. There will be comparatively little iron and steel left to distribute to those industries engaged in non-war work and to consumers for application to non-war uses. Every possible use of iron and steel or their products which can be deferred must be deferred until after the war. This duty is *personal* and can not be avoided or delegated to your friends and neighbors. No consumption is so small as to be immaterial, and no saving insignificant.

It is imperative that every manufacturer, jobber, and retailer of iron and steel products should fully realize and make his salesmen and customers realize that his attitude toward his trade is exactly the reverse of that in normal times. It requires no salesmanship merely to sell goods where the demand greatly exceeds the supply, but it does require real salesmanship and a high degree of patriotism to sell with discrimination with a view of limiting the purchases to strictly essential uses, the controlling consideration being, Where can these stocks be

best placed in the public interest?—Circular No. 5, Priorities Division, War Industries Board.

It will thus be observed that this shortage in steel creates a shortage in innumerable essential building materials, from structural steel to roofing tin, including a host of smaller products, the conservation of which manifestly becomes a National duty.

Paving Brick, Face Brick, and Common Brick. Hollow Building Tile. Cement. Lime 9E2

The production of these materials has been curtailed, due to no shortage in raw materials but to a shortage in fuel, the consumption of which is a large item in their manufacture. The War Industries Board has held consultations with the representatives of these industries and has established a method of application for preference in fuel allotments, governing the amounts which these industries will be permitted to produce to meet the needs of essential war construction or use. This condition sets up the problem of an equitable distribution among the various plants in each industry, a problem which is being solved by the War Service Committees of the respective industries in consultation with the War Industries Board. Involved in a consideration of this question are many factors, such as the location of the plant with reference to source of supply of fuel and raw materials, and destination of product.

Allocation and Standardization 9F

There must also be considered questions of allocation of materials and the necessity for agreeing, wherever possible, upon such standardizations as will effect the maximum economy of labor, fuel, and materials. Such problems fall within the domain of the Building Materials Section of the War Industries Board, and these, together with other functions of that body relating to the building industry, will be treated in the next issue of the Journal.

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Light-face numerals refer to information published in the Journal during 1918. Black-face serials refer to the Structural Service Book, Volume 1, a copy of which is in the possession of every architect, engineer, builder, or manufacturer who subscribes to the Journal.

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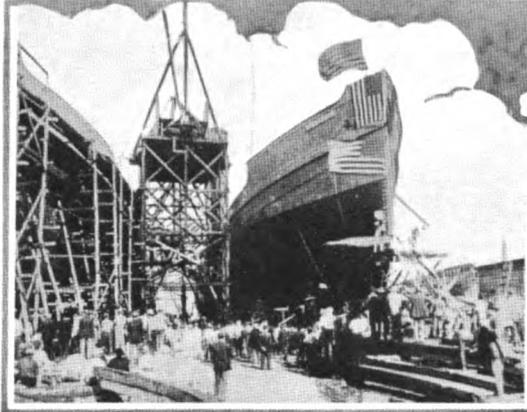
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LUMBER'S PART *in* MODERN WAR

The most amazing feat of emergency construction the world ever knew has been that accomplished by our National Government since we entered the war.

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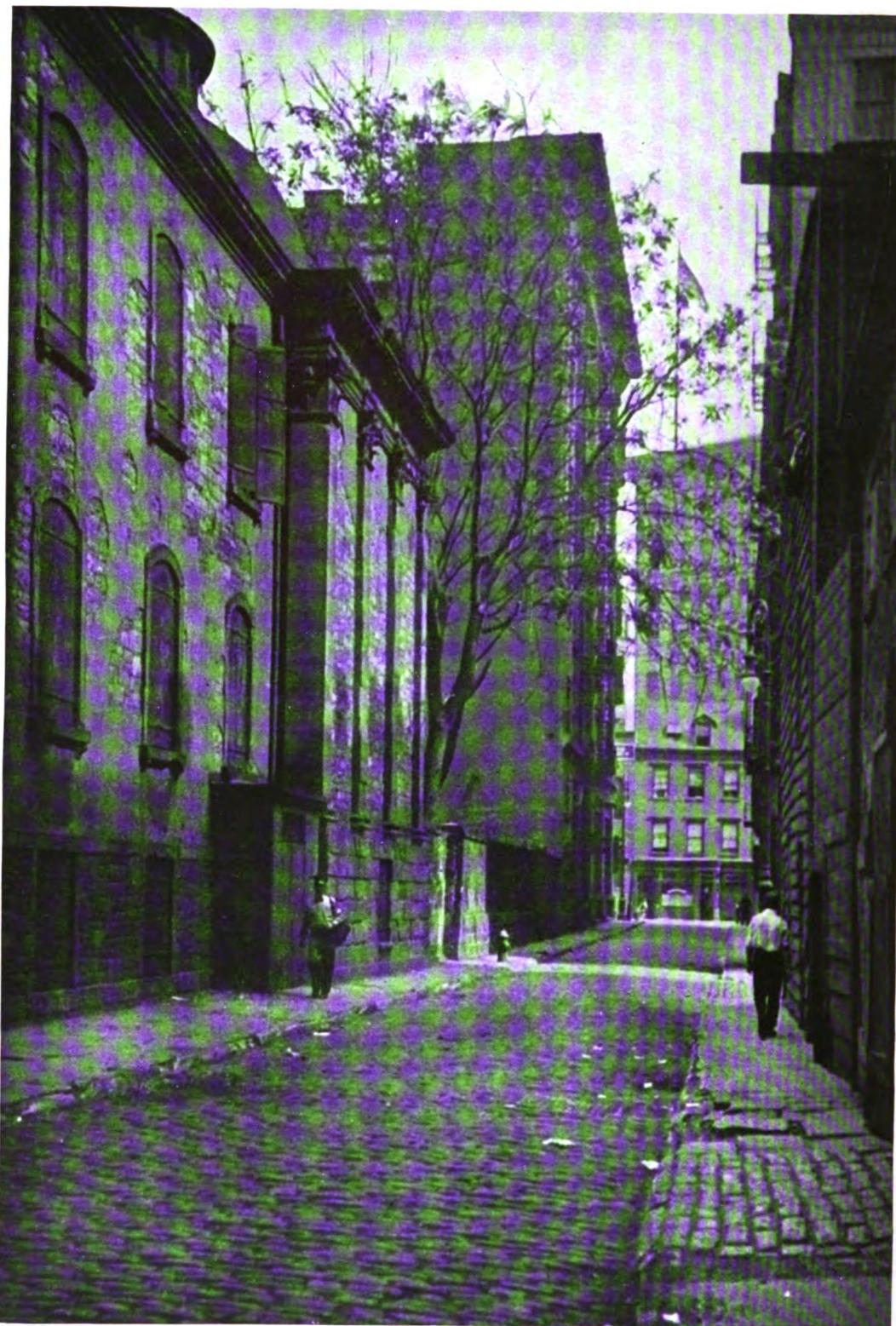
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* Presidents.

† Secretaries.



ST. JOHN'S LANE, NEW YORK

Ben J. Lubschez

The building to the left is the rear of St. John's Chapel, now being torn down

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Shadows and Straws

ON DAMP MORNINGS, when there is calm and the surface of the lake lies unruffled and the belts of fog hang like wraiths on the mountainside, or even when a soft wind is blowing from the south, the woodstove in the kitchen is very likely to smoke obstinately when the fire is being made. At such moments one is confronted with the choice either of waiting patiently until a sufficient volume of heat has accumulated to lift the inert bank of dampness in the chimney—risking the chance that the bank will prevail and leave no fire at all—or of rushing quickly to the adjoining room to light a flare of newspapers in the other stove; this, supplementing the heat-volume in the chimney with a sudden rush, generally starts the necessary upward current. But there is a pleasant fascination in hazarding the success of the smoldering flame in the kitchen stove, and one often lingers to watch the struggle.

The hope of victory is in no sense nourished by experiences. On the contrary, past performances teach that the chances for winning are slim. Yet, one still yields and lingers. The result is not a pressing thing after all. There is no train to be caught, and no clamorous duty calls. And it is a most pleasurable occupation, at the start, to survey the stove with a critical eye. Is the volume of smoke that pours forth increasing or diminishing? It is not easy to determine. There are so many loose joints on the top that the problem requires a careful calculation, and having wagered heavily against odds, one is not easily freed from subconscious tendencies to estimate favorably to the wager. The soft masses rise in lovely curls and queues

and spirals with silent swiftness, and are turned gently back by the ceiling; but truth compels record of the fact that they generally end all doubt as to the issue by driving one to the next room to light the flare in stove number two.

BUT THERE ARE CERTAIN JOYS of contemplation which do compensate, in some measure, for the experience which is, after all, fairly infrequent. One might say more truthfully, perhaps, that there is one sure joy always to be derived from scanning the oven door. The eye, during the smoky period, may wander up and down and well over the surface of the stove within its purview, but inevitably it comes to rest at the door which guards the oven opening. It is oblong in shape. It has a simple molding at the edge and a raised panel in the center. Around the edge of this panel the designer has chosen to symbolize the purpose of the whole by a riotous stream of flame. This runs quite around the four sides of the panel and, in its cast-iron rigidity, has a rather awesome aspect. Instead of expressing the joyousness of fire harnessed to the service of man, the tongues of flame rather bear witness to the relentless voracity of fire choosing to devour. They even suggest burning at the stake or the doom of a prairie fire, or a vast conflagration. A small matter, at most, for it is the field of the raised panel which commands the center of interest.

This is strewn with a medley of letters which could have come only from a stove foundry. It really takes a second or two to decipher them and get their meaning. But after that, no matter how much the stove may smoke or how thickly the cloud may fill the small kitchen,

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one is left with a subject for reflection which claims an interest of more than passing strength. "Art Bay State" is what those letters say, and over and over again you ask yourself why "Art Bay State?"

DOES THIS STOVE DATE BACK TO 1869? That was the year in which the manufacturers of Massachusetts petitioned the Legislature of the Bay State, requesting it to direct the Board of Education "to report definite detailed plans for the introduction of drawing in the public schools." The London Exhibit of 1851 had shown English manufacturers the possibilities of adding some kind of training in "art" to the equipment of their designers; Massachusetts was following suit, because design was languishing. The Centennial came along and gave a great impetus to the teaching of drawing in our public schools, but it is curious to read, fifty years later, the following resolution recently passed by an American organization:

WHEREAS, The American Federation of Arts at its Ninth Annual Convention, held in Detroit, May 23 and 24, 1918, devoted the greater part of its discussions to the problems of Industrial Art; and

WHEREAS, It was shown that good design and the highest type of workmanship in American manufactures are absolutely necessary to enable the United States to hold a foremost place in the world's commerce; be it therefore

Resolved, That the American Federation of Arts urge the Federal Board for Vocational Education, which controls the funds appropriated through the Smith-Hughes Law, to adopt the principle that industrial art be given a prominent place in all vocational education supported by this law.

THEN, ONE ALSO CALLS TO MIND the various other appeals of a like nature which have made themselves manifest during the last few months, for that "foremost place in the world's commerce," and there seems suddenly to bloom a clear relationship between these appeals, which are faithful copies of the vintage of '69, and "Art Bay State." An unmistakably practical financial reason appears as the basis of the argument, just as "Art Bay State" was an effort to coin a profit out of the mysterious connection which the manufacturer sought to establish between the seeker for a stove and art. Art, in other words, was to add a value to the stove; not a value which should be expressed in good design (the "Art Bay State" upholds all the traditions of stove ugliness) or in terms of more

heat with less fuel, but in terms of an added price for the "Art." It was a kind of shell game, in which a word full of front parlor connotations should impress the purse of the householder seeking a stove.

It is even worth while, along this same line, to consider yet another resolution, to another effect, and yet like in its import:

WHEREAS, The Civic Art of the United States will be vitally affected by the standard set in housing and in town planning by the Federal authorities, be it

Resolved, That the American Federation of Arts in Convention assembled commends the interest already shown in this direction by the Federal authorities and urges as respects any permanent buildings to be erected that it establish in all such works a high standard for housing workers equal to that in force in any other nations, and be it

Resolved, That copies of this resolution be sent to the Federal authorities in charge of housing and be given to the press.

This, you will see, is aimed not at the stove but at the house! The preamble does not pretend to occupy itself with a human problem, or to stoop to a recognition of the gravity of the war emergency in house shortage, but adopts that patronizing attitude which daintily condescends to raise its lorgnette upon a question of "civic art," whatever that is. Art is not for man, as Mr. Stein reminded us last month, but man is for art! His house is for civic art! His work is for industrial art!! His education, when raised to the *n*th power, is for fine art!!!

In the problem of housing, translated into art vernacular, one visualizes the picture of a disciple, who, aroused to the fact that the world is talking about homes for workmen, calls the parlor-maid and issues these instructions: "Mary, Mrs. Jellaby is coming to talk about housing; get out that little figurine of civic art and put it on the mantel where it will be sure to be seen."

This absurdity, convulsingly ridiculous and pathetically tragic at the same time, is again exemplified in the winter program of the Washington Society of Fine Arts, which proposes to include a lecture on housing under the course on civic art. More than that, it is set forth that the lecture is to be delivered by Mr. Charles Moore, the Chairman of the Commission of Fine Arts, a rather personal matter which we hesitate to mention, save that it is necessary to show the connection of Housing + Civic Art = Fine Art,

SHADOWS AND STRAWS

which it is sought here to establish. (It is a society of "fine arts," remember.) We do not believe that Mr. Moore really regards the housing problem as one of civic art, or that on his recent visit to England he was so far led astray by the economists, or even the architects of that country. "Civic art" is a concession made to that movement, which, having staked its all on the word "art," must, in its opportunism, translate everything into terms of that long-suffering word. We imagine that Workmen's Compensation will be discussed as a problem of "industrial art," and that Mothers' Pensions will be classed as "maternal art," whenever either of those questions attains a prominence which justifies the patronization.

ARCHITECTS BEWARE! Of all the pests which beset your problems, none can be more fatal than this persistent effort to parade you as engaged upon problems of art. The world, all unknown to the long-deluded followers of that shibboleth, is preparing to scrap the whole business,—lock, stock, and barrel,—and of architects the new order will demand a service which every sensible man will shun as he would a snake, if it is put forth as a specimen of "art." You have suffered long and far too silently, as one passionless soul after another has wept hot tears over your desolate abandonment by a careless world. Too listlessly have you sat by and watched the effort to raise architecture from the dead by the lifting of pale hands to Heaven and the crying out to the mad millions: "Stop, and listen to the voice of Art! Art! Art! Industrial Art! Civic Art! High Art! Decorative Art! Applied Art! Household Art! Domestic Art! FINE ART! SUPERFINE ART! SUPER-SUPERFINE XXX Art!" And the silly world hurries by and goes on its way, as oblivious as though an owl were hooting at the corner of Broadway and Forty-second Street at 11 o'clock on a Saturday night.

ARCHITECTS BEWARE! Not only has the opiate failed to still the troubled world, until life, liberty and the pursuit of happiness may be followed along rose-garlanded paths, but there are thieves who would rob you in the night, and steal, not only the trash of your purse, (they think that art has made you rich!) but the magic name of art itself. A paragraph to this

effect was culled from the Washington *Evening Star* very recently:

"At the next meeting of the Beaux-Arts Salon, Miss Somebody-or-other will lecture on art and similar subjects."

Isn't it funny? And isn't it sad?

Reflection, continuing long after the fire has begun to burn brightly and the sun has streamed down from the wooded heights of the dark mountain, only confirms the impression that the cart still continues to be kept before the horse. Indeed, at moments, one gets the feeling of a great shadow, swooping down upon life, and of a monstrous monopoly which seeks to control the exercise of the creative powers for the favored few. It is a monopoly which our mechanistic age has emphasized and perhaps made unavoidable, but at a time when the world is battling as never before for freedom, even though it be only vaguely conscious of what freedom means, these efforts to impress us with the fact that unless we seize upon art and use it in our industries we shall pay a heavy penalty, seem a pathetic perversion of the word art, if it can possibly be accused of any further perversions.

It still seems to be thought that by some magic of subjecting boys and girls to yet more "teaching," conducted in the sacred name of art, we shall be quite able to solve, without the slightest difficulty, those industrial obstacles before which our foremost economists stand in utter doubt. Such presentations of our problem as Hobson has made in "Democracy after the War," or as Edward Carpenter sets forth in "Towards Industrial Freedom," seem to sicken one completely of this eternal cant about art. The very fact that we have ceased to call many forms of activity "work," in order that we might raise them to the supposed dignity of "art," only reveals the depth to which we have sunk in our ostrichlike refusal to see the problem as it is.

DEMOCRACY MEANS INDUSTRIAL FREEDOM. Industrial freedom means the end of that kind of industrialism which stifles and kills the creative powers of most workmen whether they strive with hand or brain.

To free the workman means to set free a host of creative forces, from which alone we may expect any hope for the revival of a kind of work-

manship which will develop an affection for beauty of form and proportion. If democracy means anything at all, it means this, and not that a part of our youth is to be given over to the stilted stuffiness of learning "art" from a teacher who is generally as incompetent to deal with the real problem as we are to end the war by relying on art.

NOR IS IT EVEN ASTONISHING that in a nation where everything has been done to explain art, to evaluate art, to glorify art, to put it out in packages guaranteed to cure any form of social or economic disease, a great metropolitan newspaper should devote one whole page, done in sepia, to patting the proletariat on the back by telling it this: "Europe's Famous Cathedrals to be Restored by American Artisans." Note the word "artisans." This is a frank bid for the labor vote. A well-regulated magazine would have said "artists," but newspapers are wiser and more experienced.

This one shows a picture of a demolished church, with other pictures to indicate the artisans at work and the kind of stained glass window with which "America has taken upon herself the gigantic task of rehabilitating Europe's famous cathedrals which have felt the blows of German Kultur." Think of it! Rheims, to be handed over by the French Government for us to refill its shattered windows—windows that could no more be restored than

the dead could be resurrected from the battlefields. And yet, it is not astonishing, after all, that the great mass of our citizens should feel that we are quite capable of taking on a little job such as making an order of stained glass windows for Rheims, just as we would take an order for so many shiploads of cement. Yet, let us not chide their ignorance, but rather think upon the teaching they have had. Long have they listened to the clamor of art for recognition. Not as the by-product of Life, which it is, but always as something apart, isolated, pedestaled, put in a museum, or in the front parlor. Never, indeed, as related to ALL LIFE and ALL WORK! Now, when war has shown us these subterfuges in all their nakedness, comes the new plea, in the form of a threat, telling us that without art we shall lose that "foremost place in world commerce!" Back we go to "Art Bay State!"

Therefore, out of all this specious and superficial rubbish, how can there grow up any appreciation of the state of life among those workmen of France who filled their churches with work which we can but reverence on our knees?

The hope for art in America lies in an ever-increasing degree of industrial freedom and a fuller and ever fuller measure of democracy. The pretended royal road indicated by the clamor of the self-exalted few leads only toward a mirage.

The New Institute Committee on War and Post-War Conditions

(Personnel to be published in November)

DUE to the difficulties inhering in a widely separated Board of Directors, the task of appointing this Committee and of outlining its work has taken longer than was anticipated. The problem is by no means a simple one in any of its phases, as may be understood by reading through the following suggestions, offered by the Board for the guidance of the Committee:

The Committee on War and Post-War conditions is created for the purpose of embracing an opportunity growing out of the war.

It is charged with a task of study and suggestion.

Study: Of the whole field of the architect's usefulness as affected by war and post-war conditions.

Suggestion: (To be made to the Board of Directors for its consideration and final action.) Of the possibilities for usefulness to the architect and to the society he serves that are shown by that study to be within our reach, together with plans for their ultimate attainment.

The form of its organization and the kind of subjects it is to study as herein suggested are to be considered as explanatory of the Committee's character and purpose and are to be subject to revision and elaboration by the Committee itself, which is to determine its own program and the

NEW INSTITUTE COMMITTEE ON WAR AND POST-WAR CONDITIONS

extent to which it shall go outside of the Institute, and even outside of the profession for its inspiration and the means to its accomplishment.

The Committee is to receive from the Institute the utmost financial support that can be made available for its use.

The General Committee is to comprehend subcommittees covering the whole range of subjects upon which the broad purposes of the General Committee must be based, such subcommittees to be chosen, organized, officered and instructed by the General Committee, with the special subject to be studied kept in view in each case.

The machinery of the Institute, its committees, chapters, and facilities to be made available to this Committee, which is to command the fullest coöperation and help of the whole organization.

The Journal of the A. I. A. to be the official mouthpiece of the Committee.

The Committee to organize, define its scope, and adopt a program to be covered by a preliminary report to the Board, and to begin its actual work by a study of present Institute conditions with a view to discovering defects that might prove impediments and that may be removed or modified.

Correspondence is to be at once opened with the architectural societies of all our allies, with a view to collaboration in this work, and in order that we may benefit by the progress they have already made in the solution of these problems.

The following subjects are among those that have been suggested for particular study:

The young man in the profession—with a view to making the most of him by offering him the most we have to offer in the way of opportunity, including intelligent and sympathetic guidance and a passable road to travel.

The increase of Institute usefulness,—by way of enlarging its scope and increasing its membership,—not overlooking the factor of annual dues in the solution of this problem, considered in the light of what they buy—particularly for the beginner.

The conditions which make the earning of an honest living such a well-nigh hopeless task for such a large percentage of the profession and particularly for the beginner, with some really effective practical cure suggested.

The architectural press—with a view to making it more useful to the profession in whose name it exists.

Pre-war building methods and standards—with a view to their simplification.

The causes accounting for the architect's failure to hold a higher place in the public regard, and his meager self-respect as a possible explanation, with the schedule of charges and competition practice as contributing factors.

The cause and explanation of our so-called failure to receive proper recognition at the Government's hands in the present war crisis, not failing to acknowledge the full share of the blame that is found to belong to us.

The architect's education,—in the light of its results in terms of usefulness to himself and to society—not omitting investigation of his present equipment in the lines of business and financial administration.

The architect's place in the post-war adjustment of such broad problems as public information, transportation, community planning, public health, and the returning soldier.

The professional idea,—the possibility of discovering its common definition and determining the qualifications that define its following,—and the part a brotherhood of all the so-called professions might play in its permanent preservation through harmonizing differences and minimizing the canceling of effort that now obtains by reason of lack of sympathetic inter-relations.

What Is the Function of Architecture in a Democracy?

IN THE summer of 1856, Monsieur Biot, a manufacturer of Lille, that city of northern France which has endured the horrors of German domination since 1914, was much perplexed and annoyed with the behavior of his process for making alcohol from beet-roots. Apparently, he was a man to whom such things had more than the commonly accepted significance attaching to them, and which ascribed their strangeness to the perversities of Nature. Besides, the misbehavior of his process had a material aspect. His industry was threatened with a considerable loss; something had to be done. Yet, even in view of these material spurs to action, let us credit Monsieur Biot with the fullest measure of that resolute intelligence which characterizes his nation, to whose people ideas have ever been a challenge and not a fear.

In this instance, it is plain that Monsieur Biot had an idea that a fermentation might come within the province of science.

He consulted with the new professor of the new Faculty of Sciences, then established at Lille, and laid his troubles before him. The professor, working in a laboratory which his biographer describes as consisting of a microscope and an oven heated by coke, listened to the story and promptly repaired to the establishment of his consultant, in the Rue d'Esquermes. Possibly Monsieur Biot had heard of the professor's distinguished research in crystallography; the tale was still startling the savants of France. Possibly he had not. But, in any event, he was to set in motion a train of consequences which were to lead that professor, (who was no other than Louis Pasteur), through his

study of fermentation,—which up to that time had been lightly accepted and as lightly dismissed as a natural and inevitable process of spontaneous putrefaction,—to discover the microorganism, revolutionize chemistry and medicine, and reveal to man the most sinister of his enemies; one to whose remorseless cunning of fever and pest and plague he had succumbed, century after century, helpless to parry or thrust, by millions upon millions.

The picture of Pasteur brooding over the vats of beet-root liquor in the Rue d'Esquermes at Lille, suggests the picture which President Wilson outlined in his speech at New York, on the eve of opening the Fourth Liberty Loan. It is the picture of a world desperately torn by war,—the horrid fermentations of which will leave their mark upon millions of lives,—yet having passed beyond the stage where the issue was seen as something to be defined in a mere treaty, or the changing of geographical boundaries, or the controlling of more markets. Out of the fermentation in the war-vats, where life has suffered and died in an unending stream, there has come a new vision of the world. There has come a stern demand that will no longer accept that dreadful ferment as a perversity of Nature, or even as an uncontrollable horror. This war has given a meaning to Peace which far outshines the feeble rays that escape from a Council Table, where diplomats push nations about as pawns in a game. Thus, largely unconsciously, and yet more and more consciously, statesmen and governments are being driven to define, in simple terms devoid of political nonsense, economic bunkum and social cheating, the word to which we have consecrated our men and our money.

Democracy! Back to that word come all our thoughts, if we are honest in our thinking,—and if we are not, then we are only traitors who would trick men into fighting for something which we do not propose to give them when they have won it. Perish such thoughts! They are unthinkable!

Let us leave them and come back to our own particular problem, and here, do we not see that the questions about architecture and its future thus resolve themselves into new terms? If we ask the first question which is uppermost in the minds of a great body of professional men whose fortunes have been sorely injured by war,

“How am I to make a living after the war?” we must turn the question around, if we wish to get the right answer and put it in a different way: “What is the function of architecture in a democracy?”

Very recently, I sent to Mr. Sidney Webb, in London, a copy of Mr. Tudor's articles* on architectural education. Mr. Webb is so well known in this and in other English-speaking countries, for his brilliant contributions, these many years, to vocational problems, and his articles published in this Journal have already had so pronounced an effect in shaping an entirely new method of approaching our problems of the architectural profession, that I wished him to write a little Foreword for Mr. Tudor's articles, which it is hoped to bring out in book form. This is what Mr. Webb wrote for me:

FOREWORD

By SIDNEY WEBB, LL.B.

Professor of Public Administration
in the University of London
(School of Economics and Political Science)

My title to write a Foreword to Mr. Tudor's suggestive essays is of the slenderest. Yet I respond to the invitation because of my interest in every manifestation of the development of vocational self-consciousness. Just as the nineteenth century saw the birth of vocational self-consciousness among the organized manual workers—a self-consciousness only now slowly becoming effective in their participation in industrial administration—so, it may be that the twentieth century will witness a growth of vocational self-consciousness among the brain-working professions which will lead, at a much shorter interval, to the authorized participation of their professional associations in national and local administration.

I welcome the suggestion that the architectural student should study, not the orders of architecture, nor yet the plans and specifications of this or that palace or temple, but the problem of how to get properly housed the community in which he lives. The function of the architectural profession is to tell the nation how to get its building done, and to see that it is properly done.

*“The Circean Shadow.” By Richard Wallace Tudor. Issues of April, May, June, July, 1918.

WHAT IS THE FUNCTION OF ARCHITECTURE IN A DEMOCRACY?

This involves a problem, not merely of art or mechanics, but of economics and political science. To speak practically, every person aspiring to become an architect ought, whatever else he does, to make a study of the economic and social conditions of his community; to know "how the poor live," *and why*; to learn in what manner the municipal, state and National Governments are organized, and how each fulfils its essential function of maintaining the standard of life throughout the community; and, in particular, to know all that is to be known, not so much about architecture as about housing. For housing is, after all, the end and purpose of architecture.

I do not know that it is altogether to the credit of the architectural profession that it has given so large a proportion of its attention to the designing of rich men's palaces. In a sense, the architect has been too modest. He has taken a low view of his profession. I remember one English architect saying in his haste—he was a man of great distinction and success in his profession—that ninety-five per cent of all the buildings erected needed no architect! My view of the function of the architect's profession is that it should plan and design and supervise the construction of all the buildings that are put up, whether they are great or small, industrial or hedonistic, the "rabbit hutches" of the poor or the mansions of the rich, the little mean dwelling of the average mechanic just as much as the city hall or the prison. I do not understand how an architect can complacently accept the view that "architecture" is required only for those buildings for which it has hitherto been usual to pay an architect's fee.

When the architectural profession takes all building for its province, and claims to be consulted and employed in connection with every factory and industrial undertaking, public or private, with every street and every city extension, it will, of course, realize that building is a matter of more than art and the mechanics of construction. Along with housing and home-making, there will come the building of the city and "town planning." The word is worth attention. The man who has to design a school must understand the purposes and needs of a school. If he is asked to design a railway station or a prison, he must surely first have some knowledge of the functions of railway stations and

prisons. He who professes to do town planning must know what a town is and does, and requires and postulates, the conditions of its being and of its expansion.

It may be that one reason for the non-employment of architects except for certain kinds of buildings was the doubt whether architects had any knowledge that would enable them to be of any service in the wider sphere! Decidedly, the curriculum of the architectural student must henceforth include what we are coming to call social studies.

I venture to conclude with a suggestion of another kind. If the architectural profession comes to recognize that its function, as a profession, is to serve the state, rather than merely to serve individual clients able to afford professional fees, it must realize that it is concerned, whether or not it is formally consulted, with everything that is done or left undone, either by individuals or by the municipal, state, or National Government in building, housing, or town planning. I do not mean merely that, whenever a public building is erected, the architects ought to criticize the elevation! This, as it seems to me, they are only too ready to do. What I suggest is that, as a profession, they owe it as a duty to the community to have a distinctive professional opinion as to what needs to be done, and to formulate a constructive criticism upon the policy of the public authority, alike in what it does and in what it leaves undone, in all that respects housing in its widest sense. I should like to see that professional opinion and criticism organized, and brought constantly to bear, for the information both of the Government and the public.

I go further. The suggestion is being made in England, and influentially supported, that the organization of this professional opinion, not in architecture only, must be made part of the machinery of democracy. What we must look to, in mitigation of the vagaries of an uninstructed bureaucracy, and for the guidance of a necessarily uneducated public opinion, is a series of constitutionally authorized advisory committees, each representative of an organized profession—medical, scholastic, architectural to begin with—attached to the several departments of state and of the municipality. These professional advisory committees should not be charged with any executive functions or be made

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up of salaried officers. We do not want them to become themselves part of the bureaucracy! But they should be entitled to have communicated to them every proposed new departure concerning any part of the work of their several professions; they should be authorized to tender what advice they please; they should be empowered to report on their own initiative upon anything done or undone affecting their professional functions and they should have the right, whenever they deemed it advisable in the public interest, to report publicly to the legislature, or to the municipal council, or to the community at large, upon any such subject, uncensored by any official authority. Democracy we are learning, must necessarily become ever more complicated as the world itself becomes more complicated; and the organizations of the various professions have, as it seems to me, their own part to claim in the governmental machinery.

Here are suggestions as to the functions of architecture in a democracy. Here lies the problem of the Committee on War and Post-War Conditions. Here lies the answer to our problem of a livelihood after the war, not only for the established practitioner, but for the growing stream of young men who will form the profession of the future. The time has gone by for that splendid isolation which has insisted upon the right of the architect to be regarded as a thing apart from the ordinary affairs of life, and as divinely consecrated to the service of a few. If architecture has no better solution to offer for our physical development, as expressed in the present haphazard ugliness of our communities and the congested living conditions forced upon an increasingly larger number of our urban population, then it has no function in a democracy! It will be passed up as a thing born under the nurturing hand of aristocracy and autocracy,—as something which still persists in the belief that Louis XIV is running France as a Museum of Art, and which cannot adapt itself to the changed and ever-changing order.

What is the function of architecture in a democracy? How can it equip itself thoroughly to perform that function? How can it secure for those who perform it an honorable livelihood? How can it take the thorns out of the discouraging road which the young man has now

to travel, if he would enter the profession? How can it insist upon the right of the profession to be heard in all matters pertaining to building? This last, for example, means taking a share in that thing called politics, the instrument through which alone we can at present shape our democracy and influence the manner in which it functions.

The problem of the architectural profession is then before us.

First, we must determine what is to be its share of the labors in building the democracy to which we have consecrated our lives and our fortunes.

Second, we must determine how we can equip ourselves thoroughly to fulfil those labors.

It is an inspiring program to which the Committee on War and Post-War Problems may look forward. It calls for hard work and much of it; it demands clear thinking along lines where the profession has been unaccustomed to think; above all, it requires the will to serve.

But the recompense will be ample for the greatest sacrifices and the most arduous labor. Think of a profession made free to serve the whole nation in its problems of physical development,—free to take long looks forward and thus avert disaster, instead of continually being forced to deal with the disaster itself! Think of a profession organized solely for public service and able to devote its annual conventions to problems related thereto! Think of a profession bound together for a common purpose and freed entirely from the faintest suspicion that by its rules and regulations it seeks ends that are not in the public interest!

And, last of all, think of a profession which can set before the young man an opportunity for service which will bring its own reward, and which will not oblige him, in the absence of independent means of support, either to cling to a code which he now regards as a conspiracy against his freedom and as an effective obstacle to a livelihood, even of the most meager kind, or else to seek to establish himself by methods which ostracize him from the organization to which otherwise he would gladly and willingly give his first allegiance!

Is there an architect in the United States who will not rejoice in such a possibility and be willing to do his share toward bringing it to pass?

C. H. W.

Housing and Reconstruction

By CLARENCE S. STEIN

INDUSTRIALLY and socially, Great Britain has experienced three stages of the war. First there was a wild scramble to speed up war industry—little thought was given to the needs of the human element. Men and women were worked day and night and housed in crowded barracks. Britain found that this did not pay, because the workmen could not be made to accept these low standards of living. They were fagged and uninterested. The rate of productivity decreased.

Then came the second stage. The hours of work were limited and homes and villages were built for the workers—homes and villages better than they had known before. Not only houses, but also facilities for recreation, amusement, and education were supplied. Britain had discovered that to get the utmost out of the brawn and brain of her workers she must conserve their health and happiness by giving them proper living conditions.

Then followed the third stage. Britain began to think of the period after the war. She began to plan for the Reconstruction. She knew that if she was to compete for her old-time place in the world of trade she would have to rebuild her peace-time industries.

Social and Industrial Coöperation the Key to the Future

Britain will not forget what she has learned during the war. She has learned the value of social and industrial coöperation on a large scale. She has learned that she can only conduct industry on a big scale as she has warred on a big scale—by conserving the energy of her workers—by giving them the environment that will develop them physically, mentally, and morally. She is today applying that knowledge increasingly, and, as a result, her industrial army is fighting the war with greater energy than ever before. At the same time, she is planning for the Reconstruction.

We in America are passing through the second period. The Journal of the American Institute of Architects has played a great part in leading the Nation toward the sound point of view in

regard to housing during the war. It is now time that it should take the lead in the same field in preparing for the still more significant era of Reconstruction.

The Third Period in the United States

The problems involved fall into two distinct classes. On the one hand there is the continuance of the activities started by reason of the war and the proper handling of the houses built by the Government during this period. We are already alive to this phase of the subject. It has, in point of fact, been dealt with in the tentative preliminary program outlined for the War Department by the editor of the Journal, and, later, in a more detailed program prepared by Mr. Frederick L. Ackerman, after his return from England.

The second class, larger and more important, deals with those aspects of the subject which, having no direct relation to war activities, depend entirely on the necessity of supplying proper housing for all workers. Only thus can we capitalize to the full the partial experiences and the broad outlook the war has brought us. It has been driven home to us, as never before, that the economic strength of a nation depends less on its material resources than upon the physical and moral well-being of its workers. On the credit side of the war ledger we must record the value of having translated, as a nation, the necessity of ameliorating working conditions from a charitable and individual function into a social responsibility which all must share and whose effect all shall finally enjoy.

How are we going to use the experiences we have gained during the war in solving the problem that has so long been with us—and whose full significance is now evident? How shall we eliminate the slums and all other un-social living conditions? How shall we supply a proper home for every worker?

State or Governmental Aid to Housing

The Journal has favored the centralization of all housing for workmen during the war in a

single National department. It has argued that we thus could get not only the best, but the quickest results. A single department could command the best ability of the country; it could call to itself the foremost of experts. A single department could standardize its work so as to economize time and energy. It could use the limited material, the limited labor, the limited wealth, and, above all, the limited technical ability of the country where it is most needed. The National Government has drawn to it the biggest men of the country, in this time of need, to head its big centralized departments. It has done so in housing, as well as in the building of ships, the purchase of materials, the distribution of food. Why should it not continue to run the railroads, to control all production, and to house the workmen as efficiently after the war as during the war?

Doubtlessly we shall feel competent in peacetimes to continue some of these activities which we have undertaken as warwork. This country has had lengthy experience in the running of railroads on a large scale. But in housing, on a large scale and as a recognized social service, we have no past experience—or practically none.

For purposes of expedition, war ruthlessly sacrifices many peace standards. Economy, beauty, permanency, and comfort—these essential qualities that the directors of the housing bureaus of the Departments of Labor and the Emergency Fleet Corporation so much desire—have necessarily often gone by the board. There is no time for experiments they will tell you—their job is to get houses built before winter—good houses—as well built—as well arranged as possible—but houses.

There is no time for experiments. But it is only through experiments that we will learn to meet the needs of peace-time housing. We know so little about governmental housing. We will have had little real experience, for the spending of hundreds of millions in *war* housing will not materially help us to face the much bigger social problem of the proper housing of the workers of all America. This lack of knowledge and experience should cause us to pause and consider. Notwithstanding the advantages of a central bureau, might it not be better modestly to play safe?

The Dangers in Federalizing the Housing Problem

In a government constructed as is ours, it would, with our limited experience, be hazardous to entrust such a colossal problem to a single bureau. The River and Harbor Bill, like the Public Buildings Bill, has been a pork barrel, and we have already witnessed the struggle in the House of Representatives to gain jurisdiction of housing appropriations for the Committee on Public Buildings and Grounds—a Committee which has been held up to public contempt for years by reason of its methods of granting money for post offices. Imagine, then, what the yearly Housing Bill would be. It would be manifestly impossible to fill all the needs for housing everywhere. What if the head of the Housing Bureau decided that the greatest need existed in the South and West in a certain year, and so proposed that the year's appropriation be spent or lent principally in those portions of the country. If a Senator from New England happened to be leader of the dominant party in the Upper House, do you suppose the head of the Bureau would get his appropriation? Could the director even tell the Senator from New England that his superior knowledge of housing conditions made him capable of judging? "How do you know what are the housing needs of the various parts of the country?" the Senator would inquire. "You say you have made surveys—have you, or your associates really the experience to say when and where and what reform in housing is needed? Turn to the voluminous and contradictory reports made to the housing bureaus during the war. But go further—if you did know where the need existed—would you—would anyone here know just how best to meet those needs? What experience has anyone here in America had in meeting the housing needs of America? You say you are familiar with European experiments—and on that basis you ask us to gamble millions, hundreds of millions, perhaps billions of dollars. You forget that the problem is not merely that of spending money to supply sanitary and comfortable homes for our workers—it is that of meeting complicated and diversified desires and habits throughout the entire country—of forming and being formed by these

HOUSING AND RECONSTRUCTION

habits and customs—.” You must admit that in spite of the fact that the Senator had begun with the selfish notion of getting at least a fair share of the bacon, he had in his wandering hit on some of the real dangers of putting all of our governmental housing eggs in one basket.

There are other dangers. At present we have big men and competent ones at the heads of our housing bureaus. These, with the heads of our many other new governmental departments will be tempted to return to private life when the war is over. They will be replaced by mediocre office-holders. The great organized machine of our bureaucracy will be there—working ponderously without a head.

Some day complete centralization in housing may come. Today we have accepted it as a necessary war-measure. We have not, however, as yet the proper background or experience to count on it in peace-time. It is much safer that we continue our old system of progressing through the educating influence of diversified state experiments.

We must try to solve the housing problem after the war in this country, and we must do it in a big way. I have tried to show that it is essential that this work should not be entrusted to a single central bureau of the National Government, first because of the need of varied experiments, second, because of the likelihood that political reasons might govern the expenditure of much of the housing fund, and, third, because of the difficulty of holding the right type of man at the head of housing if his freedom of judgment and actions are to be limited by political considerations.

The constitutional difficulties I have not considered. They are very likely to disappear before the end of the war, for the public will probably decide that the Government may aid individuals in building houses, because it has already done so,—not a very legalistic reason. But is not constitutional interpretation the reading of the public mind and temper by the Supreme Court? Should constitutional difficulties intervene, they can more readily be met in our state governments than in the National. Although the highest courts in our states seem much less in touch with public sentiment than does the Supreme Court, it is a much easier and quicker matter to change our state constitution

than our National one—when the public so wills.

The Advantages of State Aid

But will our state governments otherwise be under the same disadvantage in meeting the housing problem as the National Government? I think not. The political problem will be lessened in degree; the number of geographical interests to be served will be much smaller. But, above all, there will be the opportunity to try out various methods of building, aiding and financing housing. There are innumerable suggestions in the experiences of Europe, Canada, South America, and Australia. Some will fit the local conditions and habits of one part of the country and some another. American ingenuity will find new means of meeting this problem. The solution of a comparatively newly settled agricultural state will be different from that of New York with its great cities. Some states may use their insurance funds, others their farmers' banks, as sources for housing loans. Ultimately all these experiments may be used by the National Government as the basis for the organization of a great central bureau that will care for all the housing of America. But that will be a problem of the distant future. In the same manner that the states have tried out woman suffrage, compensation laws, child-labor laws, and temperance, so now they should undertake experimentation with governmental housing. We may have failures on the part of individual states through choice of means that do not meet the social conditions of that state. But how insignificant such failure would be as compared to a failure on the part of a Federal Housing Administration!

Although it may be true that certain other experiments in social legislation such as the restriction of child labor and the like have handicapped the progressive states, thereby indicating the need of uniformity, no such objection can be urged in regard to governmental housing.

The Bureau of Industrial Housing and Transportation, of the Labor Department, must be continued after the war. It will, for some years, have to care for the housing developments now being erected by the United States Housing Corporation and the Emergency Fleet Cor-

poration. It might also help to unify the policies of the various states and act in an advisory capacity to all the state boards or commissions.

But the greater part of the work of evolving methods of meeting our housing problems during the period of Reconstruction must of a certainty be undertaken by the states. If the machinery for carrying on this work is to be ready at the end of the war, we must start now to prepare the necessary legislation. No better time than this could be found. The public now, for the first time in this country, is seeing housing undertaken on a large scale for the good of those to be housed and not for the profit of the real-estate speculator or builder. The memory of the American public is short, and it is while we are carrying on war-housing that we must prepare for similar peace-problems.

Building Houses after the War

Private building, for the time being, is practically at a standstill. During the period of the war the Government can hope to meet but an infinitesimal part of the need of new housing throughout the country. For example, the big problem of meeting the normal need of New York City is receiving no attention. Before the war there was a yearly increase in the greater city of over a hundred thousand persons. Emigration has stopped, but, on the other hand, there has been a large influx of war workers. At present there is practically no construction of dwellings under way. Rents are rising, and the very poor are being forced back into the worst type of old-law cold-water tenements. Can the state look on indifferently to the menace of such conditions?

At the end of the war there will be an immediate need for the building of a large number of homes in New York City. What is true of that city is true of most American cities. The prospect that private capital will carry on this work without governmental assistance immediately after the war is small. The price of materials will still be high. Capital will seek safer and surer fields. Unless the organization of the National Employment Bureau is perfected, the distribution of labor will be as haphazard as before the war, and wages will be high. None but the adventurous will risk

building under the old speculative system. We must set up the necessary machinery for state assistance in housing so that it will be ready to function immediately peace is declared.

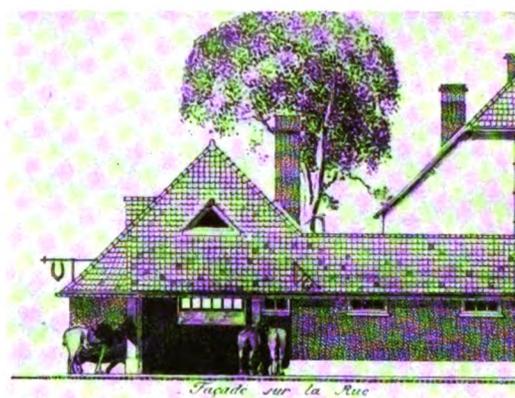
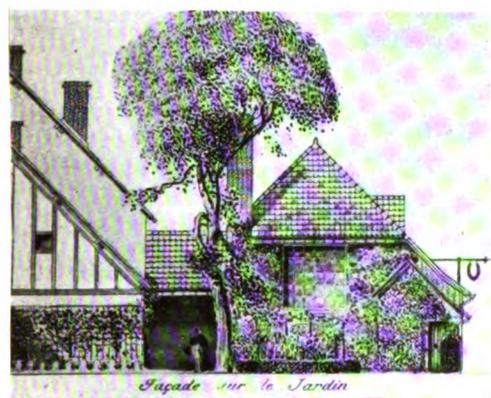
The passage of new laws affecting real estate and building meets with strong opposition from the "interests" during times of building activity. It is during such unprecedented times as the present that changes can most easily be brought about. The hour is ripe for state-housing legislation.

Now is the time to make every state see the need and the possibility of solving the problem of housing through state aid. It can be done now and done quickly. If we tarry, it may be a quarter of a century before America is again aroused.

The Problem of Workmen

One of the principal problems that America will have to face after the war will be the redistribution in peace industries of an army, perhaps five million strong. It will be impossible for private industry to prepare itself quickly enough to care for this influx of new labor. Unless we are to see our soldiers begging on the streets, we must arrange to find work for them much as the Labor Party proposes that Britain should. Workmen must be employed by the state or, through use of state funds, in carrying on public work—the building of schools, the development of our harbors, and the rehousing of our workers. This, too, is public work. Let us not forget this lesson that the great war has taught us.

With the big influx of labor coming back from France, we may be able to get all the workmen we need for the time being and house them in temporary quarters in slums. Are we going to do it? Is it true that "A democracy has no gratitude"? The test of our democracy is to come, and in the days of reconstruction the world will read our answer. Upon those who stay at home rests the obligation to prepare that answer. In one sense their work is even bigger than that of their sons or brothers who have gone to France. Our profession has had its share of this work clearly marked out for it. Let us remain in our own fields, and let us help, each in his own state, to pass that legislation which will make possible the proper housing of those who have carried on the war in the workshops of America or upon the battlefields of France.



THE FRENCH COMPETITION FOR RURAL DWELLINGS.—First Region

Architect, M. Boileau

Reconstruction in France

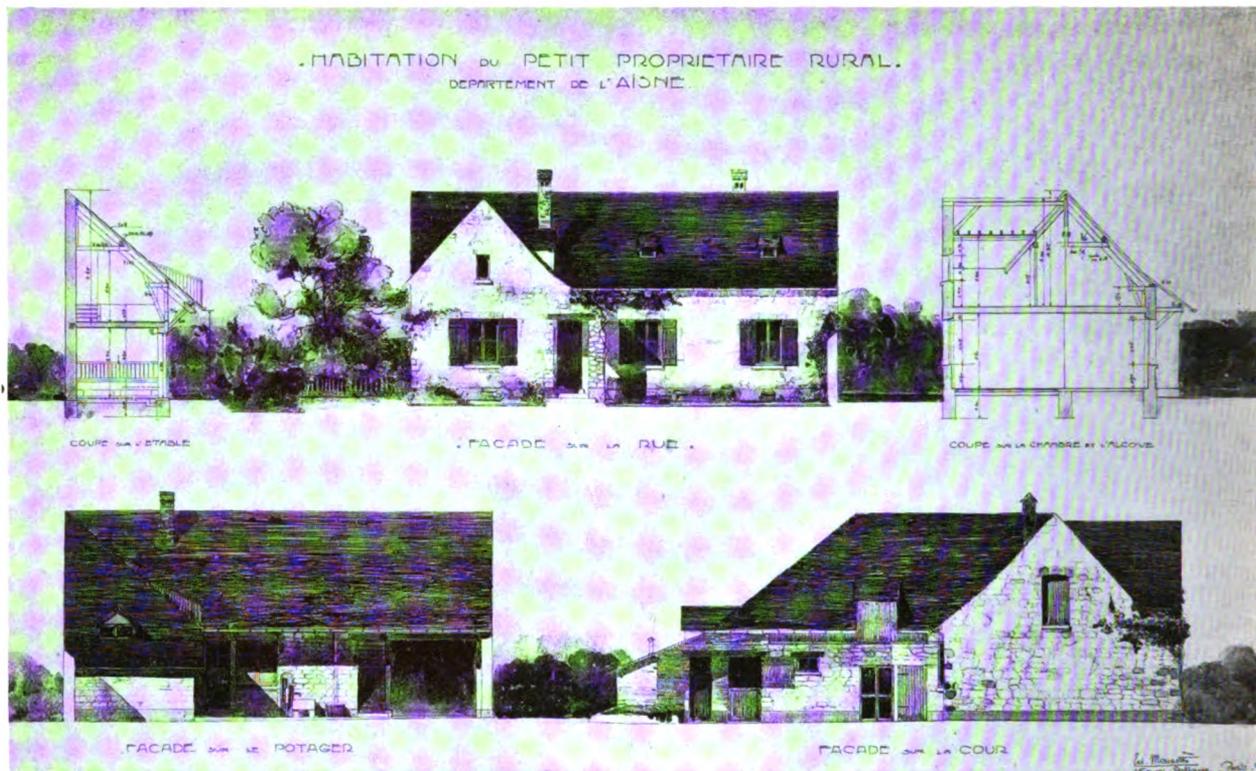
THE COMPETITION BY FRENCH ARCHITECTS FOR THE CREATION OF TYPES OF RURAL DWELLINGS

THE complete publication of the prize drawings submitted in this competition, together with the full text of the programme, makes it possible to give fuller details than has hitherto been possible. In the preliminary statement of general information there is a brief history of the anticipatory work on the part of the Department of Agriculture in its studies of rural habitations, and by the Société des Architectes Diplômés in its survey of the regional architecture of the devastated provinces. In order that the functions of the Government in the competition might be coordinated to the best advantage, there was established an inter-ministerial committee, consisting of the Minister of the Interior, the Minister of Agriculture, and the under-Secretary of Beaux-Arts. The programmes were established by a commission, composed of the under-Secretary of Beaux-Arts, and by delegates from the departments interested, together with representatives of the architectural societies, of architects from the invaded provinces, and of independent or unaffiliated architects. The latter representation seems especially significant of the broad method by which the French habitually approach such problems as this.

The Jury, under the presidency of M. Paul Léon, chief of the division of architectural service of the Beaux-Arts, was composed of forty-six others who represented every interest concerned in a manner which seems to have been admirably arranged.

The competition was divided into three geographical sections, of which the First Region included the Departments of the Nord, Pas-de-Calais, and the Somme; the Second Region, the Departments of Seine-et-Marne, Oise, Aisne, Marne, and Ardennes; the Third Region, the Departments of Meuse, Vosges, Meurthe-et-Moselle, and Alsace.

In reading the text which analyzes the problem for the competitors, one is profoundly impressed with the strength of those long-established traditions which still obtain in the provinces of France,—not only as they are related to what might be commonly considered as expressible in the phrase "architectural type," but as they are more intimately related to the nature of the climate and the soil, methods of construction, modes of life, and materials available. Whatever we may remember of the lack of comforts and conveniences in the peasant's home or the



THE FRENCH COMPETITION FOR RURAL DWELLINGS.—Second Region

Architect, M. Monestès

farmer's house in these regions which have been devastated in a manner for which war offers no example comparable to the destruction which has here been wrought, we are still impressed with the genuine affection which has sent these roots of tradition so deep in the rural life of France. We come face to face with the frugal patience of a peasantry limited to small holdings of land and obliged to practise an economy beside which our prodigality seems almost a riotous extravagance.

Reading the general suggestions in connection with construction in the First Region, we learn that the buildings are generally low, a quality which is accentuated as one approaches the littoral. In Flandre, the bedrooms are almost invariably on the ground-level, while the tiled roofs slope sharply and generally shelter a *grenier*, the importance of which must not be lost to sight. Windows and dormers are rare in these roofs, and the chambers are generally poorly lighted by windows.

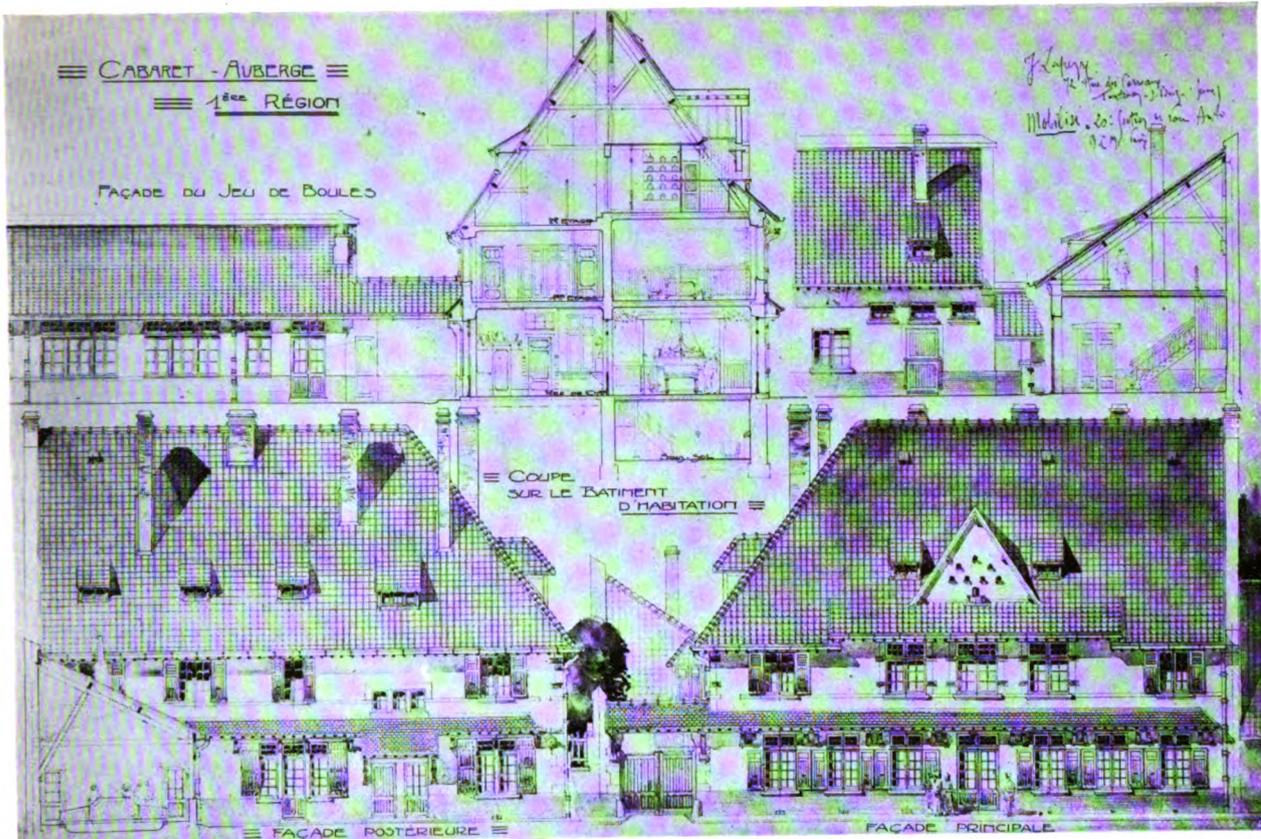
The woodwork is painted in bright colors, and in the sections about Dunkirk, Hazebrouck, Lille, and in the Boulonnais, the brick or rubble walls are covered with a solid coat of whitewash—blue, yellow, or green—carefully renewed each year. In other sections the brickwork is left in its natural state, the window-frames alone being whitewashed in order to gain an additional reflection of light through the window. Who that has ridden by rail or motored over the road from Lille to Calais can ever forget the countryside which these simple statements call so vividly and at this moment, so pathetically, to mind!

Passing away from the villages, the farm buildings are generally grouped about a large central court and pro-

tected by curtains of trees. The little shopkeeper's house in the villages is barely distinguishable from the others, and is seldom provided with show-windows. Its character is only revealed by the simple sign running along the façade. The artisan's house is yet no different; his dwelling-place lies on the street, and his workshop generally gives from a court adjoining. Not so the blacksmith, however, whose forge is plainly visible since it must be easily accessible from the street.

The rubble of the past has generally given way to brick, for the making of which the country is well adapted. The forests have long since ceased to provide timber, although oak is still fairly abundant; its use, however, has been generally abandoned in favor of the pine which comes from Norway and Sweden. Hard stone for sills and thresholds comes from the neighboring quarries of Soignies, just across the Belgian frontier, or from d'Hydresquent, in the Pas-de-Calais. Plaster is costly, and lime-mortar, mixed with sand, is applied in several coats to the ceilings; the first coat has a clay base.

"Let us admit," says the text, "that a small farmer will possess several fields, two cows, two pigs, some chickens, rabbits, and pigeons. His wife occupies herself with the dairy and will help to care for the animals. The farmer is an agricultural workman, working by the day or by the job for the large cultivators in the locality. He is accorded several days, now and then, and lent the necessary tools with which to cultivate his own fields. As we must suppose that his savings will permit him to enlarge his land possessions little by little, until he can eventually become his own master, with the aid of a single horse to cultivate his



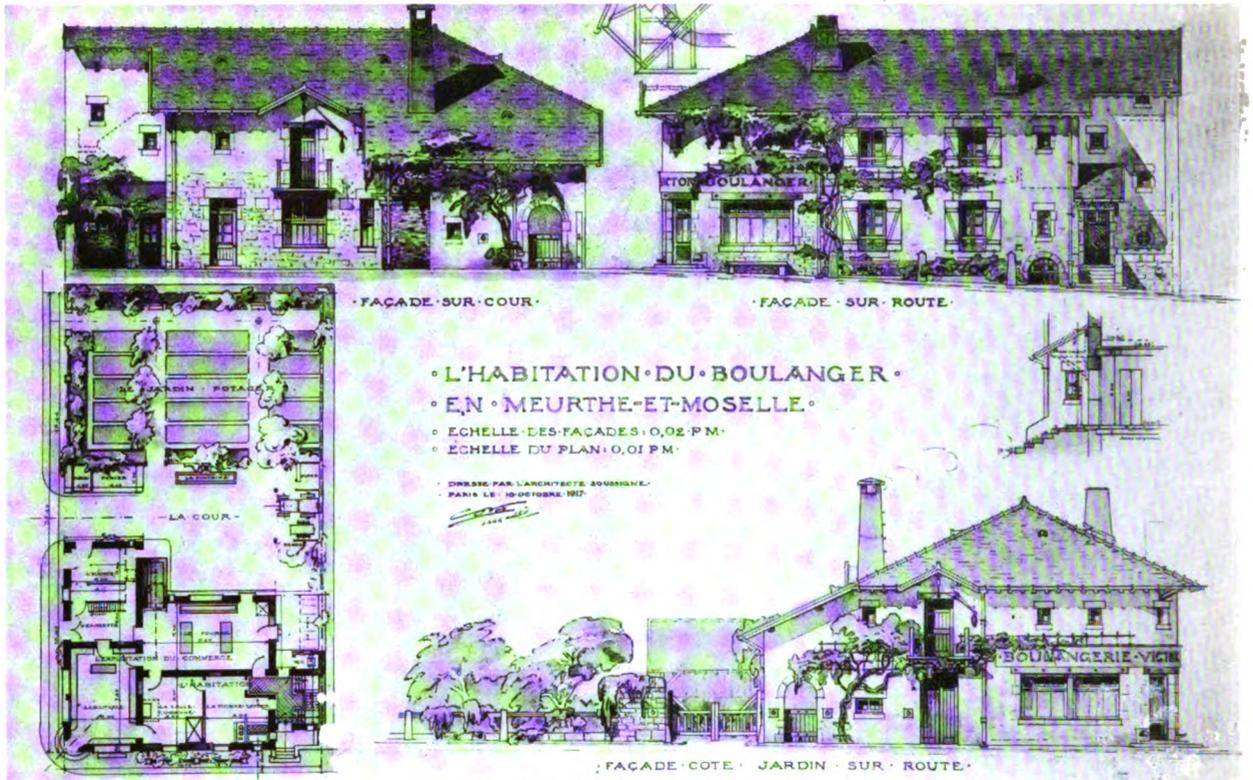
THE FRENCH COMPETITION FOR RURAL DWELLINGS.—First Region

Architect, M. Lapeyre



THE FRENCH COMPETITION FOR RURAL DWELLINGS.—Second Region

Architect, M. Lévy



THE FRENCH COMPETITION FOR RURAL DWELLINGS.—Third Region

Architect, M. Bois

fields, consideration should be given to the possibility of additional buildings such as a little barn, a stable, a supplementary shed for storing his tools and farm implements, while a passage may one day be required for vehicles going to and coming from the farm."

In the First Region, we are told that the principal trades to be found are those of the mason, the harness-maker, the painter, the tiler and plumber, the locksmith, the wheelwright, the blacksmith, the carpenter. For the first three, no especial dispositions are necessary; for the last five, competitors must consider the requirements of the workshops necessary to these callings. They are to be a part of the house problem, and more than that, each workman also must have space for a vegetable-garden.

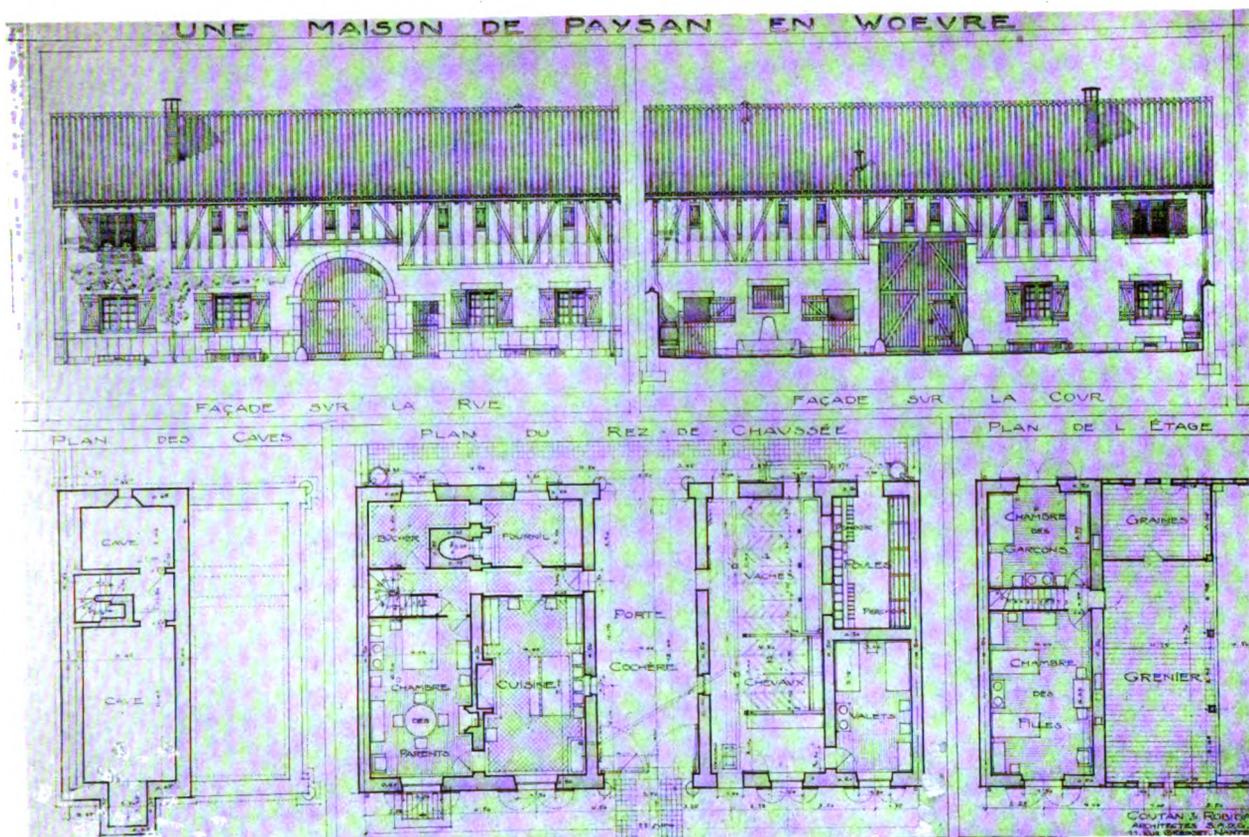
It is in these little pictures which are set forth for the guidance of the competitors that one again feels the strength of those traditions of patience, labor, frugality, and, above all, that affection for the land which is almost the preëminent characteristic of the French peasantry. Here, in simple terms, is portrayed the foundation on which the safety of nations alone can be based, and if we rebel a little at the thought of the hardships, lack of conveniences, and the daily sacrifices required under the French system of land cultivation, let us not forget to measure in the purest coin those qualities which alone have carried the French people through an ordeal such as no other nation has ever been called upon to endure!

The appeal in these narrations is equally difficult to resist from yet another point of view. It seems to savor

of something which we have lost in our modern life; of a relationship of workman to work and to community which was at once a precious and indispensable base upon which to found a society in which the joy of working became the first requisite for liberty and the pursuit of happiness.

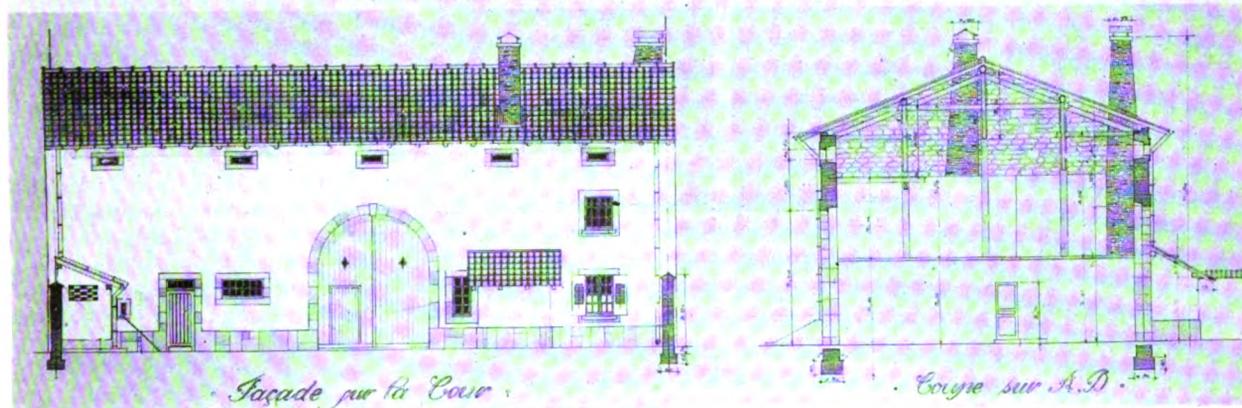
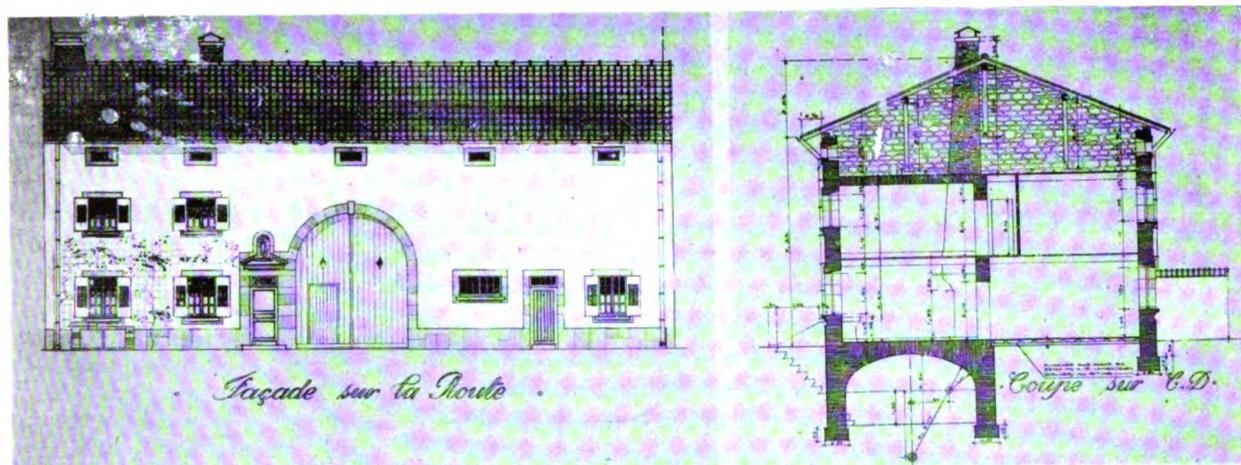
In the Second Region, we are told by M. Léandre Vaillat, from whose admirable articles in *Le Temps* the authors of the competition have quoted, that the Ile-de-France has "houses which are long and low, and generally of a single story; a wisteria or a rose bush frames the window and the door. Against the stonework, with its plain joints, open solid shutters. The roof slopes gently, covered with slate or tiles, and counts for much in the ensemble; a large dormer, simple in form, often surmounts the façade and is partly engaged in the roof to light the *grenier*; finally, a chimney-stack rises to crown the peak of a gable that is stepped to the very top."

"The half-timber houses which still survive in the Champagne properly belong there. Above all, because of the materials which fill the intervals between the timbers, —a sort of chalky tuff, whitish, dug from the very soil, in square blocks or irregular pieces which the masons lay up after the fashion of bricks, alternating the large pieces with the little ones and coating the whole with plaster, to finish. The timbers mount from the base to the very roof, which is covered with tiles. The windows on the ground floor are larger than those of the second, with little panes and solid shutters; flags lead to the doorways; a large gaping opening conducts to the court; and in an angle of the passage, as a post of surveillance, rises a



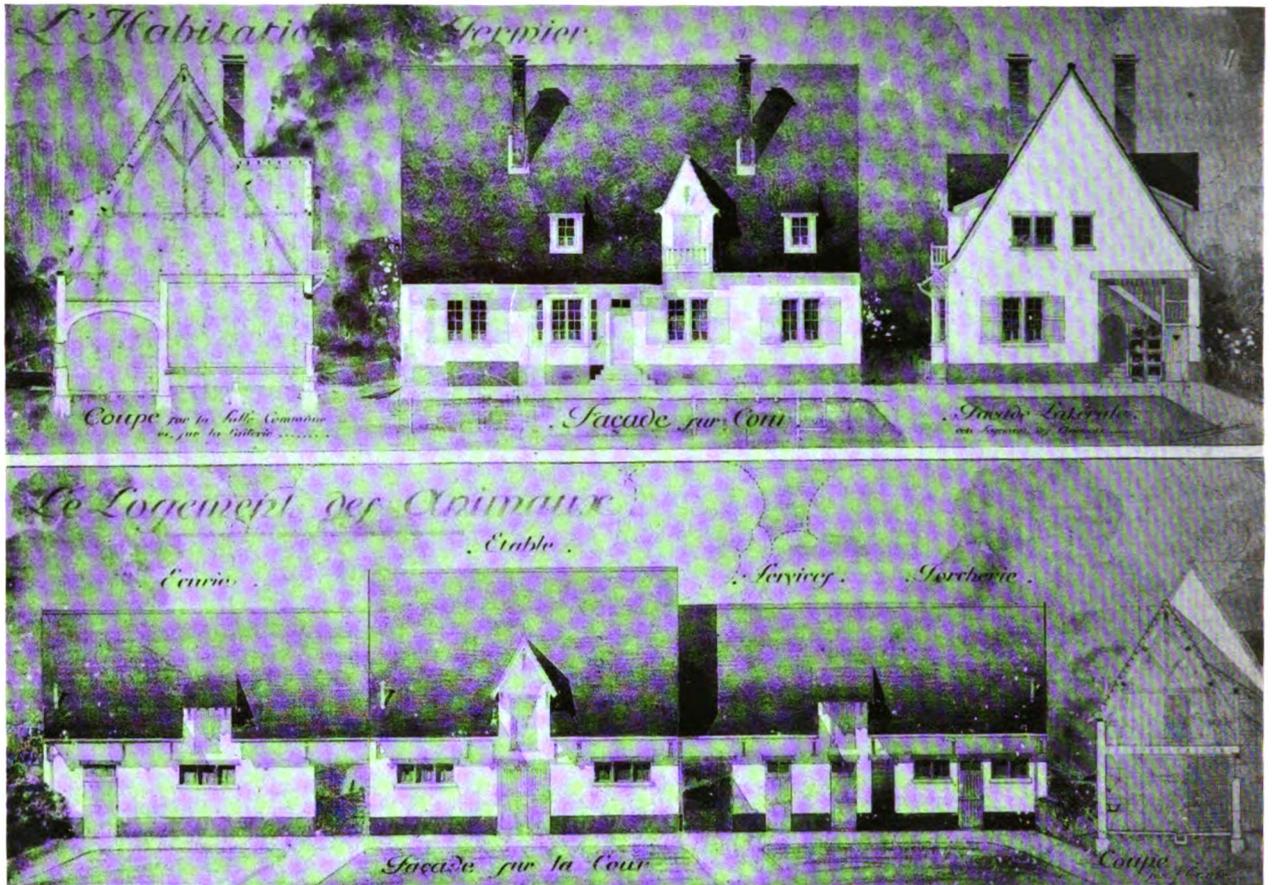
THE FRENCH COMPETITION FOR RURAL DWELLINGS.—Third Region

Architects, MM. Coutan and Robida



THE FRENCH COMPETITION FOR RURAL DWELLINGS.—Third Region

Architect, M. Ogé



THE FRENCH COMPETITION FOR RURAL DWELLINGS.—First Region

Architect, M. Crevel

loggia, sustained by wooden pillars and brightened with pots of flowers." But, says the text, this description applies to the old houses; before the war the houses were no longer constructed in half-timber, but of brick or rubble. In the future, the scarcity of wood will make it more than ever imperative to adopt this form of construction.

Touching on the question of the agricultural worker's house in this region, it is pointed out that "Among all the remedies which have been proposed for combating the desertion of the land, that which raises the welfare of the worker must be classed as the most important." In this category enters the provision of comfortable lodgings for the agricultural worker, his wife and family. And, as seeming to offer evidence that France proposes to discourage the further centralization of industry with its unsolvable problems, this section of the program deals not only with the needs of the butcher and baker, but with those of the dressmaker!

In the Third Region we come to the provinces where the mountains and valleys are accentuated, where the "valleys are often enveloped in a fog which is dissipated with difficulty. There often blows, on the plateaus, winds which are strong in summer and freezingly cold in winter. The houses are built mostly of stone, sometimes with rubble; the framing is of oak, squared with the adze. The wagon-door is of pine with an oak frame. The windows

are guarded in certain villages with blinds; in others, with solid shutters. On the first-floor chambers, the floor is of oak; on the second, of pine. Many alcoves are often combined with the stairway. The roofs are of tile, generally, and zinc has given way to tin. The woodwork is painted with oil colors; the rooms are sometimes papered, and at other times only whitewashed."

"Alsace," we are told, "is a happy and fecund country, with a good climate. . . . The villages have the same air of ease and tranquil felicity—even a smile of welcome. Whether isolated on the mountain or hung along the road in the plain, the village street has an aspect of gaiety, cleanliness, and order. . . . Charming fountains decorate the squares and distribute fresh and delicious water. Before and between the houses are little gardens; the fruit trees cluster along the road and the grape-vine and the hop climb about the façades. . . . In an Alsatian house, whether it be isolated or attached to the farm buildings, the life of the family is regulated by the different floors. On the first is the kitchen, standing against the classic and legendary room known as *la stube*, lighted by windows giving on the street and also having windows looking on the court, in order that an eye may be kept upon the comings and goings; it serves both as dining- and reception-room. The walls of the *stube* are ornamented with carved panels; the ceiling has carved rafters. . . . In the vast

RECONSTRUCTION IN FRANCE

attic are stored the large reserves of fruit, jams and jellies, grain, corn, fagots, with a space for drying the abundant *linge* of an Alsatian household."

There are whole passages in this delightful programme which might almost have been taken from those novels of Edmond About, so vivid a picture do they give of the life and habits of provincial France, and so affectionately are all of these simple things dwelt upon. Indeed, it is that air of almost reverential affection which makes the programme a living, throbbing echo of a nation's life—not of the city, with its restlessness and luxury, but of the plain

life of the men and women who carry the nation's fortunes on their backs, who know toil and sacrifice, fraternal kindness, gentle help in time of need, and a human sympathy in time of trouble. To untold thousands of these simple folk there has come a visitation of war more merciless than any pen can paint; that they have endured it with fortitude and a resolve which nothing has been able to break has no further need of telling. That they will rise from it to regain the simple competence which they once knew, and to play a newer and larger part in shaping the destinies of the world, must be our fervent hope.

Book Reviews

The Coming Polity. By Patrick Geddes and Victor Branford. London, 1917. Williams & Norgate.

Ideas at War. By Patrick Geddes and Gilbert Slater. London, 1917. Williams & Norgate.

These two volumes, the first which have so far come to hand, belong in the series announced under the general title of "The Making of the Future," to be edited by Patrick Geddes and Victor Branford. If their quality is indicative of the value of the series, then the remaining volumes may be looked forward to with the keenest eagerness. "The Coming Polity" has a special interest to those who recognize the importance of regional surveys, and if the volume seems a little dry in places, there are parts of it which provide the ample setting necessary for a study of those forces which sway mankind as the winds move the sea. The story of Le Play, unknown save to a very few, and of his researches in French life and habits, is one to become familiar with.

In "Ideas at War," plainly influenced by the lifework of Mr. Geddes in his study of the problem of planning, the future and its problems are dealt with in a vivid manner. The preliminary chapters on war and peace develop a phase of the war problem which has too long passed unconsidered: ". . . war and peace," we are clearly shown, "are not only matters of material resources and appliances, but have to be viewed as states of mind; in short, . . . Wardom and Peacedom arise alike from Ideas. It is Ideas which are at War."

For the architect—and for every man or woman who has the will to look into the future, through the eyes, not alone of the present but of the past—the chapters on "The Mechanical Age" and "The Imperial and Financial Age" will discover the nature of the forces which we have so long refused to acknowledge as either discoverable or controllable. If they are based upon a study of British life, they are none the less applicable to our own. For the architect there is this special message: "Architecture has always claimed and sought to organize the visible arts, with their many detailed crafts and industries and all their accessories in turn, thus covering well-nigh the whole field of industry, since most of the family budget is determined or adjusted at home. But architecture has failed, has been increasingly failing, since it was taken away from the city and cathedral building after the Renaissance to

fortify power, to adorn its magnificence and exalt its pretensions. It is thus to no small extent the failure of the Royal Institute of British Architects, and their predecessors and compeers, to accomplish their social functions, which called into being the Fabians and their predecessors, the Radicals and the Chartists.

"Now, as architecture sought to organize its own arts and crafts, and even others, through home-guided standards, so now town-planning seeks to organize architecture. And not architecture only, but other coördinative endeavors as well, even those apparently most abstracted from material environment and well-being, such as economic and political activities for choice; since the first is ever losing itself among the bland and dreary corridors of bureaucracy and administration, and the second making these resonate and tremble with the eloquent thunders of lawyerdom."

It is the "Town-Planning Movement" which is to synthesize all movements toward bettering the conditions of life,—and the economists, philanthropists, socialists are to cease their idle chatter and supplement their verbosity with definite constructive programs expressible in physical terms. All of which is good, and yet seems a little hard on a goodly number of men who have paved the way for the Planning Idea,—just as some millions of young men have soaked the fields of Europe with their life-blood, in order that we shall be driven to see that success in war depends upon Planning in a much more sweeping manner than the world has ever dreamed of. But to those who understand the science of Planning and are alive to the tremendous part it will play in the making of the future, the book will be not only stimulating but most helpful. Even its irritations may be set down to an excess of zeal which it is difficult to chide.—B.

Lessons on Form. A Manual of Free-Hand Drawing. By A. BLUNCK, Architect. Revised American edition. J. H. Jansen, Caxton Building, Cleveland, O. \$3.

It is quite amusing to note in this American edition of Blunck's "Lessons on Form" the revision of those pages the character of which suggested something German. Although the original pages were hardly seditious, inasmuch as the substitutions are better chosen examples of ornament, as well as quite non-German, the revision was perhaps worth while. The subtitle, "A Manual of Free-

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Hand Drawing" has been added. Despite the author's admonition in the Preface that the student should always *remember* that "the exercises he attempts to draw have a form," "Blunck's Lessons" is neither a manual of drawing nor—all the drawings being in outline—a good handbook of ornament. As most readers probably know, the outlines are shown on squared or quadrille ruled paper,

and the chief use of the book, in this country at least, has been, and probably always will be, to enable the draughtsman to *copy* ornament in outline in the shortest time and with the least thought, all of which cannot be conducive to either good design or worthy indication. Of course, a copying of the pages from cover to cover, would in most cases produce some dexterity in outline drawing.—B. J. L.

Obituary

Jacob Agne, Jr.

Elected to the Institute as a Fellow in 1892
Died in Utica, N. Y., April 17, 1918

Mr. Agne was born in Utica on March 13, 1859. He was graduated from the public schools of that city and later from the Utica Business College. Soon after, he entered the office of William H. Hamilton, an architect

then prominent in Utica. After two years he became associated with A. J. Simmons, another architect of that city, and in 1884 he established his own practice. In 1900 he associated with himself, as partners, Albert H. Jennison and Herbert D. Rushmer, under the name of Agne, Rushmer & Jennison, which firm continued until the time of Mr. Agne's death. He and his firm were the designers of many residences and public buildings in and about Utica.

News Notes

New Member Admitted

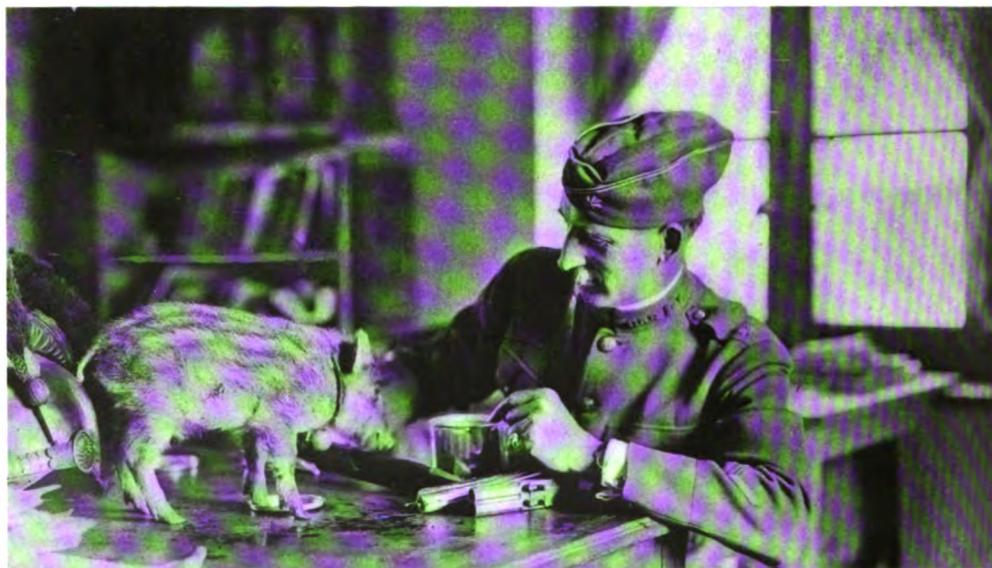
Frank Latenser, 632 Bee Building, Omaha, Neb. Iowa Chapter.

Structural Service Department

In this month's number there are many subjects discussed in relation to the work of the War Industries Board, and some of the Standards adopted for war emergency work are published. We shall endeavor to publish these Standards as completely as possible, but as some of them are

very long, it may be necessary to summarize them in order to save space.

Mr. Sullivan W. Jones is now the associate editor of this department, as the Bureau of Housing of the Department of Labor has availed itself of the services of Mr. D. Knickerbacker Boyd, whose work in helping to bring the Structural Service Department to that degree of usefulness which the war so abruptly terminated, is gratefully acknowledged. His wide knowledge in this field makes his services of the greatest value to the Housing Bureau in the present emergency.



MAJOR EVARTS TRACY, OF THE FIRM OF TRACY & SWARTWOUT, IN FRANCE WITH THE AMERICAN EXPEDITIONARY FORCES
In an interesting letter to Mr. John Lawrence Mauran, he enclosed the portrait of himself and his wild boar, René de la Tour de Soligny, "whose ancestors," writes the Major, "were here before Cæsar."

Notes by the Wayside

A COMMITTEE composed of eminent painters, illustrators, sculptors, architects, and headed by an architect, had charge of the decorations in New York for the Fourth Liberty Loan Drive, and the results show the wisdom of having artists rather than publicity men direct such an undertaking. "The Avenue of the Allies"—Fifth Avenue from Madison Square to the Plaza—shows an inspiring festivity which is infectious. The decorative scheme is simplicity itself. The buildings on both sides of the street have three rows of flags at the second-, third-, and fourth-story windows, the upper and lower rows being of one of the allies and the middle row advertising the Loan. At Madison Square, the Library, and St. Patrick's, where there are no buildings or where they are set back from the street, there are groups of plain, simple flag-poles, one for the flag of each ally. Over the street, at close intervals and at a uniform height, are hung large flags in groups. The light poles are uniformly decorated with Liberty Loan pennants. Each block is dedicated to one of the Allies, and the flags displayed there are of that nation. Nowhere is there any attempt at triumphal arches, hastily conceived sculpture, or *papier-mâché* architecture. The whole conception is one of uniformly and harmoniously disposed banners and flags. It is true there is an architectural "Liberty Altar" in Madison Square, used as a speakers' rostrum, but this is really a thing by itself. A trip down the "Avenue of the Allies" on a sunny day is a certain antidote for pessimism and something of a palliative for bitter thoughts, thoughts of the awful carnage "over there."

THE ARCHITECTURE of the small town in this country is rarely attractive or deserving of much study. The shop-fronts are often vulgar, old and more or less dilapidated, or of the later "tin Renaissance;" the houses, Victorian atrocities or clapboarded Italian villas or, perhaps, the later Queen Anne bungalows. But what a magic agent of transformation is the rain! The other day we were walking through a drizzly rain, the thick, translucent, gray kind, and what a change! The atrocities, the villas, the Queen Anne bungalows, the jigsaw details were all gone. In their place were simple masses of gray—warm grays and cool grays; the trees appeared almost as planes—distances told with exaggerated effect. We were in a fair-land. Wherever we turned, we saw a bit that might have inspired the most glorious print or etching. What had happened? Nature, in a charitable mood, had simply obliterated the tool-marks of the hand of man!

ST. JOHN'S CHAPEL is dying slowly. Its demolition does not seem to be proceeding methodically; so, with the debris lying about, the walls battered, and the tower raggedly broken off, it looks as if it might have been struck by shells, or as if it might have been the victim of *kultur*. Even in these times, when the destruction of a beautiful Georgian

building would seem an insignificant thing to grieve over in comparison with the awful shedding of blood and wholesale vandalism in Europe, the more one thinks of the demolition of St. John's and the attending circumstances, the more enraged one becomes. There are so few conspicuously good things of the Colonial period left to us. The building was owned by perhaps the wealthiest church corporation in America, which could well afford to preserve it. Steps have already been taken by the Trinity Corporation to cede to the city, from the site of St. John's, a strip of land which is the continuation of York Street, thus making of the present inside plot of ground *two corner* plots. There is considerable gossip that the widening of Varick Street, which was done at great cost, and which was the greatest factor in hastening the destruction of the beautiful chapel, was rather far fetched, and indeed would hardly ever prove of value at all commensurate with its cost. We feel quite sure that in France or England a building like St. John's would never be wantonly destroyed to acquire commercial gain. It is too bad that during the last few months, when St. John's was condemned and before the actual tearing down began, there was practically no public protest voiced. Newspaper comment, such as appeared when it was discovered that the building was really being torn down, and of which the following editorial from the *New York Globe*, of September 14, is an excellent example, might have saved the Chapel:

"With shame, as well as regret, the people of New York must watch the destruction, now under way, of St. John's Chapel in Varick Street. It is, or was, one of the architectural and historic treasures of New York. They are few. We can ill afford to lose one. When some years ago the Trinity Corporation pronounced the chapel useless for worship on account of the shift in population, and proposed to tear it down, a cry of protest went up all over the city. The Trinity Corporation for a time abandoned its intent, but now, under the mantle of war, the destruction has been ordered.

"Perhaps St. John's Chapel has of late years possessed little value as a place of worship. For community work, for various kinds of public service which Trinity might carry on in that neighborhood, it was as useful as another building. The plea of necessity in the widening of the street is empty. When London enlarged the Strand nobody demolished St. Clement's Danes and St. Mary le Strand. Those famous edifices are there, still enisled in the traffic floods of one of London's busiest thoroughfares. Equally special provision could have been made for preserving St. John's.

"Rebuild France we must, and none would grudge a tear to the ruins of Louvain and Rheims. But here, without any of the accidents or inevitable violences of warfare, this vandalism has been perpetrated at home."—

TRAVELER.

Correspondence: War's Message to Art

By WILLIAM LUTHER NOWLL

If words were of vitriol, it might be possible to penetrate the minds of those who talk and write about the "fine arts." Their liting and vacuous phrases in praise of the irrecoverable past echo more hollowly than ever. What does the world know or care about artistic attitudinizing and platitudinizing or for what their devotees are doing in their bewilderment? What did they know or care before the war? Yesterday an insignificant fraction knew that there had been art at some remote time much better than ours. Today, over against present soul-possessing issues, art is nothing.

Devotees and diletanti (observe the word!), you must decide your own fate! Will you sacrifice your cant and special meanings? Your entirely private and self-uncomprehended esoterics? Will you leave pandering and speak the truth to the public and your clients? Will you search the souls of your fellowmen for their meanings? Will you open your eyes to their meanings which blaze at you?

The means disbursed on the arts in recent times have been squandered: either this or admit the abhorrent "superman" to whom this art has alone appealed. To the "subman" it has meant either something useless (*vide* William James) or selfish display of wealth and power. Architecture, architects themselves cannot explain or justify nor have its forms borne within themselves their own significance. It has not been worth a tithe of its cost.

We know now that in peace or war humanity cannot waste that which all produce without impoverishing all. Architecture has been prodigal of human labor, and while it has made multitudes poorer, has made few rich materially and but a vanishing fraction richer spiritually. Art is a means by which one soul may encourage the best in all others. No present temerity will urge that art, at its cost, is justified in existence because of the amusement of those whom it has amused. There has been a market for the art which was the toy of the few. Artists, busy, have not looked where they were going.

The future of art does not lie along easy paths. Is there yet time to retrace steps and choose the better and infinitely more difficult way? Are there men in the artistic professions who believe art to be a means for stirring all finer emotions, a means which must not be used longer for the gratification of self-satisfaction, pride in wealth and power, or advertising? Are there men who, committed gratefully to what may be, but is not, a noble calling, will choose to serve humbly, mechanically if necessary, and always practically, until they can really touch men's hearts? Are there men who know or care how men's hearts may be touched by architecture? Do they themselves feel the earthquake that shakes the world? Are they agitated by or with this shock?

Has it not been artists themselves who have debauched civilization by tickling the fancies of those who could afford to pay, while they, at the same time, told those who would listen that there was no art because there remained but a poor figment of civilization—the unworthy heir of a glorious ancestry? If there were no civilization, who more blameworthy than artists?

Weakest of excuses—now dead—"it is the fault of the public!"

When no artist would sacrifice a commission to give a lesson in true art, the "ignorant pseudo-civilization," the "unappreciative civilization," the "sordid commercial civilization" which they elegantly, remotely, and disdainfully deprecated, is giving its life-blood for principles of the existence of which artists have proved by their own words and deeds they were not aware. From whom should the public learn appreciation unless from the artist? To whom was the greatest art of the world addressed? Its success has always lain in its vibrant accord with the largest number of harmonious hearts.

Selfishness and pride repel. Ostentation repels. Accumulation by monopoly and its evidences beget not admiration but resentment. And the testimony of the arts to these gratifications of the few has not failed to assist in arousing the determination of men everywhere to limit or do away progressively with the large possibilities of the continuance of the bases for such art. The meaner emotions, embodied in art, destroy art, artist, and patron together. Every revolution has torn down the structures of power, together with their builders.

Alcohol and art have been set aside at the same time; both are in the way during war. Before the death-grips, no man knew well enough how much he must be his brother's keeper; now every intoxication that lessens the power of one man is felt on the western front; any ounce of strength, of material, every day's labor put into that which is not bread or *moral power* is waste. It is not more waste than ever it was, but now we see it. Yet even now it is not more waste than it ever will be. We must bear the scars of this chastisement always, lest we forget!

Architecture can no longer be the plaything of the rich and idle. The lessons of that revolution, which this war is, are not to be lost on the powerful. They are momentarily escaping the limit of forced reformations taking place in great areas of the world, where, as in the cataclysms of the past, concentrated wealth and power and futile art together are swept away. The limit here may not yet be reached.

This war is a revelation. On the one hand it has swiftly drawn the headlong plunge of greed and grasp of power; and we shudder at the evidence of these same taints in our own camp and must eradicate them. On the other hand, it has stripped away the fripperies and toys, the motley and bells, and shown us men. Mercurial froth and superficiality have been washed away in steadfast blood. The peers have shown themselves equal. Money-getting has disappeared in life-giving. Self-gratification is not. Abnegation is.

We have sinned! All this moral power was in the world, lying in the hearts of men, waiting testimony. All power now exploding was static, waiting discharge. Blind, stolid, corrupted, decayed art could not see, feel, move, or live, but blundered on, and told the world, "*You are drunk!*"

If! If art had known how! Had art set up one simple evidence of that which war instead has revealed, and

COMMITTEES OF THE INSTITUTE FOR 1918-1919

another, and another, and another, simply stating the steadfastness of the hope and trust and affection of men in and for each other, of the little strength of small groups to help all, of the greater strength of more unity to lift all, telling in words of one syllable, over and over again, to all men, in whom all the power for anything in humanity rests! Could this have failed to stir the steady strings, slowly, swelling as it rose, growing with the irresistible power of the harmonies which alone can stir all men? Can it be conceived that this would not have drowned the discord. Art exists only in human unity. Unity of emotion existed. Art or war reveal unity of impulse. We left it for war. We might have stirred all men to vibrant unison with the best; we have let them be stilled in festering mounds. It might have been! Can we learn? The fault was ours. We failed because we were not fit to lead. We followed, and not the best but the worst.

The essence of architecture is the evidence to all feeling men of universal human emotions, love of home and simple living, love of neighbor, and community, and the

generous impulse to better all men in social existence, in education, in sickness and health, in the gaining of livelihood, in the functions of government, in security from oppression, in the worship of God.

There exists no comparable agency for the encouragement in each man's heart of his faith in the existence of these emotions in the hearts of all other men; no other agency which can so quickly develop these emotions into such force as to renew their expression and growth.

Neither architect nor actor can express an emotion which he does not feel. To share emotions adequately, the artist must share life, the lowly, commercial, and mechanical, together with the professional, and elegant.

When he has something to say he must say it in terms comprehensible to his audience. These terms it is his task to find. Their elements undoubtedly exist. The architect has enough to do. He occupies the pass to a territory unconquered in this age. This domain is his or no one's. Is he equal to its conquest?

Committees of the Institute for 1918-1919

(Partial List Only)

Due to delay on the part of appointees in responding to their appointments to the various committees, we are only able to print a partial list in this issue. In November, it is hoped that the complete personnel of all committees may be finally announced. Those which are complete at this time are as follows:

Judiciary Committee (Elected by the Board)

Horace Wells Sellers, *Chairman*
William B. Faville Richard E. Schmidt

NOTE.—Under the By-laws, this Committee must be composed of members of the Board of Directors.

Instructions: The instructions to the Judiciary Committee are contained in the By-laws, and in the document known as "Rules for the Guidance of the Committee on Practice and the Judiciary Committee." A revision of this document is necessary to make it consistent with the amended By-laws as shown in the Proceedings of the Fifty-First Convention. A revision should be made promptly by the Judiciary Committee itself in cooperation with the Chairman of the Committee on Practice and submitted to the Board for approval.

Board of Examiners (Elected by the Board)

Frank C. Baldwin, *Chairman*
Appleton P. Clark, Jr. Edward W. Donn, Jr.

Instructions: This Committee is instructed to examine applications and exhibits, pass thereon, and recommend to the Board for or against the election of applicants.

Committee on Practice

Elmer C. Jensen, *Chairman*

NOTE.—Under the new By-laws, the Committee on Practice is composed of a Chairman, appointed by the President, together with one

member from each Chapter, nominated by the Executive Committee of the Chapter and approved by the President of the Institute.

Instructions: The Committee's general instructions are contained in the By-laws and in the "Rules for the Guidance of the Committee on Practice and the Judiciary Committee" which should be revised promptly by the Judiciary Committee in consultation with the Chairman of the Committee on Practice.

Finance Committee

D. Everett Waid, *Chairman*
Ben J. Lubschez Edward W. Donn, Jr.

Instructions: This Committee's general instructions are contained in the By-laws.

Committee on Competitions

George S. Mills, *Chairman*
Louis Ayres Sylvain Schnaittacher
Francis J. MacDonnell Charles W. Steinbaugh

Instructions: This Committee is charged with the duties prescribed in the Circular of Advice on Competitions, and is instructed carefully to study the competition practice as formulated by other national architectural organizations, in order that the Institute may be thoroughly prepared to meet this problem when confronted with the probable post-war changes in methods of professional practice.

Committee on Allied Arts (Standing)

William B. Faville, *Chairman*
Henry K. Holsman Charles Z. Klauer
Frank B. Meade

Instructions: This Committee is charged with the task of encouraging and stimulating all forms of art, both for their inherent value as social forces and as necessary chan-

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nels through which collaboration may lead to a better architecture, to an ever-widening appreciation of the value of good building, and to a knowledge of the benefits to be derived from the wise physical development of all our communities, both small and great. It should cooperate with the Committee on Publications in making available for regular publication in the Journal such articles and illustrations as it deems to be meritorious contributions to any art.

Committee on Contracts and Specifications (Standing)

William Stanley Parker, *Chairman*
Milton B. Medary, Jr., *Vice-Chairman*
F. E. Davidson Sullivan W. Jones
Edwin H. Fetterolf E. J. Russell
Richard E. Schmidt

Instructions: This Committee is charged with the subject of the contractual relations and obligations of the owner, architect, and builder, and with the care of the forms and machinery essential thereto. It is to cooperate with the Committee on Institute Publications to the fullest extent to the effect that every item of information which might add to the usefulness of the Journal in serving the profession at large be made available to it.

It is also to continue its work under the instructions it has already received.

Out of deference to the wishes of Frank Miles Day, as conveyed to the President of the Institute, a subcommittee, consisting of Messrs. Medary, Parker, and Fetterolf, with Mr. Medary acting as Chairman, is to have charge of the editing of the Handbook of Architectural Practice, later to be published through the Journal, and to which Mr. Day had devoted so much time and thought.

Committee on Engineering Cooperation (Special)

Thomas R. Kimball, *Chairman*
Owen Brainard Lansing C. Holden

Instructions: This Committee is continued, with the request that it make a report to the Board.

Committee on Materials and Methods (Special)

John L. Hamilton, *Chairman*
(Committee of One)

Instructions: This Committee is charged with the task of studying new materials and methods and of making available to the profession, through the columns of the Journal, such information thereon as will advance the science of architecture.

Committee on Public Information

Frank C. Baldwin, *Chairman*
C. L. Borie, Jr. C. Grant La Farge
Thomas R. Kimball Ben J. Lubschez
H. Van Buren Magonigle

Instructions: This Committee is instructed to cooperate with the Committee on Institute Publications, the work of the two committees being inseparable.

Committee on Institute Publications

For three years:

C. L. Borie, Jr. H. Van Buren Magonigle

Instructions: This Committee is charged with the publication of all Institute publications.

Committee on Public Works

Charles A. Favrot, *Chairman*
Arthur Dillon John P. B. Sinkler

Instructions: This Committee is charged with the responsibility of studying public building methods in general throughout the country with the view to the ultimate formulation and presentation of a plan of conducting public building work.

It is also instructed to study the reports of the Supervising Architect of the Treasury Department; the Report of the Public Building Commission to the Congress of 1918, with the collateral report of the Commission of Fine Arts; the methods pursued in the Government's war building program, and to recommend a course of action to the Board of Directors.

Committee on Lincoln Highway

Elmer C. Jensen, *Chairman*
(Committee of One)

Instructions: This Committee is instructed to consider ways and means whereby the Government may be induced to take charge of the project.

Lincoln Highway Commission

Elmer C. Jensen, *Chairman*
(Commission of One)

Instructions: The Commission is charged with cooperating with the Lincoln Highway Committee.

Advertising Committee

Thomas R. Kimball John Galen Howard

NOTE.—At the last convention there was stricken from the Canons of Ethics, Paragraph 4, which read as follows: "It is unprofessional to advertise." This makes it necessary to reword Paragraph 12 of the Circular of Advice, which now reads as follows: "Advertising tends to lower the dignity of the profession and is therefore condemned." The Committee on Advertising is to rephrase this paragraph and submit it to the Board of Directors, which is empowered to publish it when it has approved the wording.

Instructions: This Committee is charged with the revision of the Circular of Advice as instructed by the Board.

State Building Methods Committee

Charles A. Favrot, *Chairman*
(Committee of One)

Instructions: The functions of this Committee having been provided for in the instructions given to the Committee on Public Works, no instructions seem necessary. (See the November Issue.)

Committee to Inaugurate and Conduct a Competition for Small Churches

D. Everett Waid, *Chairman*
(Committee of One)

Instructions. The work of this Committee should be postponed until after the war.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

Special War Service

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE CONTRACTS AND SPECIFICATIONS FIRE-PREVENTION
MATERIALS AND METHODS STRUCTURAL SERVICE

SERIAL NO. 10, OCTOBER, 1918

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War Industries Board 10A

Supplementary to the summary of the activities of the War Industries Board as outlined in the September Journal (9A), we reprint below the letter of Mr. Baruch addressed to the Senate of the United States in response to a resolution of that body requesting a statement from the War Industries Board in regard to its relations with the building industry. The letter is as follows:

To the honorable the PRESIDENT AND SENATE OF THE UNITED STATES
Washington, D. C.

GENTLEMEN: On behalf of the War Industries Board, I beg to comply with Senate resolution *304, passed September 13, 1918, and transmitted to me the same day.

1. The only order promulgated by the War Industries Board "relative to the construction and alteration of public or private buildings" is contained in Circular No. 21, issued September 3, 1918, and supplemented under date of September 10, 1918. Copies of the order and the supplement are attached hereto.

2. Said orders were issued under the authority conferred upon the War Industries Board and its chairman by the President of the United States, in a communication to the chairman dated March 4, 1918, and confirmed by Executive order dated May 28, 1918, whereby the War Industries Board was created a separate administrative agency of the President, with the powers, duties, and functions set forth in the said communication from the President of March 4, 1918. Copies of said communication and of said Executive order are attached hereto.

I beg to call particular attention to the following powers and duties thus specifically conferred by the President upon the board and its chairman:

(a) "The studious conservation of resources and facilities by scientific, commercial, and industrial economies."

(b) "The determination, wherever necessary, of priorities of production and of delivery and of the proportions of any given article to be made immediately accessible to the several purchasing agencies when the supply of that article is insufficient, either temporarily or permanently."

*Resolved, That the War Industries Board be directed to transmit to the Senate all orders promulgated by that Board relative to the construction and alteration of public or private buildings, and to advise the Senate under what authority of law said orders were issued. (Introduced by Senator Calder.)

(c) The chairman's duty to guide and assist "in obtaining access to materials in any way preëmpted," and "to anticipate the prospective needs of the several supply departments of the Government and their feasible adjustment to the industry of the country as far in advance as possible, in order that as definite an outlook and opportunity for planning as possible may be afforded the business men of the country."

I refer also to the act of Congress of August 10, 1917, known as the priority of shipment act.

3. In further response to Senate resolution 304, permit me to add: In carrying out the duties, with which we were thus charged by the President, the War Industries Board and its chairman found the following situation to exist with respect to building and construction facilities and supplies:

(a) Iron and steel are a necessary part of every completed building. They are necessary for plumbing, heating, ventilating, piping, hardware, and mechanical equipment. The direct and indirect war needs of this country and of our allies for the last six months of the current year already exceed 21,000,000 tons and the country's total output for the first six months was less than 17,000,000 tons. The unavoidable result is that iron and steel can not be used for nonwar or less essential purposes.

(b) The United States Fuel Administration, finding that the production of building materials consumed upward of 30,000,000 tons of fuel per annum, and that there was a shortage in the fuel necessary for our war program, curtailed very materially the fuel allowed for building materials. The continued production of building materials for nonwar and less essential projects would now necessarily be at the expense of productions which our war program requires.

(c) The Railroad Administration finds that 25 per cent of the total tonnage moved by the railroads is building material. It is absolutely essential that the portion of this tonnage which represents materials not needed for war or essential purposes should be displaced by tonnage which is.

(d) The United States Employment Service finds that there is an acute shortage in the labor needed for the war program. It is absolutely essential that labor which now may be idle, or which may be engaged on nonwar or less essential work, should be employed upon work which will contribute toward winning the war.

It is therefore evident that the building and construction field furnishes an instance calling imperatively for the exercise by the War Industries Board of the duty with which the President charged it, of conserving the resources and facilities of the country for war purposes, of determining necessary priorities in production and in delivery, of obtaining access to materials in any way preëmpted, and of anticipating prospective war needs.

It is clear that there is not enough iron, steel, transportation facilities, fuel, and labor to supply the direct and indirect war needs of the country and the nonwar needs also, and that the resources and facilities used in nonwar and less essential building projects can only be applied thereto by taking them from the war needs.

The inevitable result of this would be failure to supply the war requirements of the country as they are needed. It would mean that nonwar and less essential needs would be produced at the sacrifice of war needs, with the consequent postponement of the day when the war will end and when American lives will be freed from the hazards of battle.

The attached orders were promulgated by the War Industries Board as a necessary means of avoiding this unhappy result.

These orders were only issued after the nearly six months' warning given by the resolution of March 21, 1918, which is quoted at length in circular No. 21.

Attention is also called to the fact that before circular No. 21 was issued numerous conferences were held between the board and the manufacturers of the principal building materials. The latter appreciated fully the situation as briefly outlined above and heartily agreed to cooperate with the board in carrying into effect the spirit of the resolution of March 21, 1918, and to that end to enter into the pledge set forth in circular No. 21.

The manufacturers, however, felt that, not having the country's war program before them, it was impossible for them to determine what building projects were essential and what were less essential. They felt that the War Industries Board should determine this question as definitely as possible and should pass upon doubtful cases for them.

Accordingly the board did determine what were essential projects, defining them in paragraphs numbered (1) to (5), inclusive, of circular No. 21, and projects of this character may proceed as therein explained. Other building projects are not prohibited but may likewise proceed if the local council of national defense, which is primarily the body best fitted to judge, finds them in the public interest or essential, and if this finding is approved by the War Industries Board. Building projects which do not measure up to these standards must be deferred until the war program is fulfilled. If they are not, the due fulfillment of the war program will be impossible.

The orders referred to are very much in the interest of the public, because they will prevent the public, including the trade, from planning or undertaking building projects and then, after plans or commitments have been made, finding that the war program makes it impossible to secure the materials necessary to complete them.

Moreover, the trade itself will find that because of the enormous housing and other construction work which the Government itself is undertaking a large part of the trade's facilities will simply be transferred to new lines of building activity.

Finally, the operation of the selective-service acts will much more than has already been the case directly affect the amount of labor available for the building trade and for other industries. Even with increased efficiency and female labor the natural outcome of this condition must be to curtail and reduce the volume of any given business not connected with the war program. As far as it is possible to do so, the less essential industries are being converted to more essential activities, but there will be a certain percentage of these industries which can not be so converted. Therefore the volume of business in the less essentials will be reduced, and with this reduction there will come a corresponding reduction in taxability.

It is not only the policy, it is the clear and simple duty, of the War Industries Board to see that the war program of the country is met, and this program must be met now, when its needs are upon us. This duty must be fulfilled, even if its fulfillment entails industrial loss in this country, as it does human loss abroad.

I have the honor to remain,

BERNARD M. BARUCH,
Chairman War Industries Board.

It will thus be realized that the work of the War Industries Board constitutes the first effort ever made in this country to coördinate on a National basis industrial activity and the demand for industries' products.

The War Industries Board attacked this appalling problem without facts or data and practically without any clearly defined plan or method of procedure, except, perhaps, such as might be based upon the experience of our European Allies. But their problems were not comparable with ours, either in scope or complexity.

The War Industries Board is fast accumulating the data and information which it needs to proceed intelligently and wisely. Consequently, as its fund of knowledge increases and the elements of its problems become more clear, changes in methods, the modification of former regulations, and the creation of new sections and divisions for more specialized work will be necessary. The Editors

will find it advisable, therefore, from time to time, to refer to former announcements in connection with subsequent modifications of them, or the effect upon previous regulations and procedures, resulting from the creation of new sections or divisions for the consideration of special phases of the problem of coördination.

This condition makes impossible any orderly system of presenting or indexing the subjects dealt with. When information is desired as to the proper course of procedure in disposing of any issue, the reader will find it necessary to refer to the last general index and then review all previous announcements upon the subject there listed.

Building Materials Section 10B

RICHARD L. HUMPHREY, *Chief*

One of the first acts following Mr. Baruch's acceptance of the Chairmanship of the War Industries Board, was the organization of the Building Materials Section. Rapidly thereafter War Service Committees were formed under the direction of the Building Materials Section, each with its representative in Washington to serve as the point of contact by which the Government requirements are communicated to the industry, and by which the problems of the industry are communicated to the War Industries Board. These War Service Committees are composed of group representatives, each representing a group of manufacturers or producers so that all the groups represent the entire country. These group representatives are elected or confirmed by a vote of all the producers or manufacturers in the group.

The War Service Committees are bureaus of information as to facts relating to the industry, and they represent the industry in matters which affect the fuel-supply, curtailment in operation, prices, and other similar problems that are under consideration by the several agencies of the War Industries Board or the several Government construction bureaus. When information is desired, the request is communicated to the Washington representative, who, in turn, communicates with the group representative and he notifies the rest of the group; in this way an answer is obtained. Those who accept places on the War Service Committees are men of integrity and high business standing, who desire to serve the best interests of the country as well as their industry. There are, at the present time, some thirty-six War Service Committees and twenty representatives are stationed in Washington, as is shown by the accompanying list. The Building Materials Section has thus mobilized the building materials industry into an industrial army with a representative of each industry in Washington and representatives for the various sections of the country—an army of over four hundred men.

The industries in which War Service Committees have been formed are listed below. (See 10B2.)

Organization

10B1

By reason of local congestion and other problems it has been necessary for the Building Materials Section to establish branch offices for New York and vicinity, Philadelphia and vicinity, and Norfolk and vicinity. At these points, the demand for sand, gravel, crushed stone, brick, and other building materials has been so great that in order

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to avoid confusion and to properly supervise the deliveries of these materials, it has been necessary to establish branch offices. In these cases the several Government Departments make application to the representative of the branch office who advises as to the manufacturer or producer with whom the order should be placed.

Staff: Building Materials Section

Norman H. Hill	M. A. Styles
U. F. Turpin	Frank A. Kendall
Morris C. Betts	Edna M. Stangland
W. A. R. Anthony	R. J. Friedberg
A. L. Gladding	I. T. Morton
C. D. Morley	Capt. G. W. Riddle
	(Temporary assistance)

New York Branch

GEO. L. LUCAS, 49 LaFayette Street, New York City

Philadelphia Branch

HERBERT B. ALLEN, 417 North American Bldg., Philadelphia, Pa.

Norfolk Branch

W. E. LAW, Board of Control Building, Norfolk, Va.

Government Departmental Representatives

Army—Col. J. N. Willcutt,
Construction Division.
Navy—Assistant Paymaster S. I. Marks,
Bureau of Supplies and Accounts.
Marine Corps—Major P. F. Archer,
Assistant Quartermaster.
Emergency Fleet Corporation—H. S. Grimes,
Requirements Section.
Railroad Administration—B. P. Phillippe,
Interstate Commerce Commission.
Department of Labor—Major James E. Schuyler,
Bureau of Industrial Housing.
Supervising Architect's Office—J. W. Ginder,
Superintendent of Computing Division, Treasury Department.

Special Functions: The first purpose of the Building Materials Section of the War Industries Board is to care for the Government interests, and in so far as is compatible with this purpose, the Section endeavors to the best of its ability to aid the building materials industries in the very difficult problems arising as the result of war conditions. The Building Materials Section is engaged in the following principal activities:

1. Collation of data as to resources, available stocks, and capacity of various manufacturers and producers of building materials.
2. Keeping a record of rate of production and of delivery on various Government purchases.
3. Forming standard specifications and details which serve as a basis for the purchase of various building materials whereby the greatest conservation of labor, fuel, and metals is attainable.
4. Regulation of fuel-supply for the building materials industry.
5. Permits and clearances for building materials required in permissible construction.
6. Analysis of cost data, in so far as it relates to prices.
7. Handling detailed problems of the various building materials industries in order to enable these industries to meet their problems in the most efficient way.

The Building Materials Section has as members representatives of the War Department, the Navy Department, the Marine Corps, the Emergency Fleet Corporation, the

Treasury Department, the U. S. Railroad Administration, (a chairman and a representative of each of seven Regional Advisors), the Panama Canal Commission, the U. S. Housing Corporation.

War Service Committees 10B2

Representing various building material industries formed under the supervision of the Building Materials Section of the War Industries Board

Architectural Terra Cotta

W. H. Powell, Chairman, 1170 Broadway, New York City.
John Hewitt, Winkle Terra Cotta Co., St. Louis, Mo.
H. J. Lucas, 2525 Clybourn Avenue, Chicago, Ill.
Paul S. McMichael, The Northern Clay Co., Auburn, Wash.
W. A. Mills, Washington Representative,
729 15th Street, N. W., Washington, D. C.

Automatic Sprinklers

W. G. Allen, Chairman, Hamilton Building, Akron, Ohio.
J. M. Duncan, 2323 North 11th Street, Philadelphia, Pa.
Alfred Fritzsche, Society for Savings Building, Cleveland, Ohio.
A. M. Lewis, 2027 Washington Avenue, Philadelphia, Pa.
H. W. Park, 123 William Street, New York City.
H. G. Vogel, 487 Broadway, New York City.
Henry B. Cross, Secretary and Washington Representative,
821 Munsey Building, Washington, D. C.

Brick

William Schlake, Chairman, Conway Building, Chicago, Ill.
B. W. Ballou, Buffville, Kans.
Geo. A. Bass, Central National Bank Building, St. Louis, Mo.
W. R. Bennett, Fort Worth, Texas.
C. C. Blair, Metropolitan Paving Brick Co., Canton, Ohio.
F. W. Butterworth, Danville, Ill.
John P. Cahoon, Salt Lake Pressed Brick Co., Salt Lake City, Utah.
F. H. Chapin, Schofield Building, Cleveland, Ohio.
Geo. H. Clippert, Geo. H. Clippert & Bros. Brick Co., Detroit, Mich.
W. W. Dennis, 946 Monadnock Building, San Francisco, Calif.
W. E. Dunwoody, Standard Brick Co., Macon, Ga.
D. J. Fisher, Sayreville, N. J.
M. E. Gregory, Corning, N. Y.
Wm. K. Hammond, 628 West 52nd Street, New York City.
Edward Kelley, East Tabor Road and Vankirk Street, Philadelphia, Pa.
Chas. Klein, Chaska, Minn.
Frank Lohse, Denny-Renton Co., Seattle, Wash.
J. F. Reynolds, North Haven, Conn.
Wm. E. Sankey, 2112 Carson Street, Pittsburgh, Pa.
H. E. Stringer, Colorado Building, Washington, D. C.
R. D. T. Hollowell, Secretary and Washington Representative,
20 McLean Building, 1517 H Street, N. W., Washington, D. C.

Building Hardware

C. B. Parsons, Chairman, New Britain, Conn.
I. S. Ermentraut, Penn Hardware Co., Reading, Pa.
T. J. Ray, Peck, Stow & Wilcox Co., Cleveland, Ohio.
C. W. Sager, Lockport, Ill.
G. L. Sargent, New Haven, Conn.
E. C. Waldvogel, Yale & Towne Manufacturing Co., Stamford, Conn.
A. Zimmerman, New Britain, Conn.
Hartwell A. Taylor, Secretary and Washington Representative,
1218 New York Avenue, Washington, D. C.

Building Stone

Col. Sam Tate, Chairman, Tate, Ga.
H. E. Fletcher, Boston, Mass.
John McGilvray, Townsend Building, San Francisco, Calif.
P. B. Parker, Walnut Avenue and 133d Street, New York City.
R. M. Richter, Bedford, Ind.
Mastin Simpson, 19th and Olive Streets, Kansas City, Mo.
Chas. T. Vandever, Secretary and Washington Representative,
626 Colorado Building, Washington, D. C.

Cast Iron Boilers and Radiators

Frederick W. Herendeen, Chairman, Geneva, N. Y.
J. T. Duryea, Pierce, Butler & Pierce Mfg. Corp., New York City.
Fred H. Moore, Longacre Bldg., 42nd St. and Broadway, New York City.
E. E. McNair, G.M.S., United States Radiator Corp., Detroit, Mich.

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Wm. B. Reed, H. B. Smith Co., Westfield, Mass.
Wm. Sefton, Hitchins & Co., Elizabeth, N. J.
John Waters, National Radiator Co., Johnstown, Pa.

Cement Concrete Pipe

A. M. Hirsh, Chairman, Lock Joint Pipe Co., Ampere, N. J.
E. H. Backemeyer, Sioux City Concrete Pipe Co., Sioux City, Iowa.
Arthur S. Bent, 626 Security Building, Los Angeles, Calif.
Charles Gilman, 50 Church Street, New York City.
George Schofield, 1433 Dock Street, Tacoma, Wash.
A. N. Shearman, 1004 Bank and Trust Building, Knoxville, Tenn.
J. L. Zeidler, St. Joseph Reinforced Concrete Co., St. Joseph, Mo.

Clay Roofing Tile

A. W. Brown, Chairman, 1106 Monroe Building, Chicago, Ill.
Geo. P. Heinz, Denver, Col.
J. J. Masterson, 3301 Morganford Road, St. Louis, Mo.
J. K. Webster, Secretary and Washington Representative,
615 Union Trust Building, Washington, D. C.

Clay Sewer Pipe

Fred L. Dickey, Chairman, W. S. Dickey Clay Mfg. Co., Kansas City, Mo.
M. J. Bannon, P. Bannon Pipe Co., Louisville, Ky.
L. G. Blackmer, Blackmer Post & Pipe Co., St. Louis, Mo.
A. G. Brading, Chattanooga Sewer Pipe Works, Chattanooga, Tenn.
Geo. R. Chambers, Gladding-McLean & Co., San Francisco, Calif.
M. P. Chumlea, Lehigh Sewer Pipe & Tile Co., Ft. Dodge, Iowa.
F. W. Clark, Portland Stoneware Co., Portland, Me.
Mr. Crow, Denny-Renton Clay and Coal Co., Seattle, Wash.
L. A. Hamilton, Southern Sewer Pipe Works, Birmingham, Ala.
H. B. Manton, Robinson Clay Product Co., Akron, Ohio.
A. C. McCombe, American Sewer Pipe Co., Akron, Ohio.
Geo. S. McElroy, San Antonio Sewer Pipe Works, San Antonio, Texas.
Fred W. Owsney, East Ohio Sewer Pipe Co., Irondale, Ohio.
Geo. E. Prindible, Patton Clay Manufacturing Co., Patton, Pa.
J. L. Scott, Macomb Sewer Pipe Works, Macomb, Ill.
William Walters, Red Wing Sewer Pipe Co., Red Wing, Minn.
Geo. H. Tefft, Secretary and Washington Representative,
311-312 Homer Building, 13th and G Streets, Washington, D. C.

Composition Roofing

Herbert Abrahams, Chairman, The Standard Paint Co., New York City.
O. A. Heppes, Vice-Chairman, Heppes-Nelson Roofing Co., Chicago, Ill.
G. K. Bradfield, H. W. Johns-Manville Co., New York City.
R. B. Crabbs, The Phillip Carey Co., Cincinnati, Ohio.
John Logan, The Patent Vulcanite Roofing Co., Chicago, Ill.
W. E. O'Neil, The Texas Co., Houston, Texas.
John Powers, Barber Asphalt Co., Philadelphia, Pa.
C. E. Rahr, Treasurer, The Flintkee Co., Boston, Mass.
L. P. Sibley, The Barrett Co., New York City.
E. J. Weaver, International Roofing Manufacturing Co., Chicago, Ill.
A. Whittemore, Certain-teed Products Corp., St. Louis, Mo.
B. J. Williams, The Paraffine Cos. Inc., San Francisco, Calif.
Stewart F. Berry, Secretary and Washington Representative,
Room 510, Munsey Building, Washington, D. C.

Concrete Reinforcement

John F. Havemeyer, Chairman, 42 Broadway, New York City.
Gustav Kahn, Truscon Steel Co., Youngstown, Ohio.
Paul J. Kalman, Merchants National Bank Building, St. Paul, Minn.
John B. Leonard, Rialto Building, San Francisco, Calif.
A. E. Lindau, Secretary and Treasurer,
Mutual Life Building, Buffalo, N. Y.

Door Hangers and Track

W. P. Benson, Chairman, Sterling, Ill.
B. B. Bell, Harvard, Ill.
W. H. Fitch, Aurora, Ill.
F. E. Meyers, F. E. Meyers & Bro., Ashland, Ohio.
W. K. Palmer, Frantz Manufacturing Co., Sterling, Ill.
F. C. Smith, Allith-Prouty Co., Danville, Ill.
A. Wagner, Wagner Manufacturing Co., Cedar Falls, Iowa.

Fibre Wall Board

J. F. Haggerty, Chairman, Beaver Board Co., Buffalo, N. Y.
W. H. Upson, Jr., Upson Co., Lockport, N. Y.
W. J. Parrot, Jr., 200 Fifth Avenue, New York City.
W. R. Mitchell, Haverhill Boxboard Co., Haverhill, Mass.
W. G. Saville, Secretary,
517 Insurance Exchange Building, Chicago, Ill.
Carl G. Whattler, Washington Representative,
Raleigh Hotel, Washington, D. C.

Electrical Materials

J. C. Dallam, Chairman, 1 River Road, Schenectady, N. Y.
H. D. Betts, 63 Vesey Street, New York City.
H. W. Bliven, 30 East 42nd Street, New York City.
C. E. Corrigan, Fulton Building, Pittsburgh, Pa.
F. W. Hall, 527 West 34th Street, New York City.
H. R. Holmes, East Liverpool, Ohio.
D. H. Murphy, Pittsburgh, Pa.
W. H. Thornley, P. O. Box 1143, Providence, R. I.

Elevators

C. H. M. Atkins, Chairman, Warner Elevator Mfg. Co., Cincinnati, Ohio.
S. D. Collett, Elevator Supplies Co., Hoboken, N. J.
I. N. Haughton, Haughton Elevator and Machine Co., Toledo, Ohio.
F. A. Hecht, Jr., Kaestner & Hecht, Chicago, Ill.
J. R. Jackson, Jr., A. B. See Elevator Co., New York City.
C. E. Ketchum, Warsaw Elevator Co., Warsaw, N. Y.
J. H. Van Alstyne, Secretary,
Otis Elevator Co., N. Y. City.

Gypsum and Gypsum Products

O. M. Knode, Chairman, 205 W. Monroe Street, Chicago, Ill.
L. E. Armstrong, Plymouth Gypsum Co., Fort Dodge, Iowa.
Victor C. Coxhead, 7 East 42nd Street, New York City.
Ray C. Haynes, Frisco Building, St. Louis, Mo.
J. A. Henley, Treasurer, Conway Building, Chicago, Ill.
M. A. Reebe, 597 Michigan Avenue, Buffalo, N. Y.
J. C. Seguire, 17 State Street, New York City.
F. A. Wilder, Southern Gypsum Co., North Holston, Va.
H. H. McDonald, Secretary,
1611 Harris Trust Building, Chicago, Ill.
V. G. Marani, Washington Representative,
415 Woodward Building, Washington, D. C.

Hollow Building Tile

H. M. Keasby, Chairman, Flatiron Building, New York City.
H. C. Downer, Malvern, Ohio.
Bert J. Graham, Cleveland, Ohio.
Frank R. Hale, Terre Haute, Ind.
J. T. Howington, Louisville, Ky.
B. C. Keeler, Mason City, Iowa.
J. R. Martin, San Antonio, Texas.
J. J. Whitacre, Whitacre-Greer Fireproofing Co., Waynesburg, Ohio.
E. R. Sturtevant, Secretary,
631 Pennsylvania Avenue, Washington, D. C.

Illuminating Glassware

M. F. Gleason, Chairman, Gleason-Tiebout Glass Co., Brooklyn, N. Y.
C. H. Blumenauer, Jefferson Glass Co., Follansbee, W. Va.
I. J. Collins, Hocking Glass Co., Lancaster, Ohio.
T. H. Howard, Phoenix Glass Co., Pittsburgh, Pa.
James Lewis, Secretary,
Consolidated Lamp and Glass Co., Coraopolis, Pa.

Lighting Fixtures

Chas. F. Kinsman, Chairman, 16 East 40th Street, New York City.
A. D. Curtis, 235 West Jackson Boulevard, Chicago, Ill.
E. F. Guth, Jefferson and Washington Avenues, St. Louis, Mo.
Benj. F. Klein, 312 High Avenue, Cleveland, Ohio.
Herman Plaut, 432 East 23d Street, New York City.
M. Rosenberg, 20 Warren Street, New York City.
Albert Wahle, 101 Park Avenue, New York City.
Wm. Horn, Secretary,
427 North Broad Street, Philadelphia, Pa.

Lime

Wm. E. Carson, Chairman, Riverton Lime Co., Riverton, Va.
Chas. C. Ryc, Vice-Chairman, Chas. Warner Co., Wilmington, Del.
C. W. S. Cobb, Glencoe Lime and Cement Co., St. Louis, Mo.
H. Dittlinger, New Braunfels, Texas.
T. J. Fleming, 519 Douglas Building, Los Angeles, Calif.
J. S. Hoskins, Longview Lime Works, Birmingham, Ala.
M. P. Kenney, Gager Lime and Manufacturing Co., Chattanooga, Tenn.
John Kling, Kelley Island Lime and Transport Co., Cleveland, Ohio.
J. M. Lounsbury, Allwood Lime Co., Manitowoc, Wis.
J. King McLanahan, Jr., American Lime and Stone Co., Tyrone, Pa.
H. J. Russell, F. W. Waite Lime Co., Glen Falls, N. Y.
L. T. Sunderland, Ash Grove Lime & Portland Cement Co., Kansas City, Mo.
G. B. Wood, Rockland & Rockport Lime Co., Rockland, Me.
Henry M. Camp, Secretary and Washington Representative,
Riggs Building, Washington, D. C.

STRUCTURAL SERVICE DEPARTMENT—SPECIAL WAR SERVICE

Metal Corner Beads

Henry W. Lamb, Chairman, 131 West State Street, Boston, Mass.
E. C. Jones, Milwaukee Corrugating Co., Milwaukee, Wis.
J. S. Rogers, Rogers Shear Co., Warren, Pa.
F. E. Sagendorph, Secretary and Washington Representative,
Room 301, Colorado Building, Washington, D. C.
One member from California and one from Dubuque, Iowa, not selected.

Metal Lath

Zenas W. Carter, Chairman and Washington Representative, 925 Wood-
ward Building, Washington, D. C. Main 298.
W. H. Foster, General Fireproofing Co., Youngstown, Ohio.
H. W. Foote, Northwestern Expanded Metal Co., Chicago, Ill.
W. W. Galbreath, Youngstown Pressed Steel Co., Youngstown, Ohio.
W. G. Hurlbut, Jr., Bostwich Steel Lath Co., Niles, Ohio.
Ira A. Thomas, Sykes Metal Lath and Roofing Co., Niles, Ohio.

Millwork

G. L. Curtis, Chairman and Washington Representative, 729 Riggs
Building, Washington, D. C. Franklin 6426.
L. J. Bardwell, Minneapolis, Minn.
Chas. O. Bossert, Brooklyn, N. Y.
P. F. Conway, Danville, Va.
M. B. Copeland, Omaha, Nebr.
H. A. Gregg, Nashua, N. H.
E. R. Jones, Shreveport, La.
S. S. King, Dayton, Ohio.
J. E. Morgan, Oshkosh, Wis.
W. H. Morris, Chicago, Ill.
F. J. Moss, Kansas City, Mo.
E. C. Noelke, Burlington, Va.
W. M. Otis, Columbia, S. C.
J. W. Owens, Los Angeles, Calif.
Herman T. Rediske, Milwaukee, Wis.
A. J. Siegel, St. Louis, Mo.
Frank Stevens, Waco, Texas.
Geo. J. Osgood, Secretary and Treasurer,
228 Munsey Building, Washington, D. C.

Mineral Aggregate

James G. Shaw, Chairman, 26 Courtland Street, New York City.
A. J. Blair, Milwaukee, Wis.
A. P. Burke, Atlanta, Ga.
G. A. France, Toledo, Ohio.
Jos. J. Hock, Baltimore, Md.
W. S. Holmes, Chattanooga, Tenn.
W. F. Jahncke, 814 Howard Avenue, New Orleans, La.
C. S. Lambie, Denver, Colo.
P. M. Lewis, Chicago, Ill.
G. V. Miller, 606 Majestic Building, Indianapolis, Ind.
B. D. Pierce, Bridgeport, Conn.
John Prince, Kansas City, Mo.
J. H. Roberts, Pittsburgh, Pa.
W. F. Shaffner, Mount Airy, N. C.
Geo. D. Van Sciver, DeFrain Sand Co., Beach and Berks Streets, Phila-
delphia, Pa.
E. Guy Sutton, Secretary and Washington Representative,
District National Bank Building, Room 104, Washington, D. C.

Subcommittee on Crushed Stone

A. J. Blair, G. A. France and B. D. Pierce.

Subcommittee on Crushed Slag

G. A. France.

Subcommittee on Sand and Gravel

W. F. Jahncke, P. M. Lewis and Geo. D. Van Sciver.

Plate Glass

Charles W. Brown, Chairman, Pittsburgh Plate Glass Co., Frick Build-
ing, Pittsburgh, Pa.
J. N. Davidson, Columbia Plate Glass Co., Blairsville, Pa.
Edward Ford, Edward Ford Plate Glass Co., Rossford, Ohio.
A. H. Gaffney, American Plate Glass Co., Kane, Pa.
T. H. Given, Allegheny Plate Glass Co., Glassmere, Pa.
J. W. Heidencamp, Heidencamp Plate Glass Co., Springdale, Pa.
C. H. Hill, Federal Plate Glass Co., Ottawa, Ill.
F. E. Troutman, Standard Plate Glass Co., Butler, Pa.
W. J. Wickes, Saginaw Plate Glass Co., Saginaw, Mich.

Plumbing Supplies

A. M. Maddock, Chairman, Thos. Maddock Sons Co., Trenton, N. J.
Chas. F. Arrott, U. S. Sanitary Manufacturing Co., Pittsburgh, Pa.

W. W. Bowers, American Pin Co., Waterbury, Conn.
D. Cleveland, Central Foundry Co., Birmingham, Ala.
L. C. Lawnin, N. O. Nelson Manufacturing Co., St. Louis, Mo.
Adolph Mueller, Mueller Manufacturing Co., Philadelphia, Pa.
H. W. Seymour, Crane Co., Chicago, Ill.
Newton Stern, Pacific Porcelain Ware Co., San Francisco, Calif.
Frank Sutcliffe, John Wood Manufacturing Co., Philadelphia, Pa.

C. E. McPhail, Secretary,
United Lead Co., Baltimore, Md.
George Herth, Jr., Washington Representative,
Southern Building, 15th and H Streets, N.W., Washington, D. C.

Portland Cement

J. R. Morron, Chairman, 30 Broad Street, Philadelphia, Pa.
B. F. Affleck, 210 South LaSalle Street, Chicago, Ill.
F. R. Bissell, 1001-1008 Praetorian Building, Dallas, Texas.
Chas. Boettcher, Ideal Building, Denver, Colo.
G. S. Brown, Alpha Portland Cement Co., Easton, Pa.
Geo. E. Cameron, Santa Cruz Portland Cement Co., San Francisco, Calif.
W. E. Erdell, Penn-Allen Portland Cement Co., Allentown, Pa.
Richard Hardy, Dixie Portland Cement Co., Chattanooga, Tenn.
R. H. Hughes, Crescent Portland Cement Co., Wampum, Pa.
L. T. Sunderland, Ash Grove Lime and Portland Cement Co., Kansas
City, Mo.
E. M. Young, Lehigh Portland Cement Co., Allentown, Pa.
Harold I. Todd, Washington Representative,
427 Colorado Building, Washington, D. C.

Sand-Lime Brick

William Crume, Chairman, Crume Brick Co., Dayton, Ohio.
A. S. Bacon, Tift Silica Brick Co., Albany, Ga.
C. Carmichael, Winchester Brick Co., Boston, Mass.
E. Chapman, Belt Line Brick Co., Minneapolis, Minn.
J. Dyett, New Orleans Silica Brick Co., New Orleans, La.
John Jackson, Jackson & Church Co., Saginaw, Mich.
Mr. Koelsch, Sand Lime Brick Co., Boise, Idaho.
W. K. Squier, Paragon Plaster Co., Syracuse, N. Y.
Irwin Toepfer, Acme Brick Co., Milwaukee, Wis.
Allen Walton, Secretary,
Hummelstown Brownstone Co., Waltonville, Pa.

Slate

Thomas S. Nelson, Chairman, 101 Park Avenue, New York City.
P. H. Close, Bellaire, Md.
C. N. Fay, 200 Devonshire Street, Boston, Mass.
Arch. M. Jones, Secretary and Washington Representative,
711 13th Street, N. W., Washington, D. C.

Tiling

F. W. Walker, Chairman, Beaver Falls Art Tile Co., Beaver Falls, Pa.
L. D. Lillibridge, American Encaustic Tile Co., Zanesville, Ohio.
N. E. Loomis, Mosaic Tile Co., Zanesville, Ohio.

Weather Strips

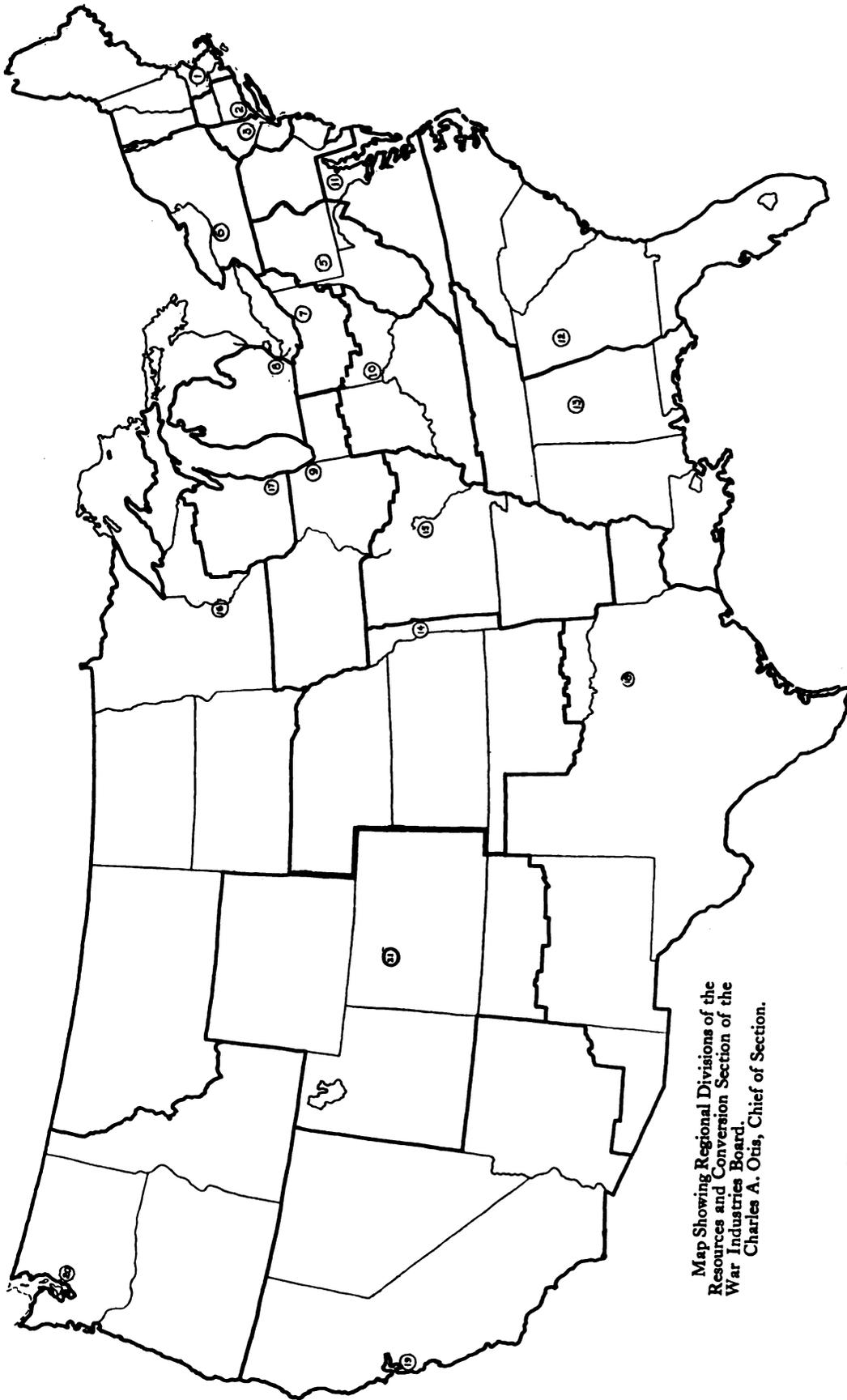
Jos. R. McCarger, Chairman, American Metal Weather Strip Co.,
Grand Rapids, Mich.
Alfred M. Lane, Monarch Metal Weather Strip Co., 4121 Forrest Park
Boulevard, St. Louis, Mo.
H. S. Drake, Higgins Co., Newport, Ky.

Window Glass

W. L. Monro, Chairman, American Glass Co., Pittsburgh, Pa.
Frank Bastin, Blackford Window Glass Co., Vincennes, Ind.
Frank Bostock, Sunflower Glass Co., Sapulpa, Okla.
C. W. Brown, Pittsburgh Plate Glass Co., Pittsburgh, Pa.
T. W. Camp, Camp Interests, Smethport, Pa.
U. G. Baker, Baker Bros. Glass Co., Okmulgee, Okla.
S. B. Henshaw, Libbey-Owens Sheet Glass Co., Charleston, W. Va.
H. R. Hilton, Allegheny Window Glass Co., Vincennes, Ind.
W. A. Jones, U. S. Window Glass Co., Columbus, Ohio.
J. M. Neenan, Electric Building, Cleveland, Ohio.
L. S. Skelton, Okmulgee Window Glass Co., Okmulgee, Okla.
H. J. Walter, Consolidated Machine Co., Bradford, Pa.
Chas. Wandless.
O. A. Wood, Fairmont Window Glass Corp., Fairmont, W. Va.
J. R. Johnston, Secretary,
National Association of Window Glass Manufacturers, Pitts-
burgh, Pa.
C. Ellsworth Parker, Washington Representative,
301 Star Building, Washington, D. C.

Wire Screen Doors and Windows

Wm. H. Ellis, Chairman, 1815 North Central Park Avenue, Chicago, Ill.
B. C. Rockwell, Vice-Chairman, Camden, Ark.



Map Showing Regional Divisions of the Resources and Conversion Section of the War Industries Board.
Charles A. Otis, Chief of Section.

War Industries Board Regional Advisors (see 10C2) of the Resources and Conversion Section

- | | | | | | |
|-----------------|--------------------|--|-------------------|---------------------|--|
| 1. Boston | Stuart W. Webb | Care of Chamber of Commerce | 11. Baltimore | F. S. Chavannes | Care of Merchants' and Manufacturers' Association, 109 E. German St. |
| 2. Bridgeport | B. D. Pierce, Jr. | First Bridgeport National Bank Building | 12. Atlanta | Edward H. Inman | 301 Fourth National Bank Building |
| 3. New York | Wm. F. Morgan | Care of Merchants' Association of New York | 13. Birmingham | T. H. Aldrich | 323 Brown-Marx Building |
| 4. Philadelphia | Ernest T. Trigg | 21st Floor, Finance Building | 14. Kansas City | Franklin D. Crabbs | 10th and Central Street |
| 5. Pittsburgh | George S. Oliver | Care of Chamber of Commerce | 15. St. Louis | Jackson Johnson | 1414 Pioneer Building |
| 6. Rochester | E. A. Fletcher | Care of Chamber of Commerce | 16. St. Paul | D. R. Cotton | Fourth Floor, City Hall |
| 7. Cleveland | W. B. McAllister | Care of Chamber of Commerce | 17. Milwaukee | August H. Vogel | 497-9 Southland Life Building |
| 8. Detroit | Allan A. Templeton | Care of Detroit Board of Commerce | 18. Dallas | Louis Lipitz | Care of Chamber of Commerce |
| 9. Chicago | D. E. Felt | 29 South La Salle Street | 19. San Francisco | Herbert Witherspoon | 814 Alaska Building |
| 10. Cincinnati | Edwin C. Gibbs | 31 East Fourth Street | 20. Seattle | Cass. E. Herrington | 510 Symes Building |

STRUCTURAL SERVICE DEPARTMENT—SPECIAL WAR SERVICE

W. J. Donahue, Spokane, Wash.
Arthur Ross, Home Building and Material Co., Ashboro, N. C.
H. H. Russell, E. F. Burrows Co., Portland, Me.
F. P. Sievers, Farley & Loetscher, Dubuque, Iowa.
E. M. Underwood, Watson Manufacturing Co., Jamestown, N. Y.
Jas. B. Henderson, Secretary and Treasurer,
1319 W Street, N. W., Washington, D. C.

Resources and Conversion Section 10C

Facilities Division 10C1
S. P. Bush, Chief

Licenses to Build 10C2

The erection of buildings throughout the country is now possible under the following conditions:

No building operation can be undertaken without a license issued by the War Industries Board. If the building is for Government purposes, or is an extension to an industrial plant engaged in work for the Government, the license is issued by the new Facilities Division. If the building is for essential purposes, but not directly contributing to the winning of the war, the license is issued by the Non-War Construction Section.

Applications for a license for work of the first class must be made to the new Facilities Division, if built by the Government, or to this Division through the Regional Advisor of the Resources and Conversion Section of the War Industries Board, if the construction is necessary for the winning of the war; and if such an application is approved, a license is issued by the new Facilities Division (p. 490).

Applications for the latter class (private building, non-war construction) must be made through the local and State Councils of Defense (see 9D2); if the application is approved, it is forwarded to the Non-War Construction Section, and if favorable action is taken here, a license is issued.

Copies of such licenses are sent to the Building Materials Section, which issues, upon application, a permit by which the desired materials may be obtained. If the work involves the use of a material that by reason of shortage is being allocated, a substitute of some other material is suggested, or if the material requires a priority rating, for example, steel, the application is sent to the Priorities Division for the necessary rating. With this license the contractor may secure from the manufacturer or producer the building material required. (See Clearances 10D.)

The building material producers, or manufacturers, are placed upon the honor system by the Priorities Division (see 9B and 9C).

Clearances 10D

Where a license has been granted for a project, whether it be for war work or non-war work, application must be made to the Building Materials Section for clearance, and, if a price has been established, for allocation. The recommendation as to the manufacturer or producer with whom the order should be placed, and the price to be paid, will be furnished by the Building Materials Section. This order is placed with the nearest available manufacturer or producer, so as to involve the least possible transportation. When the manufacturer or producer nearest to the given point of consumption have received orders for all the

material he can furnish, the orders are then placed with the nearest manufacturer or producer who can furnish the material. In this way the transportation is reduced to a minimum, an equitable distribution of Government orders is effected among the several manufacturers or producers, and the confusion resulting from placing orders by the several Government Departments without reference to each other is avoided. Where one Department purchases without regard to another, it frequently happens that a manufacturer or producer will receive more orders than he can fill, while his neighbor has very little business. The result is that the greatest efficiency in deliveries is impossible.

Applications for Priority 10E

Under 9D2, "Non-War Construction," reference was made in the last issue to the method of application for "Clearances" on non-war construction, as set forth in Circular No. 21, issued by the Priorities Division. Under date of September 26, a supplementary circular was issued, which reads as follows:

"Contractors and others engaged in the construction of streets, pavements, and roadways now substantially under way are authorized to continue such construction, and manufacturers and distributors of and dealers in materials used in connection therewith may continue to furnish same for such construction work up to November 1, 1918. Applications for permits should be promptly made to the United States Highway Council through the State Highway Department for the completion of all such work now under contract and under construction which cannot be completed prior to November 1.

No new contracts for the maintenance, construction, or reconstruction of streets, pavements, and highways should be entered into, or no new construction not now in progress undertaken, either prior or subsequent to November 1, without first obtaining a permit from the United States Highway Council, through the State Highway Department."

Subdivision 2 of Circular No. 21 (see 9D2), providing for the approval and clearances of "Repairs and extensions to existing buildings, involving in the aggregate a cost not to exceed \$2,500," is amplified by the supplemental circular to include "New construction for farm purposes only, involving in the aggregate a cost not to exceed \$1,000."

Price Fixing 10F

When the Government demand for materials takes the major part of the available supply, it is necessary to allocate this supply to the several Government Departments. In order to secure an efficient and equitable distribution of the material it is necessary for the Government to fix a price. In establishing fair prices, the Federal Trade Commission makes an investigation of the books of the various manufacturers or producers and renders a report of its findings to the Price Fixing Committee of the War Industries Board. The Commodity Section, or the Building Materials Section in this case, conducts the preliminary negotiations with the industry and arranges for a hearing of the industry before the Price Fixing Committee. When the industry is granted a hearing, the Price

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Fixing Committee establishes a price on the evidence presented by the Federal Trade Commission and the industry. This price covers the cost of production plus a proper allowance for overhead expenses, including selling expenses, depreciation, and a profit depending on the turnover in the industry. Such prices are generally fixed for both the Government and the public and are subject to review at fixed intervals of about three or four months. Prices have been fixed for the following building materials: iron and steel, lumber, Portland cement, hollow building tile, and in the metropolitan districts of New York and Philadelphia, for sand, gravel, and crushed stone.

Allocation

10G

The work of allocating construction projects involves the allocation, first, of the project itself, and, second, the allocation of the materials with which the project may be constructed. The allocation of the project, if it be for war purposes, will now be determined by the Facilities Division, with respect to the transportation facilities for the delivery of raw materials, including fuel, to the plant, and for the delivery of the plant's products, and the available supply of labor for construction and operation.

The allocations of materials for construction are made by the Building Materials Section.

The allocation of materials, apparatus, and devices is made through the close coöperation of the Commodities Section and the War Service Committees (see 10B) of the industry or industries furnishing them. In many cases the allotment of orders to the various plants—the distribution of production—has been put directly up to the industrial organizations themselves. As a result, there are today organizations in practically all of the building material industries, representing 100 per cent of the producers, where before the war there was no semblance of coöperative effort. This development of the industrial organization must prove to be one of the very great and lasting benefits of our war experience.

Standards

10H

Frequent meetings are held between the representatives of the various construction bureaus of the Government, representatives of other sections of the War Industries Board, and the War Service Committees, representing the various building material industries, to discuss the numerous problems of standardization relating to building construction.

Standardizations effected by the War Industries Board are of three general classes:

Design: Those which effect a change in the design of a product for the purpose of conserving materials or labor in manufacture. Examples of such standards are the proposed reduction in thickness of insulating wall on electric conductors, and the use of single instead of double braid; also the reduction in card weights of cast-iron pipe.

Type: A certain limited number of the great variety of types of hardware, wiring devices, or electric apparatus, for example, are selected as standards, and no others are permitted to be made.

Practice: The use of products is regulated, as in cast-iron pipe, where nothing heavier than "standard" weight

may be used, or, in plumbing, where back venting is not permitted.

Some of these standards apply only on Government work; others are for civil work, while the same standard sometimes applies to both. When standards are reported in the Structural Service Department, they will be indicated by the symbol GS, if for Government work; by the symbol CS, if for civil work. Standards have already been approved for composition roofing, millwork, window screens and doors, building hardware, gypsum plaster and wall board, fiber wall board, lighting fixtures, and there are now under consideration, standards for heating and sanitary apparatus, electrical materials, slate and clay roofing, and paints.

STANDARDS APPROVED

Finishing Hardware GS (Indirectly for CS) 10H1

Practically every item under this heading has been standardized and described and diagrammed in a circular issued by the War Industries Board, known as "United States Standard Specifications and Details for War Building Projects."

From that circular we quote the following:

"In specifying the finishing hardware for any project, selection is to be made from the Standard Specification of such items as apply, care being taken to see that hardware selected will fit the millwork specified. The wording opposite the heads 'General' and 'Finish' and the specification opposite each selected item is to be copied exactly. The Architect's specification also is to refer to the U. S. Standard Specifications and Details as to hardware, giving the Section and Plate numbers and item letters of each selection so as to facilitate references. It is to be understood that existing stocks, carrying commercial finishes, should be utilized in so far as they may be acceptable to the Purchasing Officer before resorting to the manufacture of Standard Designs."

Piping: Drainage, Water, Gas. GS 10H2

1. Nothing larger than 4-inch diameter nor heavier than standard plain cast-iron soil-pipe is to be used for vertical stacks above ground, the full-size stack to be carried through the roof. Portland cement concrete or vitrified clay pipe shall be used for horizontal lines under ground.
2. There shall be no back vents used.
3. No house-traps or fresh-air vents shall be used.
4. Water service pipes shall be of 3/4-inch galvanized wrought steel or iron for single houses, and of proportionately larger size for larger buildings.
5. No patterns for soil-pipe and fittings other than those listed in the schedule of the Conservation Section of the War Industries Board shall be used.
6. The installation of gas piping in houses will not be permitted where electricity is available for lighting purposes. This will not prohibit the installation of gas piping for heating and cooking purposes where the extreme extension of the distribution mains to the houses is less than 1,000 feet.
7. No system of gas-mains shall be installed in any project requiring an extension of more than 1,000 feet from the existing source of supply without the special approval of the War Industries Board.
8. No metal pipe shall be used for water-mains without special permission of the War Industries Board. This does not apply to pipe-lines carrying pressures of more than 100 pounds.
9. The number of fire hydrants shall be reduced to the absolute minimum necessary for adequate fire-protection.
10. All water-supply tanks shall be of other material than metal.
11. Culvert pipes shall be reinforced concrete, burned clay, or other material than metal.
12. Cellar-floor drainage shall be restricted to the use of underground drains which may be turned up to the floor-level and finished with a screw-plug connection.

STRUCTURAL SERVICE DEPARTMENT—SPECIAL WAR SERVICE

Cast-Iron Soil Pipe. CS

10H3

1. No patterns other than those listed to be made during the war.
2. All pipe and fittings to be furnished "plain" only.
3. Soil-pipe to be made only in the standard and extra-heavy weights, and in 2-, 3-, 4-, 5-, 6-, 8-, 10-, and 12-inch sizes.
4. Fittings to be made only in the standard and extra-heavy weights.
5. The existing card weights of standard pipe to continue.
6. The existing card weights of extra-heavy pipe to be modified as follows:

2-inch,	2½ lbs. reduction per length, new weight	25 lbs. per length.
3-inch,	3 lbs. reduction per length, new weight	44½ lbs. per length.
4-inch,	7 lbs. reduction per length, new weight	58 lbs. per length.
5-inch,	14 lbs. reduction per length, new weight	71 lbs. per length.
6-inch,	15 lbs. reduction per length, new weight	85 lbs. per length.
8-inch,	45 lbs. reduction per length, new weight	125 lbs. per length.
10-inch,	50 lbs. reduction per length, new weight	175 lbs. per length.
12-inch,	50 lbs. reduction per length, new weight	220 lbs. per length.

All pipe to be of the same length as before, which is a laying length of 5 feet for single hub-length.

The over-all length of double hub pipe to be the same as the over-all length of single hub pipe.

Standard Fitting Dimensions

The over-all dimensions of 2-, 3-, 4-, 5-, and 6-inch fittings are not to exceed the over-all dimensions of extra-heavy fittings in accordance with the so-called "NACO" specifications. The barrel diameter and hub and spigot dimensions are to be in accordance with the dimensions which exist on the corresponding sizes of standard pipe. The wall thickness to be such that the weights of the standard fittings shall not be greater than the following:

2-inch,	60 per cent	}	of the weight of the extra-heavy fittings made in accordance with the NACO specifications.
3-inch,	65 per cent		
4- to 6-inch inc.,	70 per cent		
8-inch			
10-inch			
12-inch			to be made as heretofore.

Extra-Heavy Fitting Dimensions

The dimensions and weights of 2- to 6-inch sizes to be in accordance with the so called NACO specifications.

- 8-, 10-, and 12-inch sizes to be made as heretofore.
7. The following fittings only are to be made during the period of the war in the following sizes and in standard and extra-heavy weights:
 - ¼ Bend, 2-, 3-, 4-, 5-, 6-, 8-, 10-, and 12-inch.
 - ½ Bend, 2-, 3-, 4-, 5-, 6-, 8-, 10-, and 12-inch.
 - Long-sweep ¼ Bend, 2-, 3-, 4-, 5-, and 6-inch.
 - Sanitary T Branch, 2-, 3-, 4-, 4 x 2-, 5-, 6-, 8-, 10-, and 12-inch.
 - Y Branch, 2-, 3-, 4-, 4 x 2-, 4 x 3-, 5-, 5 x 4-, 6-, 6 x 2-, 6 x 4-, 8-, 10-, and 12-inch.
 - Sanitary Cross, 2-, 3-, 4-, 5-, 6-, 8-, and 10-inch.
 - Double Y Branch, 2-, 3-, 4-, 5-, 6-, 8-, and 10-inch.
 - Iron Ferrule with Brass Trap Screw, 2-, 3-, 4-, 5-, 6-, and 8-inch.
 - Tapped Sanitary T Branch, 2 x 2-, 3 x 2-, 4 x 2-, 5 x 2-, and 6 x 2-inch.
 - Increaser, 2 x 3-, 2 x 4-, 3 x 4-, 3 x 5-, 4 x 5-, 4 x 6-, and 5 x 6-inch.
 - Short Tapped Increaser, 1½ x 2-, 1½ x 2-, 2 x 3-, and 2 x 4-inch.
 - Vent Cap—Spigot End, 2-, 3-, and 4-inch.
 - Double Hub, 2-, 3-, 4-, 5-, 6-, 8-, 10-, and 12-inch.
 - Reducer, 2 x 3-, 4 x 2-, 4 x 3-, 5 x 3-, 5 x 4-, 6 x 4-, 6 x 5-, 8 x 6-, 10 x 8-, and 12 x 10-inch.
 - Special Hub Reducers, 3 x 2-, 4 x 3-, 5 x 4-, 6 x 4-, and 6 x 5-inch.
 - Plug, 2-, 3-, 4-, 5-, 6-, 8-, 10-, and 12-inch.
 - Roof Iron, 2-, 3-, 4-, 5-, and 6-inch.
 - Floor-Plate, 2-, 3-, 4-, 5-, and 6-inch.
 - Pipe-Rest, 2-, 3-, 4-, 5-, 6-, 8-, and 10-inch.
 - Pipe-Hook, 2-, 3-, 4-, 5-, and 6-inch.
 - Pipe-Strainer, 2-, 3-, 4-, 5-, and 6-inch.
 - ½ S. or P. Trap, 2-, 3-, 4-, 5-, 6-, and 8-inch.
 - Running Trap, 2-, 3-, 4-, 5-, and 6-inch.
 - ½ S. or P. Trap with Vent, 2 x 2-, 3 x 3-, 4 x 4-, 5 x 4-, and 6 x 4-inch.
 - Running Trap with Vent, 2 x 2-, 3 x 3-, 4 x 4-, 5 x 4-, 6 x 4-, 8 x 6-, 10 x 8-, and 12 x 6-inch.
 - Running Trap with Double Vent, 2 x 2-, 3 x 3-, 4 x 4-, 5 x 4-, and 6 x 4-inch.
8. The following fittings to be made during the period of the war in the following sizes and in extra-heavy weights only:
 - Iron Closet Bend with Flange, 4 x 18-inch.
 - Drum Traps known as No. 1, No. 2, and No. 4.
 - Garage Separating Trap, 3-inch Outlet, 4-inch Outlet.
9. The following fittings to be made during the period of the war in the following sizes and in standard weights only:
 - Large Cesspool with Bell Trap and Grating, 12 x 12 x 10, 15 x 15 x 10, 16 x 16 x 10 inches deep.
 - Square Cesspool Plate, 4 x 4-, 5 x 5-, 6 x 6-, 7 x 7-, 8 x 8-, 10 x 10-, and 12 x 12-inch diam.
 - Round Cesspool Plate 4-, 5-, 6-, 7-, 8-, 9-, 10-, and 12-inch diam.

Tubular Plumbing Goods. CS

10H4

Traps, Wastes and Overflows, Basin, Tank and Bath Supplies, made of Brass Material, and Their Accessories.

1. No new styles, sizes, or gauges to be made during the period of the war by any manufacturer.
2. *Wrought traps* to be limited to the following styles, sizes, and gauges:
 - One Style Plain P. Trap, with cleanout in 1¼-inch size.
 - One Style Plain S. Trap, with cleanout in 1¼-inch size.
 - One Style Sink Trap in 1¼-, 1½-, and 2-inch sizes.
 - All the above traps may be furnished with wrought or cast P. O. Plugs or wrought sink couplings.
 - All the above traps to be furnished in 20-gauge brazed tubing only.
 - All the above traps to be made with washer joints only.
3. *Cast traps* to be limited to the following styles, sizes, and gauges:
 - One Style Plain P. Trap, with cleanout in 1¼-inch size.
 - One Style Plain S. Trap, with cleanout in 1¼- and 1½-inch size.
 - One Style N. Y. Regulation Trap, with cleanout in 1¼-, 1½-, and 2-inch size.
 - One Style Bag Offset Trap, with cleanout in 1¼- and 1½-inch size.
 - One Style Bag Offset Trap, I. P. outlet, with cleanout in 1¼- and 1½-inch size.
 - All the above traps may be furnished with wrought or cast P. O. Plugs or wrought sink couplings.
 - All the above traps to be furnished in 22 B & S gauge brazed tubing only.
 - All the above traps to be made with washer joints only.
4. *Connected wastes and overflows* to be limited to the following styles, sizes, and gauges:
 - One Style adjustable all-wrought fixture, including wrought top and bottom strainers and wrought nuts made of 1½-inch O. D. brazed tubing 22 B & S gauge.
 - One Style adjustable all-cast fixture, including cast top and bottom strainers and cast nuts made of 1½-inch O. D. brazed tubing 22 B & S gauge.
 - All Styles and sizes of Ideal or Bi-Transit wastes and overflows to be discontinued.
5. *Basin Supply Pipes* to be limited to the following styles, sizes, and gauges:
 - ¾-inch I. P. S. straight basin supply pipes to the floor, 12-gauge brazed tubing 26½ inches long, threaded on each end.
 - ¾-inch O. D. straight basin supply pipes to the floor, reduced on one end to ½ O. D., not threaded on either end, complete with coupling nuts, friction rings, and rubber washers, 16-gauge brazed tubing.
 - ¾-inch I. P. S. angle basin supply pipes to the wall, 12-gauge brazed tubing threaded on both ends.
 - ¾-inch O. D. angle basin supply pipes to wall, reduced on basin end to ½-inch O. D., not threaded on either end, complete with coupling nuts, friction rings, and rubber washers, 16-gauge brazed tubing.
 - Straight Crawford Connection. Angle Crawford connection.
 - All the above ¾-inch I. P. S. supply pipes to be furnished with reducer.
6. All the above supply pipes to be furnished with heavy flanges.
6. *Bath Supply Pipes* to be limited to the following styles, sizes, and gauges:
 - ½-inch I. P. S. straight bath supply pipes to the floor, threaded on each end, 20½ inches long, 12-gauge brazed tubing.
 - ¾-inch O. D. offset bath supply pipes, 16-gauge brazed tubing, complete with coupling nuts, slip nuts, friction rings, and rubber washers.
 - All the above ½-inch supply pipes may be furnished with ball offset couplings.
 - All the above supply pipes to be furnished with heavy flanges.
7. *Supply Pipe for Closet Tanks* to be limited to the following styles, sizes, and gauges:
 - One Style tank supply pipe made of ¾-inch I. P. S. brazed tubing, 12 B & S gauge, 21 inches long, threaded on one end, collar formed on other end, furnished with heavy flange.

Range Boilers. CS

10H5

1. No new styles, sizes or gauges of range boilers or expansion tanks to be manufactured during the period of the war.
2. All range boilers and expansion tanks to be made from 12-gauge steel only.
3. All malleable boiler and tank heads to be eliminated.
4. Each manufacturer to reduce his line of horizontal range boilers to the two following sizes: 10 x 34 inches, 16 gals.; 12 x 36 inches, 18 gals.
5. Each manufacturer to reduce his line of vertical range boilers to the following sizes and all side spurs to be eliminated.
 - 12 x 36 inches, 18 gals. 16 x 60 inches, 52 gals. 20 x 60 inches, 82 gals. 12 x 60 inches, 30 gals. 14 x 60 inches, 40 gals. 22 x 60 inches, 100 gals.
6. Each manufacturer to reduce his line of expansion tanks to the following sizes: 12 x 20 inches, 10 gals.; 12 x 36 inches, 18 gals.

General Index to Structural Service Department

Light-face numerals refer to information published in the Journal during 1918. Black-face serials refer to the Structural Service Book, Volume I, a copy of which is in the possession of every architect, engineer, builder, or manufacturer who subscribes to the Journal.

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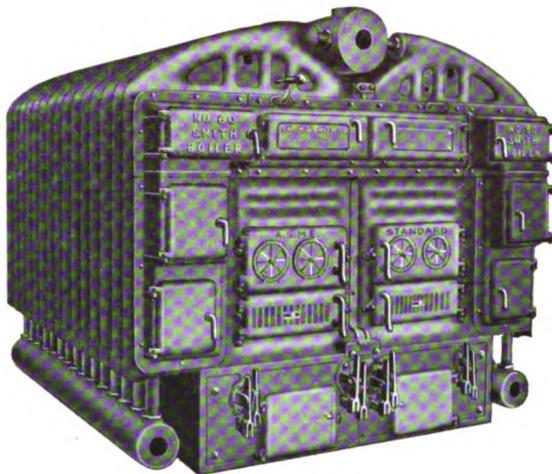
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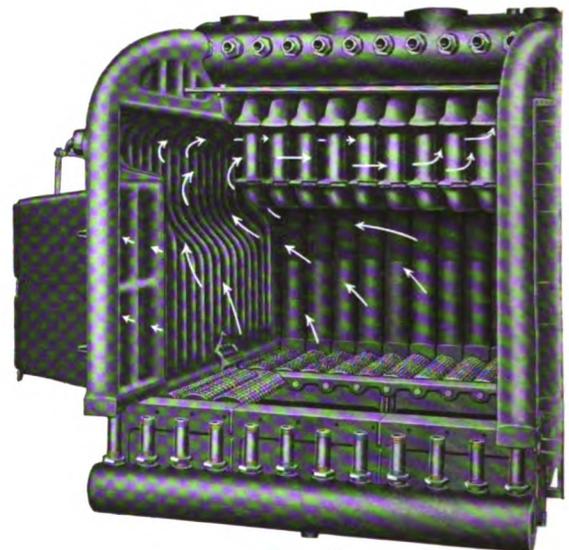
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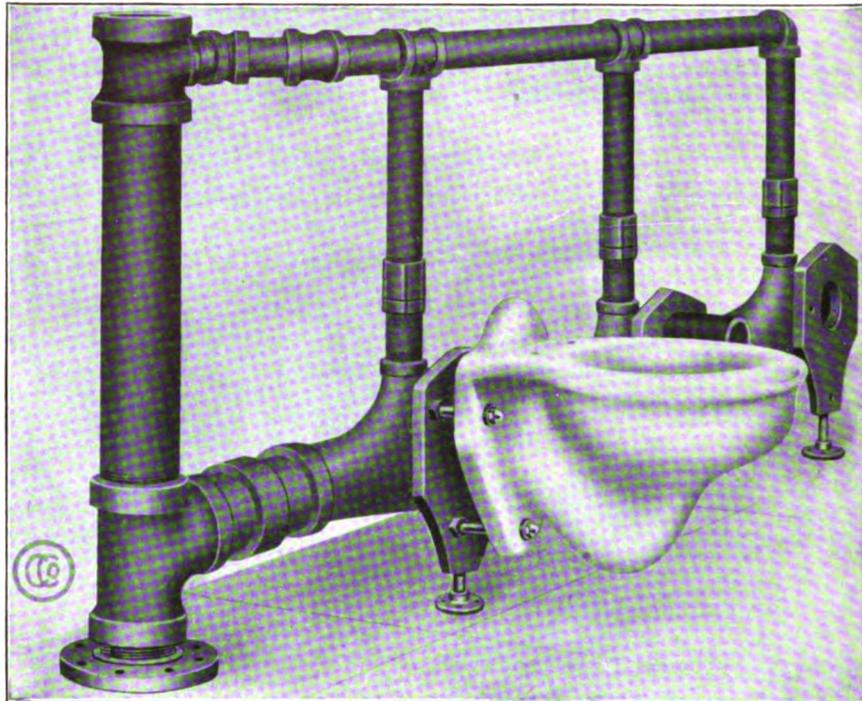
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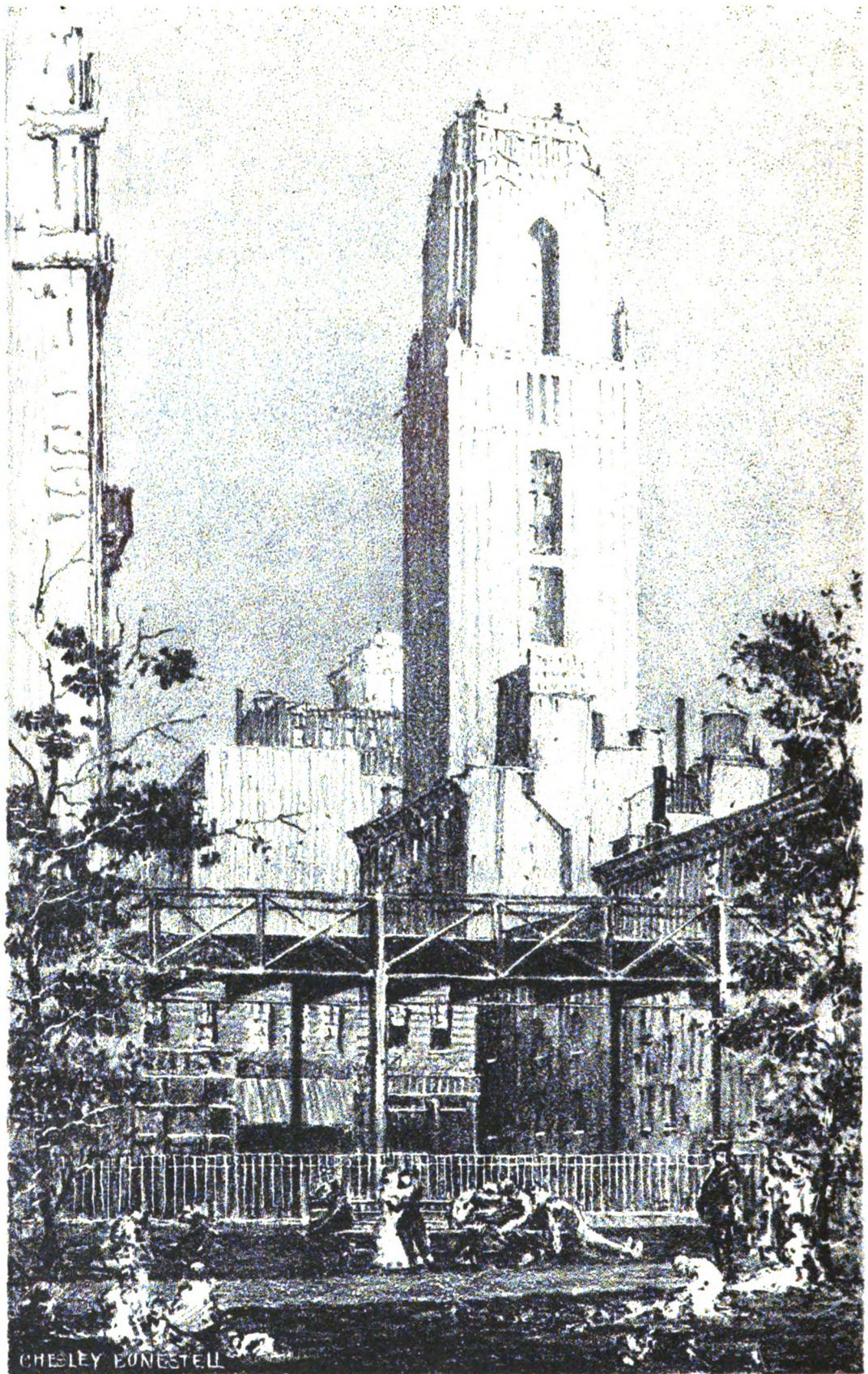
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No. 11

Shadows and Straws

HOW SOON WILL THE GOVERNMENT allow private building to go ahead? The question has already been partially answered by the announcement of the War Industries Board, an account of which appears in the Structural Service Department of this issue. But before we ask how soon the Government ought further to remove the control it now exercises over industry, let us remember the gravity of the problem ahead of us.

THE BASIS OF WAR is far easier to attain than the basis of peace. Under Government control, we have submerged our identities for a common cause. To attempt to grab them back again the moment we feel that the end of the war is in sight, would set free all the violent forces of unrestrained competition and plunge us in a maelstrom of the blindest fury. In the hurry of our giant mobilization of national resources we could not stop to count the cost. Life was more important. All speed was justifiable—waste was justifiable—because the end sought was the saving of life. Under the spur of this need, we accepted every sacrifice and put forth an effort that we must now look back upon with some feeling of pride. The end has come, apparently, quicker than we ever dared believe, and our effort has played a great part in hastening that end. (Only, do not let us be vain about it. Our sacrifice is small, after all, when we look at the price our Allies have paid. That ought to make us humble, if we have any humility left.)

NOW COMES THE MORE DIFFICULT PROBLEM. We must return to what we call a

peace basis. Control⁷ will be irksome where once we did not mind. Impatience will take a new form, and instead of damning the mistakes of the past will demand the right to be free of any control—to go ahead with business—to resume, in short, the path it abandoned temporarily, under pressure, for war. To handle this situation without inviting the terrors of which all Europe today shivers in dread, will require a degree of courage, patience, intelligence, and even sacrifice, beside which the demands of war might seem small. Disorder did not count so much in making ready for war, but it will count terribly in getting ready for peace. We cannot approach the new basis by the extravagant path of waste over which we travel to make war. From spending without counting the cost, we must turn to spending with care. We must turn to an intelligent kind of spending where our effort all goes into construction instead of into destruction.

THUS WE MIGHT WELL ASK, when we inquire how soon the Government will relax its control of industry, and particularly the building industry, what kind of building ought to take precedence? Should there be any precedence? Or should we let things take the course which, as individuals we may prescribe? Would it not be better to make some kind of a plan, for which we have all the data ready in the accumulations revealed by our war organizations, and decide upon an orderly basis of procedure? And ought not such a decision to be based upon human needs, and not upon selfish interests? And into a consideration of our own problem must we not take account of the problems of

our Allies? They have wounds where we have only bruises. They have an aggregate of human suffering which almost passes comprehension. If we dismiss their problems now, of what use will have been our help in the past? There is building work ahead of us in volume to satisfy the demands of all who are dependent upon that industry for a livelihood. The real problem is to provide an intelligent program, based upon an honest attempt to satisfy the needs of the world in the order of their dire necessity. To do this, we cannot consider any one problem by itself. Food is a more pressing necessity than buildings. Europe would be left to starvation, a great portion of it, without our help. The same international basis of regulation and distribution which we have perfected for war purposes must still be kept intact as the only possible solution of the immediate post-war necessities. No country can solve the problem alone. It must be done with a mutual resolve and a mutual purpose.

WHAT IS THE PURPOSE BEFORE US? What is beyond the threshold where the new world now stands poised, as the war ends? Within what brain lies the power to comprehend the multitude of forces that stand ready to be loosed, under the name of reconstruction, for good and for evil? What is the purpose before us? Democracy! Liberty! Freedom! A decent world to live in! These are the words with which we have spurred ourselves to the effort and our brothers to the sacrifice. Does anybody now know what they mean? Yet those brothers of ours did not die for words. They died for our chance to give those words their meaning.

Unless we can answer that question, their blood in the cup of life which they have filled for us and from which we must drink, will turn to gall in our mouths. We cannot ask them—they cannot answer. It is we who must find the answer, alone. Upon us rests the task that their death has made sacred. In answering their question as they saw it, they left their loves and laid down their lives. If we cannot summon our utmost best as we stand on the threshold of the door that they have opened, what worse than hypocrites and assassins we must know ourselves to be. Words and memorials will not suffice—we must find a better answer.

IS NOT THE ANSWER that they died for us? Why not? We might have died; they did. They might be alive; we are.

But among us for whom they died, there are those who have already started to make us believe that five million men have given their lives for the theory of a Protective Tariff. Others protest that they died for the principle of Free Trade. We know, in our hearts, that they did not give their lives for either of these things, for we know that in both of them lurks the deadly seed of war. Are our soldiers to part from their Allies in France and then come home to begin an industrial war under the banner of Protection? Are they to come home, and through the devices of monopoly, all of which are just as deadly under the guise of Free Trade, seek for the strangle hold which shall make us rich and leave them poor? Or are we all to work for the policy of Fair Trade between men and nations, based on our belief that it is for Justice that men have died? Not merely Justice for us—but for World Justice!

Do we not now know that Justice cannot be bought with injustice? That there is no freedom for any man until all men are free? That liberty does not confer any right which is not balanced by an equal responsibility for giving the same degree of liberty to all? Giant forces will resume the struggle that we shall transfer from the field of War to the field of Peace. In that struggle there can be but one motive to guide us. For what have men died? Shall we try to resolve it into a single term and say that it was their will that their lives should be given that there might be no more war? Was it not to establish a warless world that we fought this war? Dare we deny that and hold up our heads? Are we so base as to be willing to brush all our uttered resolutions aside? Can we seek any other basis of action than that which will lead us away from War?

Like Democracy, the question is personal. Every man must make his own choice. We can conscript men and send them to die for their country—we cannot conscript them and make them live for their country. But the time has come when, through living the lives that are ours, we must make good our promise to the dead. Every theory—political, social, economic,—must be examined in that light and in that light alone. Does it make for Justice? Does it

SHADOWS AND STRAWS

make against war? By that means alone is it possible for us to judge the remedies that will be put forth as flies cluster about sweetness. Interest after interest will seek to gain its ends. Every scheme will be employed to break down our high resolve. All must be tested in the crucible of our souls; we must ask whether it is for such schemes that men have died. To refuse that responsibility is to live the life of an unspeakable coward, with the blackest of lies in our hearts.

THEREFORE LET US, who are interested in building, examine our problem under this new light of sacrifice given sublimely and to an extent such as the world has never before known. We have a part to play individually and collectively. Into that part we must bring all our mind, all our heart, all our soul, in order that the sacrifice shall not rise to taunt us with our treason. The problem before us is a human one. It is with Life that we must deal—not with our little lives, but with World Life. To deal with it in the old manner, whereby we put Profits first and Life last, will be a despicable betrayal of our trust. Men have died not for Profits but for Life. They have left us as the trustees and guardians of the Life of the World. Our one prayer must be that we shall be given the wisdom to be true to our trust.

It is our hope that the commission on Reconstruction, now being discussed in Washington as a method by which the various functions of the War Administrations may be coördinated for the solution of the problem of demobilization and our return to a non-war basis, may be made an effective instrument for accomplishing this work with the least disturbance to the welfare of the nation and for the best good of all. But the measure of our morality, as a nation, for years to come, will be the way in which we, as individuals, collaborate with the work of whatever agency is set up to handle the problem. A national morality can be no greater than the morality of those who make up the nation. We have passed the moral test of War—now we must pass the greater moral test of Peace.

OF GREAT SIGNIFICANCE was the article we published, some months back, showing the work of the Philadelphia Chapter, through its Com-

mittee on Housing and Transportation, in studying the problems suggested, by means of a regional survey of the industries and transportation routes which serve Philadelphia and the surrounding country. It was the auspicious beginning of a method of study which is bound to lead to great things in the United States. It was based upon a resolute purpose to approach the housing problem basically, and not in the haphazard method heretofore followed by the various groups that have essayed to make us believe that housing was a matter to be regulated by Bismarcking the tenement house through ordinances prescribing the sizes of rooms and heights of ceilings. The movement inaugurated by the Philadelphia Chapter has spread, taken root, and promises to grow into a full-fledged method of scientific study. Upon such study, the devotees of architecture must look with something more than a wondering eye!

In the Philadelphia *Public Ledger* of October 13, the Committee of the Philadelphia Chapter presented the result of another study of Philadelphia as a seaport. Undoubtedly, in the dusty archives of Philadelphia, there are tons of waste-paper devoted to the problem of making Philadelphia a seaport. They are very likely filled with every kind of special pleading, in which one interest after another seeks, not to solve the problem, but to solidify and protect its own investments, while other interests seek to transfer these very values to their own tumble-down, or neglected, or left-by-the-wayside properties. If a commission should make a study of the problem, we might expect, in some years, a series of volumes of statistics and data, with endless miles of platitudinous verbiage, legal opinions, and special pleading concealed under the mask of testimony.

But the value of THE PLANNING IDEA is that it proceeds to work without taking any cognizance of these things. Its task is to find out what is the best thing to do—not what can be done, or may be done, provided this or provided that. What is the best answer to the problem? That is the question. After what has been found, then the people to whom the plan applies may say whether they will or will not carry it out, and what compromise they will make. But it is not the function of the planning idea to begin with a compromise in fear or in favor of anything.

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It was exactly in this spirit of fearlessness that the Committee of the Philadelphia Chapter proceeded. With the same clear logic which inspired the earlier report, the problem is analyzed and the conclusions set forth. With a degree of brevity and lucidity seldom attained in such a presentation, the Committee goes to the heart of the problem, lays bare the roots, and exhibits the spot where the axe should be laid.

The problem of Philadelphia is answered with a scientific and orderly presentation of the salient factors that have made and are unmaking it a port of entry. Freed from special influences or interests, the Committee discusses railroad rates and secret agreements with a candor which, in the old days, before the war, would have laid the city low with apoplexy. It points out the reasons why Philadelphia is not a great seaport, how it can be made one, and puts the question squarely up to the citizens of Philadelphia and the various organized bodies which supposedly exist for the service of Philadelphia.

But its study goes further than this and takes account of the great National benefit which can be conferred by a rearrangement of transportation lines based, not upon any selfish interest, but upon the simple laws of economy, which teach us that the shortest distance between two places is really a straight line, and not over a railroad system which is operated against the public interest. (Remember the wonderful geography of the maps in the railroad timetables!) The Government, having taken over the railroad systems, has already recognized this fact in a striking manner; now it is for us to maintain the principle as a part of the new order.

The mammoth emergency shipbuilding plant at Hog Island is marked, in the Committee's study, as the future center where rail and water transportation are to meet and transfer their burden. The millions spent by the nation will have created a large part of the necessary port machinery. It only remains to construct the connecting links of railway in order that this great national economy may be effected. Commenting editorially upon the Committee's work, the *Public Ledger* has the following to say:

"Every Philadelphian who takes a real interest in the future of this great industrial community, which will, however, not remain great merely by talking about it, should read the article in the magazine section today that

discusses the problem of the port. A more luminous and more lucid article on the facts that confront the city and the entire district that make up the port from the physical as well as the Federal point of view has not been written in years. The community is indebted to the local Chapter of the American Institute of Architects, that has authorized the study, and, more particularly, to the committee that signs the report and to John Irwin Bright, who wrote it. Coming to the problem without entangling relationships and without prejudices, as it were, the prejudices of the before-the-war type that seldom let in the light on an admittedly complicated issue, Mr. Bright gets right down to the topographical and commercial reasons that make any harbor a port, for the two things are not synonymous at all, and he reads the criss-crossed palm of Philadelphia's destiny in a way that should make the various indolent and dilatory associations that always speak on these problems for the city 'sit up and notice things.' . . . If the work of these younger enthusiasts falls on deaf ears, then these studies brought out by the war will be in vain, indeed, but only in so far as one admits the inability of any group of experts to stir those who are set in their ways and are beyond the appeal of reason. Like Cassandra, the architects and their spokesman will have told the truth, whether it be believed in or not. With this report in hand, they should not let things drop. The inertia of the older groups who have not known what a port is will give way some day, and the pioneering of Mr. Bright and his associates will count. But the thing to do is to read the article and resolve that now is the time to decree the old régime of stupidity is over and forever. We must face the facts."

The Committee prefaces its report with this significant statement: "This report is to be regarded as a continuance of the work undertaken by the Philadelphia Chapter of the American Institute of Architects in its investigation of the industrial development in the territory contiguous to Philadelphia. The social and economic structure of a nation cannot be separated into disassociated units for the purpose of study, but each part, be it railways, or shipping, or housing, must be regarded as a constituent member of an harmonious organism. The questions relating to housing and to the port of Philadelphia are only fragments of the greater question and a solution of a detail may be attempted only by realizing the interdependence of each subject in the general scheme of life."

The report is signed by John Irwin Bright, Chairman of the Special Committee on Housing and Transportation for the Philadelphia Chapter of the American Institute of Architects; M. B. Medary, Jr., John Molitor, Paul A. Davis, 3d. The Journal congratulates the Committee and the Chapter, individually and collectively, for their courage and devotion in placing their skill and their intelligence wholeheartedly at the service of us all—for in serving Philadelphia rightly, they will serve the nation well.

Land and the Returning Soldier

THIS Journal has had a good deal to say about the problem of homes for workmen and the subject of community-planning. To both of these questions the problem of land for the returning soldier is intimately and vitally related. Our great urban problems of congestion, tenement-house life, and their attendant evils, together with the terrific strain and cost now put upon our method of distributing the necessities of life, all have their inception in the country. It is because of any lack of country-planning that we get city congestion. Perhaps no problem of the future is so vital as to learn how to use land so that we may produce and distribute at a minimum cost, while making the tenure of land so attractive socially that the city will cease to sap the very vitals of our existence until we become, as England did, dependent upon the outside world for our raw materials and most of our food.

Getting the soldier back to the land is, however, one thing to talk about and another to do—but keeping him there is a greater problem still! What are the principal factors in the problem? First, what land have we? In his letter to the President, under date of May 31, 1918, Secretary Lane said:

“In a literal sense, for the use of land on a generous scale for soldier farms, as in the sixties, the public domain is gone. . . . We have unappropriated land in the Continental United States to the amount of 230,657,755 acres. It is safe to say that not one-half of this land will ever prove to be cultivable in any sense. So we have no land in any way comparable to that in the public domain when Appomattox came and men turned westward with army rifle and roll blanket to begin anew. . . . We have arid lands in the West; cut-over lands in the Northwest, Lake States, and South; and also swamp lands in the Middle West and South, which can be made available through the proper development. Much of this land can be made suitable for farm homes if properly handled, but it will require that each type of land be dealt with in its own particular fashion. . . . It has been officially estimated that more than 15,000,000 acres of irrigable land now remain in the Government's hands. . . . Under what policy and program millions of these acres could be reclaimed for future farms and homes, remains for legislation to determine. . . . The amount of swamp and cut-over lands in the United States that can be made available for farming is extensive. Just how much there is has never been determined with any degree of accuracy. Practically all of it has passed into private ownership.

“It has been estimated that the total area of swamp and overflowed lands in the United States is between 70,000,000 and 80,000,000 acres. Of this amount it is stated that about 60,000,000 acres can be reclaimed and made profitable for agriculture.’ What amount of land in its natural state unfit for farm homes can be made suitable for cultivation by drainage only thorough surveys and studies can develop. . . . 15,000,000 acres have been reclaimed for profitable farming in the Mississippi River Valley.”

Secretary Lane goes on to say that as to cut-over lands, a rough estimate shows the acreage to be about 200,000,000; substantially all of this is in private ownership. Then he comes to the heart of the problem by saying that “*Any plan for the development of land for the returning soldier will come face to face with the fact that a new policy will have to meet the new conditions.*” He then quotes from Dr. Elwood Mead, of California, to show how unscientifically we have handled our land problem, and continues this thought by pointing out the alarming drift to farm-tenancy in this country, which means that year after year the number of owned farms steadily declines and the number of farm tenants and the degree of absentee landlordism grows and grows. We are following Ireland and Russia at a rapid rate.

The solution which he advocates, both in this letter to the President and in his speech to the Baltimore Press Club on September 23, 1918, is the acquisition of land by the Government and its sale to the returning soldiers. This seems at first glance to be a simple problem, requiring only money and the application of reclamation or root-pulling to the swamp and cut-over lands respectively.

But in the *New Republic* of October 12, Mr. Alvin Johnson points out some very obvious complications of an economic character. He contends, and with clear reason, that our land problem has now reached a point where, no matter which method we adopt for the purpose of making it available to the soldier, we are confronted with a purchase cost and a consequent fixed interest charge which will make small farms suitable for one-man cultivation incapable of producing a return that will satisfy the standard of life the worker will expect. If we buy good land from private owners, the

cost will be prohibitive; if we buy cheap land and reclaim it, or stump it, even with all the economy of a large operation the interest charge on our land cost will eat up the profit to be derived from working the land.

Secretary Lane makes no mention of this factor in any of his utterances which have come into our possession, and, to the great disappointment of many students of this question, practically proposes a renewal of the policy which has steadily operated to produce the degree of absentee landlordism which he warns us against. Instead of the old policy of drawing for a quarter section, he proposes the sale of the land to the occupant, which offers no apparent preventive to a further increase in tenant farms; speculators will end by owning these farms, just as they have got possession of so many of the others. In view of this experience, the risk seems too foolish to be taken, and especially in view of the factors which Mr. Johnson points out.

He accepts Secretary Lane's general principle as to sale, however, and then points out that in order to get a profit from the farm large enough to pay the interest charge and also yield an adequate return to the worker, we must so arrange the farm holdings that there will be afforded every possibility for the use, on a coöperative basis, of all the labor-saving machinery and methods, and all the buying and selling economies that are possible in a large-scale operation. The small farmer's one chance of deriving a benefit from their use is through coöperation. All of which is good, and along the lines toward which the past points us, as we scan the future.

But why not take an even longer look into the future? Why should not the principle of the co-partnership tenants homes for workmen apply to the farm? Why not have the great farming communities coöperatively owned? No farmer would own his land, but would own stock in the company which did own the land, and all the farmers would control the welfare of the whole. This, or Government retention of the title, is the only way to prevent the ultimate breakdown of the scheme proposed, even if we adopt the combination suggested by Mr. Johnson, because it is the only way of causing the increase in land values to flow back into the pockets of those who build them up, and of cheating the speculator of his carrion. As time

goes on, there will be changes; land occupancy will increase in density; communities will form; land will be wanted for other purposes than farming, and the value of such land will be large. To make the one owner of the fortunate piece (probably a speculative owner who has bought in on a gamble) a present of the value which all have created, will be to continue the process of the past, and we know already where that leads. The coöperative tenancy plan gives all the advantages of the usual form of outright ownership, and even more; it is even likely to make it much easier for the occupant to dispose of his equity interest than if he held title direct. He need not be afraid to spend money in building improvements or in increasing the productivity of his land, for when he desires to sell, these added values would be appraised, and the new occupant would pay him in cash for them, while his share interest in the community could be disposed of without the slightest difficulty, unless all experience with the co-partnership tenants plan fails.

The investment required by the Government would be no larger. It would be repaid just as quickly as under the separate ownership plan. The security would be just as good. The drawback would lie in the fact that if only a few farmers made good, while the rest made failures, the good ones might have their investment jeopardized if the Government had to call in its mortgage on the whole tract, but, on the other hand, every farmer would have an intense interest in seeing to it that only good men were given the right to enter the coöperation, and that every possible economy was made possible for the good of all. The plan is certainly worth consideration.

In any event, architects are likely to see a great opportunity for their services along new lines. The problem of building the farming community is a little different from that of building the community of workmen's homes, but the same principle applies, and someone must arise to make a study of the farm home and the farm buildings and the farm community from the standpoint of comfort, economy of operation, and a chance for social life. Men who cannot afford the cost of this kind of expert service, as individuals, will be able to command it when they work together on a large problem such as that under consideration; the war has

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brought expert service into the problem of the workman's home in just this manner. Is there any reason why it should not also be given to the farmer? The benefits to be conferred by architecture as the science of good building, belong to all people and not to the fortunate few. Nowhere are they more needed than on the farm! A study of the method by which France has approached this element of reconstruction is more illuminating in this respect than any other program we know.

Secretary Wilson, of the Department of Labor, is alive to the whole great problem as affecting, not only farm labor, but that great army of unmobilized labor which flits from one lumber-camp to another and migrates with one fever after another. The policy which he outlines in general terms would prevent the sale of land and would retain title in the Government's hands; along with such a wise provision—one to which we must come eventually—he would insist that consideration be given to the human problem:

*The settler, whether returned soldier or other worker, needs something besides mere acreage in order to make a decent living. The old method of turning over to the homesteader 160 acres in the wilderness, and then leaving him, as if he were Robinson Crusoe, to work out his fate single-handed, belongs, for the most part, to the past. It is a policy to be put upon the scrap-heap along with the policy of soldier's scrip, of which it is a part.

The prospective farm could be cleared of stumps or other impediment; it could be equipped with house and barn; it could be made accessible to market by good roads. The settler himself should have every chance to cooperate with his neighbors in selling his produce and in buying his supplies. The farms could be made ready for immediate use, and the cooperative equipment prepared in advance. Men cannot live by land alone, except by returning to a form of savagery. If the agricultural worker deserves an even chance with the manufacturing worker, then the farm as well as the factory must be fully equipped before, not after, operations begin.

The policy here outlined applies to more than the logged-off lands of the western mountain valleys. Townships and tracts of land can be organized into improvement districts in other parts of the country. The cut-over lands in the northern Lake States, in the southern Atlantic and in the Gulf States, can be reclaimed from stumps and left-over timber under the same policy. The swamp lands in these same regions can likewise be reclaimed, as well as the remaining arid lands of the West. *In all these regions there are vast values to be created. The Government can well follow up its present reclamation policies by taking the initiative*

*Labor and the War: The Soldier, the Worker, and the Land's Resources. A summary of the forthcoming report on Land Colonization. By Benton Mackaye. Department of Labor, Monthly Review, January, 1918.

in creating these values. In so doing, however, clean-cut measures must be taken to see that values thus made go where they belong: to the settler and worker in the equivalent of fair wages, to the legitimate investor in a fair return, to the local community in sufficient taxes, but not to the speculator in unearned profits.

Measures should be taken to see that the populations supported by the sawmill and the forest operations would develop into real communities and not mere shack towns. Aside from the maintenance of proper housing and living conditions, there are two or three fundamental community standards. These include provision for voting and self-government, for schools, churches, and educational facilities, and for cooperation among the workers to secure their economic and social welfare.

Permanent forest communities based upon continuous forest employment would make of the forest worker a family man instead of a hobo. Those determined to be hoboes would be eliminated, but those who wanted settled employment could have it. With such a system in vogue many of the labor difficulties in the lumber industry would be ended. And such difficulties cannot be settled by model camps, for a camp, however model, is no substitute for home.

It is estimated that Alaska contains, in its valleys which lie between the ice-covered mountains, about 65,000,000 acres of potential agricultural land now covered by a meager growth of timber. The projected lines of Government railways are going to penetrate, in Alaska, the last American frontier. In view of the combination of mineral, forest, and agricultural resources to be opened in that vast country, nearly all of which is still public land, Alaska should present one of the most promising areas now left on the globe for those seeking a new start in life. Another Scandinavia here awaits development. The Government railroad is the first big step in this development. If this new country is to be an opportunity for the soldier and the worker, and not for the speculator, a colonization policy, based upon the principles discussed, must be the next step in its development.

Think of the possibilities offered by such a program when architecture is added as the indispensable element which it is. The problem begins with such a disposition of farm land that a communal life will be possible. There is no alternative, if we would revive agriculture in this country and prevent the ceaseless cityward flow of those who will not be contented with the human isolation of the farm. The telephone, the automobile, the free delivery, have all added much; more has yet to be added, in the form of communal buildings, communal groupings of houses, better houses, better barns—all lying within the domain of architecture—a virgin field. The contribution will be made by someone—it is the thoughtful architect's opportunity to enlarge the narrow field in which his profession has thoughtlessly, and rather selfishly, confined itself.

American Reconstruction Problems—Nation Planning*

By FREDERICK LEE ACKERMAN

IN THIS tremendous world war the areas of united action are expanding; the common good—the aims of all free men are becoming vivid. And to nations, states, municipalities, to property, capital, credit, to groups, individuals and to the labor of brain and hand new values have been assigned which express our new concept of their relative worth as factors contributing to the purpose made vivid in this war.

And this purpose is the achievement of a state of true democracy, international and national, which assigns to the individual the highest value and yet demands that, for the good of all, he victoriously subordinate himself.

But *can* a national purpose in times of war differ from a true democratic national purpose in times of peace? *Can* the worth of the individual vary with the degree of vividness with which the aims of a true democracy are revealed?

The national purpose in times of peace and the national purpose in times of war must coincide; and the value of the individual cannot change simply because his worth is made more vivid by the call to arms. *As the truly national purpose is revealed, it is the value of nations, of states, of property, of capital and credit which really shifts, as we see more clearly their true worth as factors contributing toward a true democracy.*

And so, it is obvious, when we glance back to the pre-war days, that our function for the time being is not primarily that of developing a new technique of administration or government; it is that of making perfectly clear to the masses of men what is really meant by the term democracy. Our task is to present a truly rational philosophy of life in such simple terms and through the use of such simple illustrations as will demonstrate that it is not only logical, but highly desirable and entirely feasible, to organize society—that is, government, to the end that a true democracy shall obtain. If we fail to retain, in the days of peace to come, the values now assigned to individuals, if we fail to make the meaning of democracy perfectly clear, we shall have failed utterly in this great war. But can we formulate such a philosophy? can we make it vivid? can we retain the values now assigned to individuals? It is thus that we have our problem stated.

And we must beware of danger—the greatest of all dangers attending the formulation of a program of future action. Such a program is almost certain to develop into a labyrinth of uncharted paths leading to an infinite number of ends. This we must avoid, for the desired end is—above all it must be—a simplification of life. For if our effort fails in this respect, if it adds but laws and statutes, it can have no possible value.

But we think of government in terms of law; and I realize that the subject of national planning cannot be treated without introducing debate concerning legislative, administrative, and judicial technique, the private initiation of

enterprise versus government initiation and control, and the ever-present topic—State's Rights. But I do not propose to deal with the subject from these angles, for I fully realize that by such an approach we would completely and inevitably obscure the vital issue at stake; we would return by a circle to our point of departure.

The governments of the western world, during the last score or so of years, have extended their functions to include an ever-widening field of collective provision. Should government express in the technique of its administration the entire range of purposes associated with the true aims of men, of society, rather than a part? Should we extend the function of government to include a wider field of collective provision? Should we not make collective provision the vivid function of government?

It is the development and the expansion of precisely this field which constitutes the basis of a Liberal Program of Reconstruction.

But we were to discuss the topic—National Planning. What has preceded may have seemed remote. It is not remote because of the simple, elemental reason that there can be no such thing as national planning so long as there is lacking a clear definition of a national purpose.

To propose that we should set about the organization of the entire physical plan of the United States may appear as a visionary proposal. But, as individuals, do we embark upon any great undertaking—as intelligent individuals, do we embark upon any undertaking whatsoever without first having prepared a plan, whether well reasoned or otherwise? We do not; and yet, with respect to the development of the United States, we are proceeding without a plan.

When we were faced with the actual problem of going to war in Europe, this condition must have been realized to a certain degree, for one of the first acts of the Federal Government was the placing of our railroad transportation systems under a single command. The necessity for this act was not questioned except by a very few. The obvious advantage, the necessity, was evident. The railroads were brought under one command: The Federal Government took over their operation. The problem of the future, as we now view it with respect to the railroads, relates to the nature of the policy to be continued after the war. Concerning that there will surely be debate.

But out of this unity of command one important condition, at least, has been revealed. The railroads had not been organized—their development had not been directed along such lines that it was possible to derive the maximum benefit from unit control—for they had been planned and projected with quite another purpose in view. And that purpose was the speculative profits to be derived from their promotion, the development of new areas, and from state and federal land grants. Their organization was not based upon any comprehensive plan of national economy nor the hope of more adequate collective provision. Particularly is this true with respect to our long competing

*An address at the National Municipal League Conference, Rochester, November 21, 1918.

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lines which tap territory contributory to each, to the lack of adequate terminals and transfers at strategic points inland and upon our seaboards, to an utter lack of coordination with inland waterways, and with respect to the development of commerce with other nations, and to the complex and wasteful conditions surrounding their entrance into our cities where we utterly ignore the economic distribution of commodities and food to our urban populations.

We have made but meager use of our inland waterways. Railroads have worked in opposition to the development of these natural carriers. Transportation by water has been, for the greater part, abandoned.

It is really the central planning—the scientific, physical organization—of our railroads and the intelligent direction of their future growth and development, and not their ownership and operation, which should be the subject of our greatest concern. The errors resulting from their hasty, ill-considered projection must be corrected before we may hope for real economy or real efficiency in their operation.

We may glibly state that it is the duty of a certain state or a certain city or a certain corporation, or a combination of the three, to organize and provide for a system of transportation with great terminals, or more adequately provide for a need that is national; but that does not necessarily lead to accomplishment. *Matters of this sort are developed locally to the extent that the local needs are recognized; and the scale of such developments are local and not national.* The subject is too large to be directed by other than the Federal Government itself. This is not a matter of theory; experience indicates clearly that neither corporations, municipalities, nor states can direct an enterprise of this magnitude; self-interest is too blind or ignorant to achieve a truly national scheme.

It will be argued that the value of local initiative in matters such as we are discussing is essential. There is reason back of such a statement, with respect to details, but we must not let that blind us to the tremendously important condition that the geographical divisions into states express merely a line upon a map, bearing no relation to physical geography and little or no relation to present or future social grouping. *These state-lines are artificial political boundaries which must be completely ignored in the organization of the physical plan for the economic use of the entire area of the nation.*

We must recognize that the areas associated with the term "local" are constantly expanding. The many modern mediums of communication,—the telephone, the telegraph, the "wireless," the railroads, the automobiles, the aeroplanes, the press,—all these have extended the boundaries of our contact with men and things. The effect of individual or group action has so changed and expanded through the development of these means of inter-communication that the old formulas relating to the value of "local" initiative must be completely restated.

And precisely the same condition applies to the physical relation of our cities and their states: The boundary is a political boundary—artificial both with respect to physical geography and social groupings. Here again we must break down that condition which obtains in local governments and blocks a broad, comprehensive consideration of the problems surrounding their physical planning and their

physical and social integration. There must be created a central authority to deal broadly with the tremendously important problem of physically linking up municipalities in states and in adjacent states, and the future use of the areas located between them must be planned prior to occupancy in order that the same shall be developed in a manner consistent with the areas' logical use. To allow our cities to expand along lines determined solely by the intensely local purpose of the land developer or by selfish local interest is to lay upon our future an ever-accumulating burden of costly corrections which represent an utter economic loss.

The purposeless way in which our communities expand has been made too evident to those engaged in the development of housing schemes for the Government. In not a single community where ship-building plants have been established was there in existence a forward-looking plan for future growth which could be used as the basis of the housing schemes for ship-workers. There was no time to plan the adjacent areas nor to overcome the lack of provision; and so, one and all, these new communities represent the hopeful organization of a patch upon a condition of near chaos in town-planning.

Consider the immediate problems confronting our cities; note the many schemes prepared for their replanning; consider the cost of these, and also consider the nature of the hoped-for result. In New York, Philadelphia, Chicago, Boston, in the smaller cities throughout the states we are confronted with the same problems. At an enormous cost we propose no more than a partial correction of our errors; we add mechanism to mechanism in the hope that a better condition will result. Excellent as is our intention in the preparation of these schemes, the fact remains that they are, in effect, as a bit of salve where a major operation is necessary. We must increase the scale of our operations and deal with larger areas. All of the factors affecting the growth and development of our cities must be taken into account in their planning and their replanning.

We can, now, with a reasonable degree of accuracy, project the very remote needs with respect to provision for the entire Atlantic coast. Harbors, ports, the necessary supporting agricultural areas may today be projected. Why not organize the outlines of a grand plan for the development of this entire area? Why not deal with the entire national problem? Why not proceed from now on with a plan which looks toward permanence rather than instability?

The physical planning of the nations is first of all and supremely an act of provision; it is the organization of prevision, social and physical; it is essentially a scientific treatment of the whole. And this can be accomplished through but one central authority, representing not the needs or desires of individuals, corporations, cities or states, but the needs and desires of all.

I do not imply that it should be the function of the central government to project in *all* its detail the future growth and development of each and every part of the United States, but I do suggest—I state emphatically—that a central authority must take upon itself the task of directing the major outlines of such a plan, for in no other way is it possible for us to adequately and economi-

cally develop the smaller areas which should and must be left to local initiative after the broad plan of development has once emerged.

In answer to the argument that economic forces will, when left to themselves, develop such a plan, I would but point out the inadequacy of our port and terminal facilities along our seaboard. Consider the situation around Philadelphia. Here is a harbor of real value locally and nationally—a harbor sorely needed at this time and essential to the future commerce in which we should engage. The building of piers, of docks, of the sundry other elements essential to a harbor have not been developed by local interests nor are they likely to be; but if these should be developed, they will not make a great port for the simple reason that the conditions which must obtain to make Philadelphia a great port lie entirely without the authority and control of that municipality. The great lines of transportation now pass around Philadelphia and do not reach the harbor; the waterways which might serve the ports and the entire region to the north and to the west have not been developed. Philadelphia will not become a port in scale with national needs until a national authority fosters the development of the more remote conditions essential to such a development.

Scan the coast of the United States; where are there adequate port developments in scale with the nation? These do not now exist nor will they exist until a truly national authority defines the problem, projects the future national needs, and proceeds with the development of a plan having that organized purpose in view.

But a *truly national* plan must be organized about a *truly national purpose*. Therefore, what should be that purpose? Upon what theory, and by the aid of what experiences shall we direct the organization of the grand plan for our national development? What shall be the central idea?

Shall our plan for developing our railroads, main lines and branches, our inland waterways, our highways, our ports and our terminals and our industrial and agricultural areas be predicated upon the belief that we may go on expanding our cities indefinitely, massing together great populations engaged solely in commerce or in the fabricating of materials? Shall our great national plan lead up toward an ever-increasing congestion of population, toward a more complex and artificial life? Shall we carry over into the days of future growth our concept of life as so vividly revealed in the manner in which the majority of men live in our great cities and in our industrial centers?

If we base our national plan upon such a concept, our plan will not be worth the making. What our soldiers will think when they come back from war-spent Europe I do not know; but if I may venture the guess, they will insistently question, as we now question, the value of that stupid, depressing environment which we created by our purposeless effort in the pre-war days.

We do not have to await the return of the soldiers from abroad. The mass of men have already voiced their opinion, not in terms defined and coherent, but in the restlessness attending employment. The mass of men were not content before the war, nor are they content today; and one of the reasons—the outstanding reason—is not a question of wage so much as it is the nature, the character

of the social and the physical environment in which they live—an environment produced by their own labor.

Look at any of our great industrial or commercial centers and observe closely how the mass of men live; observe what they do during their leisure hours. Is it any wonder that there is discontent? Why should this great mass of men who live in our slums and tenements and in our "factory towns" be contented? There is no valid reason, for the visible product of their labor is neither pleasing nor permanent, and it effectively suppresses every natural instinct. They work, one and all, at the making of cheap, temporary things, which, in turn, produce, the cheap, unstable environments in which they live.

Take, for example, any recently developed industrial town of the East or the Middle West which has sprung from a tiny center in less than a score of years. The capital, the wealth there created by labor, in the vast majority of cases, finds no reflection whatsoever in the physical expression of the community: there are the factories, ugly and uninviting; the groups of houses, likewise ugly and ill-arranged; the system of streets, organized, if organized at all, upon the basis of the gridiron plan with little or no thought of the possibilities of future growth; look at them—mere organizations of temporary things, built with the definite end in view that they shall be scrapped in order that someone may gain the increment of value resulting from occupancy and communal activity. Can we stand the economic loss due to the insistent demand for frequent "turnover" of capital invested in the homes of the people? Most emphatically we cannot—if we hope to hold a leading social and commercial position among nations whose purpose is otherwise.

Can we go on multiplying the complex problems resulting from makeshift planning, such as is evident in Greater New York and in every large city in the United States? The newly opened subway station at Broadway and Times Square typifies the direction of our so-called progress which is in the main but lack of prevision.

If we are to have a plan for the future physical development of our cities, we must have one for the future development of our states: if we are likewise to have a plan for the future development of our states, we must have one for the future development of the United States; and that plan must be organized around an acknowledgment that life, as now expressed in our centers of population, is an empty life, for the vast majority of men, that is not worth the struggle.

And so it is that in our Nation Planning we must choose as our central theme the idea that the work, the labor, the creative effort of all men shall have as its end the creation of as high a type of environment for *all* men as it is possible for us to conceive. We must organize our communities, not with the idea that the home and its related communal features shall be shifting things which are ever to give way to the encroachments of industry and commerce, but as permanent elements—the permanent element which must remain and around which the processes of production shall revolve.

This idea is not new. We have taken the first step; we have already begun to district or to zone our cities. But how timidly and how unscientifically have we done this!

AMERICAN RECONSTRUCTION PROBLEMS—NATION PLANNING

With what pains have we developed a compromise! And yet, even our timid, unscientific compromise is of value, for it indicates the acceptance of a rational idea with respect to the goal to be achieved.

The difference between what we have accomplished and what we should accomplish is largely a matter of scale. Shall we attempt to make life merely bearable—tolerable—or shall we strike out boldly with a program which will look toward making life for all men truly satisfying? No less than this shall we attempt to do.

But what does this mean in terms of national planning? What are the essentials of the problem? It means, first of all, that we must deal with the land question with respect to both rural and urban areas. The increment of value created by collective occupancy and use must be wrested from the speculators and so organized that it may be used for the benefit of all. This is a "first" step which must be taken before the national physical plan can be realized in terms of collective provision.

It means also that we must accept a new concept with respect to what we term the town or the city.

The principles which we use in districting our cities with respect to height, volume, and to the occupancy of building is at bottom the same as that which underlies the development of Letchworth, the first garden city in England; the application of this principle differs merely in technique and in scale. The Letchworth ideas include the application of districting prior to occupancy and the development of the increment in land values. Our method is that merely of compromise—after it is too late to reap the benefit of action. The Letchworth idea again deals with large agricultural areas. We confine our action solely to already congested centers of population.

We must increase the scale in our application of this principle to include the treatment of rural as well as urban areas. A broader point of view, a new sense of scale we must achieve, for we are not dealing, in this national scheme, with individuals, with groups, nor with a hundred millions of people. Two hundred, three hundred, four hundred millions of people—the future generations—are involved in our program. If we fail in this, the agricultural lands required for the maintenance of our population engaged in commerce and in manufacturing will give way to the inroads of the latter.

National planning must include in its scope the application of the districting idea over all areas likely to be developed. This requires the development of regional surveys far more comprehensive in scope than anything yet attempted. The physical resources and the possible economic development of each and every part of the entire area of the nation must direct the outlines of our plan.

But how shall we accomplish this? How may we proceed? What shall be the framework of the organization to carry on this vast undertaking? In terms of administrative technique I shall not attempt an answer. But I will suggest that by nature the problem requires the extension of administrative powers and more "liberal" judicial decisions; that we cannot deal with it through mere legislative initiative nor the exercise of police authority nor by impotent citizen commissions. There must be permanent, central executive agencies, municipal, state and federal, to deal with matters of this sort and to serve

as the focus of experiments and of the knowledge gained in practice. These agencies must be expert and liberal. Constructive legislation, so-called, must largely supplant restrictive measures. *The control and direction of credit must serve as the motivating power in developing the outlines of the plan in reality.*

This is the key to the entire problem. It is the intelligent use of collective capital, the credit of our municipalities, or cities, the Federal Government, which must be made the creative agent in establishing the framework of the national plan.

For this very purpose do we now use credit. It is the principle which underlies the operation of the Farm Loan Board. This represents, however, but a tiny fragment of a comprehensive plan of action. It is, however, a significant fragment, for it establishes the principle that the direction of national credit is necessary to counteract the forces which gather about the use of capital lodged in the hands of groups whose interests are individual and local and whose acts, based upon selfishness and economic fallacies, develop conditions which are anti-social.

There is no greater fallacy than that expressed in the warning not to tamper with the great natural economic currents. Natural economic currents have not existed since the dawn of the most primitive civilization.

But what do we mean by "economic"? Do we really know? Has the term a definite meaning? To me, as it is now used, it is but an apology, an excuse, a scientific curtain which we draw to conceal our selfishness.

We know too well the waste in life exacted by our industrial system, our system of credit, by our lack of prevision, by the sordid, unsanitary conditions under which a vast number of our population live, and sometimes our spirit rebels. We are filled with a great sympathy and an earnest desire to help, but we are halted in action by an influence, a power which says, "thou shalt not," for such action would not be "economic;" which is the same as saying that the moneys invested would fail to return a certain fixed per cent. We have chosen the wrong norm of measuring values in the western world; "economic" we associate with invested capital and interest return when we should associate it with values related to life.

And so it is that in the technique of reconstructing old cities and in developing the new, and in linking them up to the natural resources and the great agricultural areas still to be really developed, and which must be maintained to make life possible, new laws, new administrative methods, new systems of credit may be of little avail. Again would we develop congestion, the slum and soulless industry just so long as our "economic" norm of measuring accomplishment is associated with the narrow financial meaning surrounding its present use. The term "economic" must be based upon a condition associated with life, not money.

Utopian, impractical, a dream! Why? Does it so appear simply because this concept of basic values does not happen to coincide with that in common use? That is no sufficient reason. We may develop all sorts of motions which simulate forward movement in the attempted execution of our Program of Reconstruction; but we, the states, the nation, and the entire world will mark time in the march of human progress so long as we cling to the fallacies surrounding the use of this term.

The First War Emergency Government Towns

IV. GROTON, CONNECTICUT

IN conducting the war-housing work of the Emergency Fleet Corporation, those who have been charged with its direction have learned a great deal. The community at Groton is evidence of this, for it marks a high degree of speed in its execution, and any examination of the Government's housing program which does not take into account the necessity for speed, will be gravely defective. The result sought by this work was greater production of the necessities of war; that fact must forever be kept in mind.

The project was authorized on August 17, 1918. Surveys of various sorts were instituted and preliminary studies for the town plan and houses were immediately started. Actual work upon the dormitories followed within a few days. General town-planning drawings and drawings for all houses were so far completed by September 1 that lists were made and quantities mobilized. By September 12 every phase of the operation was under way.

Thus, in noting the extraordinary speed with which Groton was planned and executed, we must weigh the method by which that result was obtained before we attempt to measure the success of the community from its peace-time importance.

Groton was planned and designed by the Branch of Design, Division of Transportation and Housing of the Emergency Fleet Corporation. Instead of turning the job over to outside specialists in the various professions involved, the experience of the Production Department was utilized through the employment of the skilled men in its own force. The one exception was the employment of the architect, but in reality this was only the temporary addition of his services to those of the Branch of Design. He was employed to design the houses in relation to a plan which had been completely projected though not developed, and in relation to the needs of the community as already worked out both as to the number and size of the houses required, and their actual plan, their mass and as to the disposition of the space.

In the preparation of the details, weeks were saved by applying the experience of the Department, and by the quick and orderly relations of the functions of each profession. The indispensable coöperation, without which no great work of this kind is possible, moved with the least friction because of the accumulated experience with the projects that had gone before. And this method will not be lost in the future; it marks the beginning of a more generous attitude of one profession for another. If we found it through war, we must keep it for peace.

The site of the Groton project is situated at the intersection of typical New England country roads, just off the state highway from Groton to Eastern Point, and upon a hillside sloping to the westward toward the Thames River, which is in view from the upper section of the plot. The tract is marked by distinctive natural and topographical features which have been expressed in the most informal manner in the street arrangement and general disposition of the allotments.

The proposed communal elements of the plan have

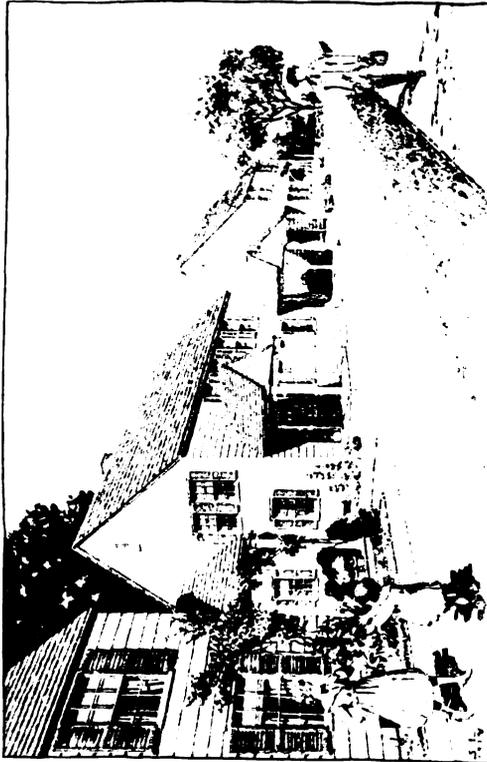
been so located as to serve certain social aspects of the problem in which it seemed necessary to recognize a fairly well-defined separation between two distinctive groups of workmen whom it was intended to house in the project. The location of the communal buildings has been so considered as to bring together these elements in a voluntary and natural manner without forcing an unnecessary intermingling at all times. The location of the stores will be found most convenient to a large proportion of the population, while the village green is placed upon a level plateau considerably above and removed from the store center and dormitories without being sufficiently distant to interfere with the continuity.

This whole arrangement permits a rather unusual and happy freedom in the treatment of what is essentially the main approach of the property along the diagonal roadway near the right-hand side of the plot. The approach is marked by an arrangement of houses, removed from the busy road intersection by a simple intervening bit of green, and leading into a somewhat formal court of houses in which the planting of large, spreading elm trees will eventually realize the typical New England village street indicated in two of the illustrations. The portion of the property flanking each side of this courtway is virtually flat and open, with only such groups of trees as have been particularly indicated at its inner terminus. At the intersection of the first lateral street, the land begins to rise gently and is interspersed with large forest trees, the ground on the right being somewhat low and covered with a dense growth of forest. A second lateral roadway follows the foot of a decided hillside, while the main roadway passes up the hill to the tableland above.

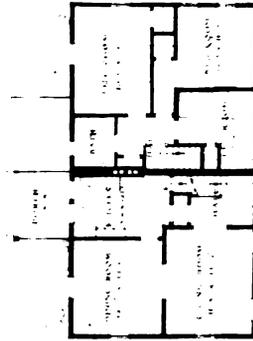
Every effort has been made to retain the naturally attractive elements of the site, with the result that very little new planting or other embellishment will be essential to offset the lack of homelikeness so difficult to overcome in a general housing development of this nature.

While the prevalence of open spaces, both within and without the property, would not suggest the necessity of additional communal spaces, it is the intention to propose the development of common rear-yard plots which may become available, either for allotment gardens, playgrounds, or garage locations.

Groton also presents a variation in technique which is of interest, since it is an example of the application of a community plan to part of a larger area which had already been planned and where the utilities were already available. Undoubtedly, the result will contribute much toward the further development of the contiguous area. Thus, in every way, this particular project has an interest which is unusual, since it denotes the beginning of an advancement of our knowledge of how to plan communities. Naturally, there can be no present summing up of the degree of this advancement. The true test will be the future attitude of those who live in it, and for that we must wait for time to determine. But the method by which the project was approached and executed is significant of the changes to come in the building industry as a whole.

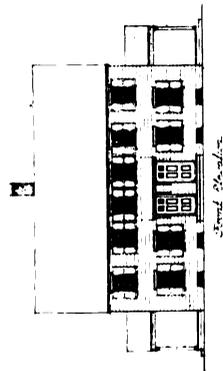


SEMI-DETACHED HOUSE
Scale 1/4" = 1'-0"

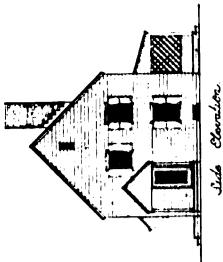


FIRST FLOOR PLAN SECOND FLOOR PLAN
 THE EMERGENCY FLEET CORPORATION U.S.S.B.
 HOUSING AT GROTON CONN
 EUGENE J LANG ARCHITECT NEW YORK N.Y.

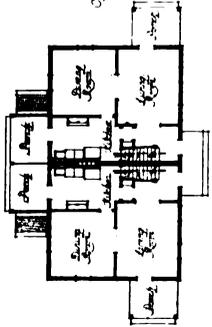




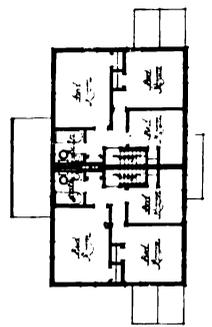
Front Elevation



Side Elevation

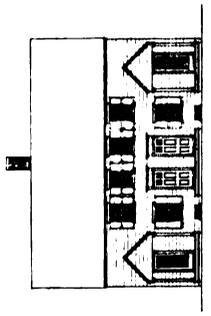


Second Floor Plan

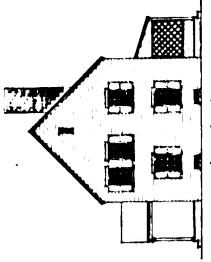


Second Floor Plan

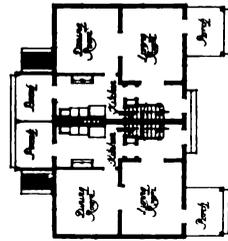
City plan detached six room houses



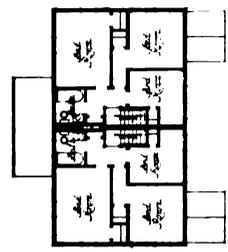
Front Elevation



Side Elevation

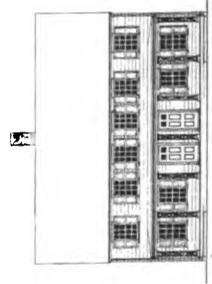


First Floor Plan

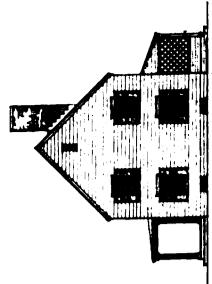


Second Floor Plan

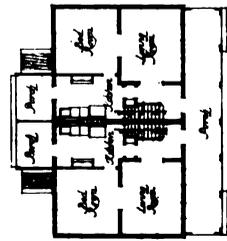
City plan detached six room houses



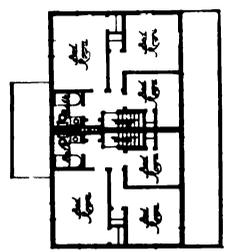
Front Elevation



Side Elevation



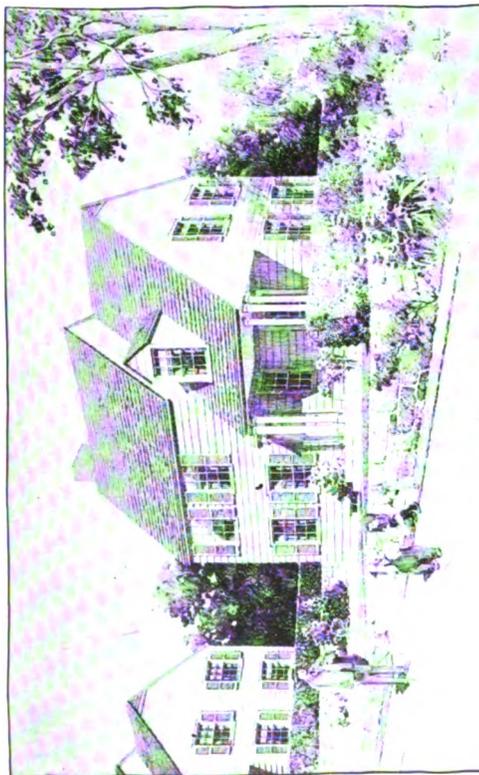
First Floor Plan



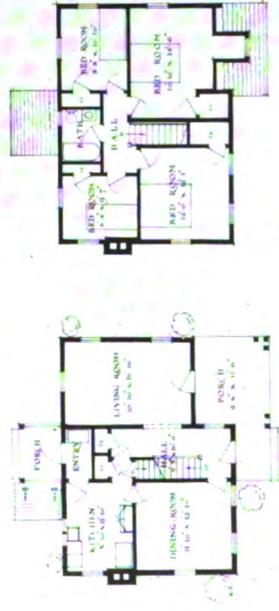
Second Floor Plan

City plan detached six room houses

HOUSING DEVELOPMENT FOR THE EMERGENCY FLEET CORPORATION AT GROTON, CONNECTICUT
Eugene H. Lang, Collaborating Architect in Design

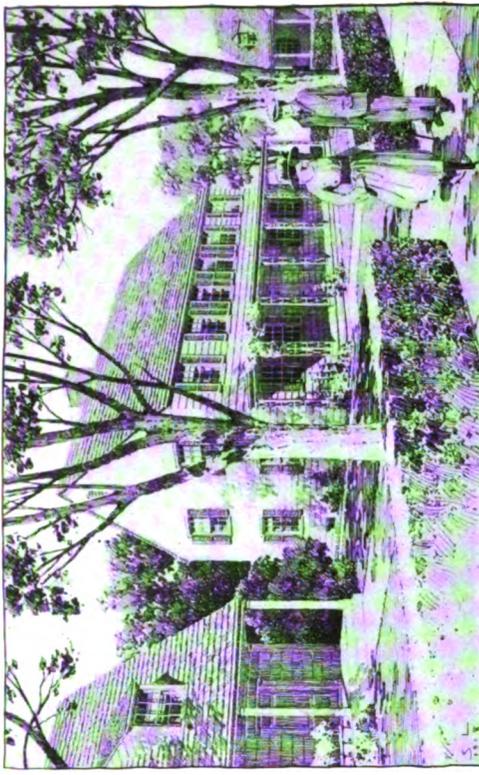


DETACHED HOUSE
Scale 1" = 10' 0" Feet



FIRST FLOOR PLAN SECOND FLOOR PLAN

THE EMERGENCY FLEET CORPORATION U.S.S.-B
HOUSING AT GROTON CONN
EUGENE J LANG ARCHITECT NEW YORK N.Y.

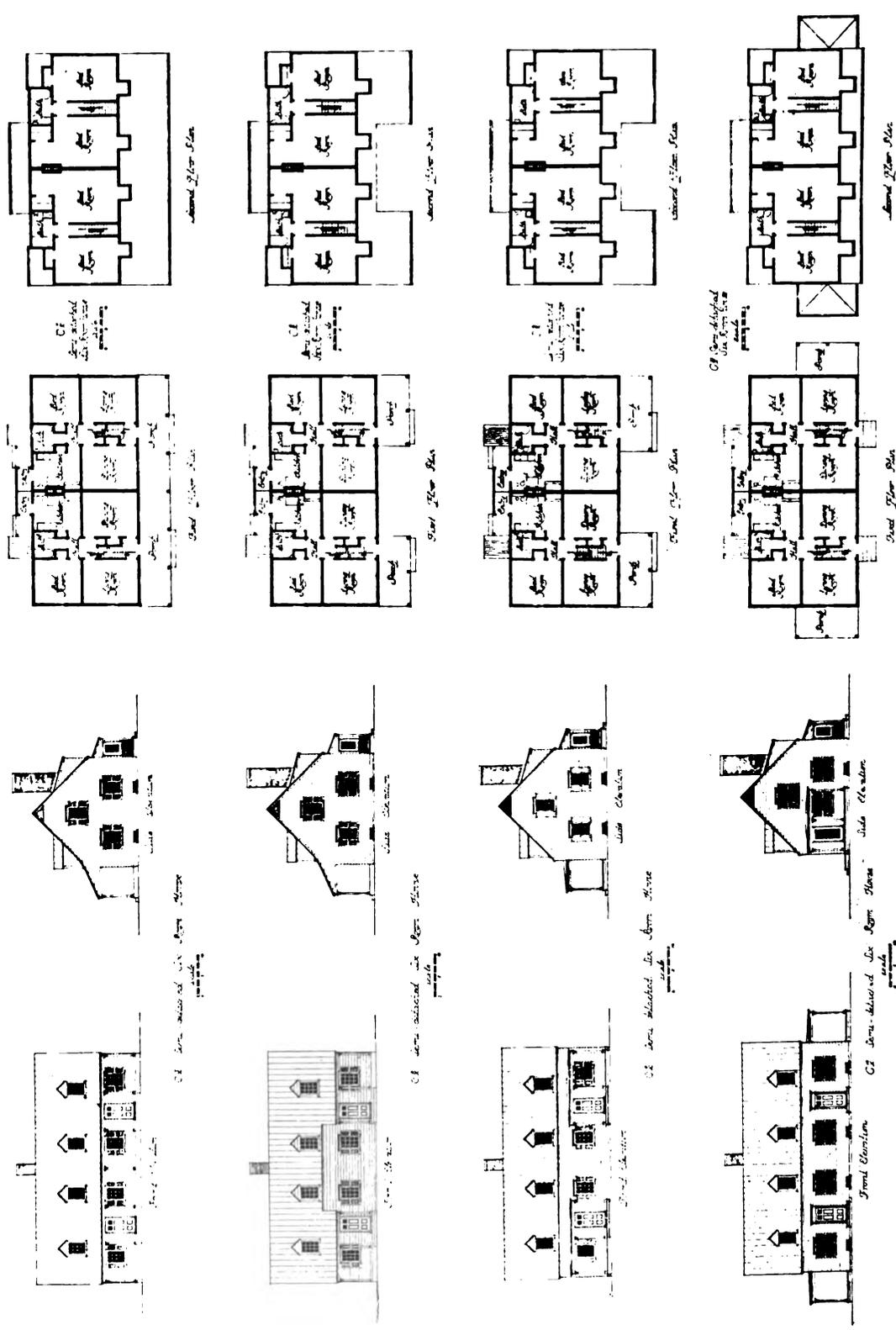


SEMI-DETACHED HOUSE
Scale 1" = 10' 0" Feet

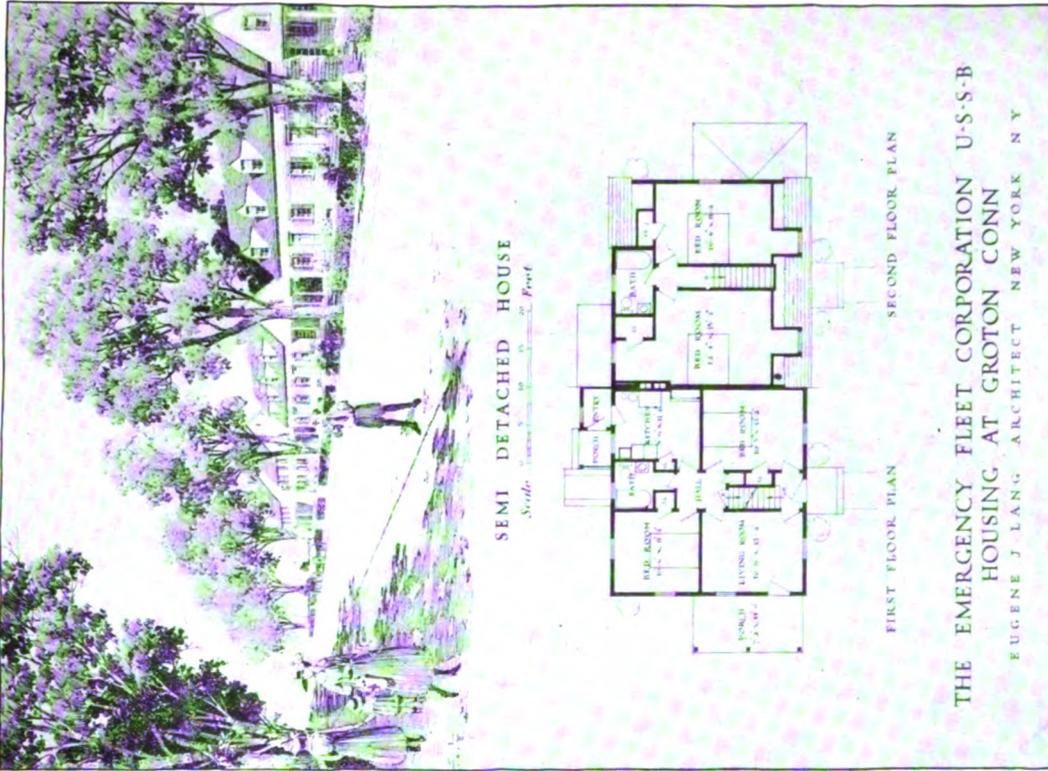
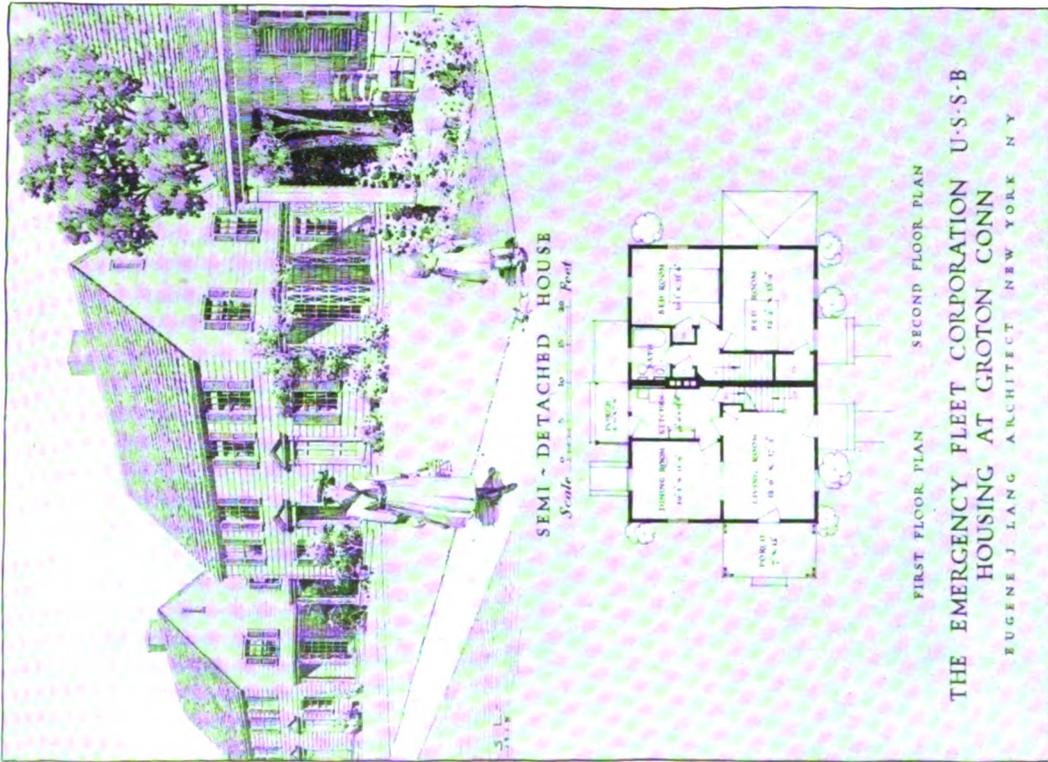


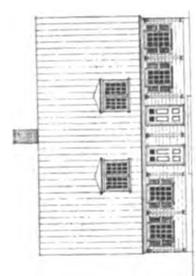
FIRST FLOOR PLAN SECOND FLOOR PLAN

THE EMERGENCY FLEET CORPORATION U.S.S.-B
HOUSING AT GROTON CONN
EUGENE J LANG ARCHITECT NEW YORK N.Y.

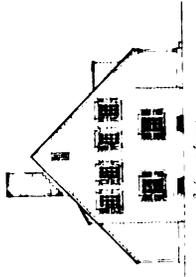


HOUSING DEVELOPMENT FOR THE EMERGENCY FLEET CORPORATION AT GROTON, CONNECTICUT
 Eugene H. Lang, Collaborating Architect in Design



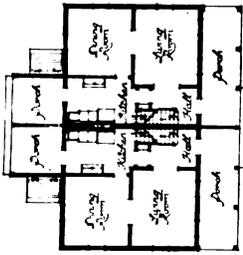


Front Elevation

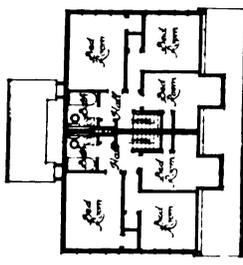


Side Elevation

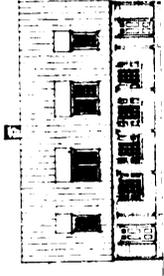
24' Semi-detached 1 1/2 story house with garage



First Floor Plan



Second Floor Plan

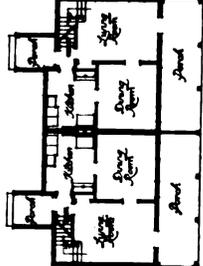


Front Elevation

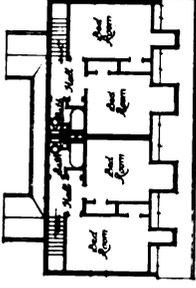


Side Elevation

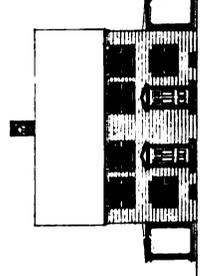
24' Semi-detached 1 1/2 story house with garage



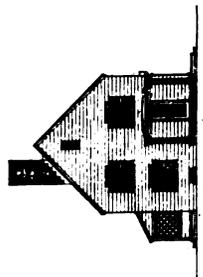
First Floor Plan



Second Floor Plan

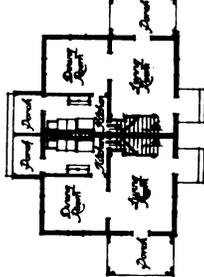


Front Elevation

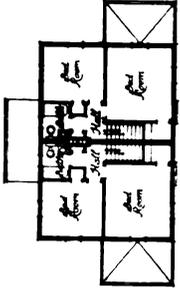


Side Elevation

24' Semi-detached 1 1/2 story house with garage

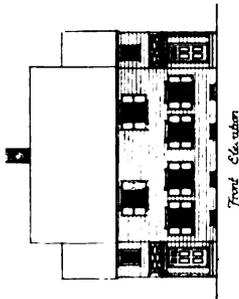


First Floor Plan



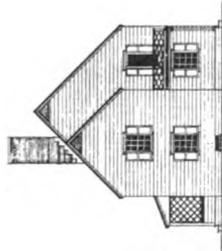
Second Floor Plan

HOUSING DEVELOPMENT FOR THE EMERGENCY FLEET CORPORATION AT GROTON, CONNECTICUT
Eugene H. Lang, Collaborating Architect in Design

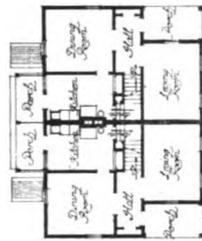


Front Elevation

C4
Semi detached Six Room House
with
porch

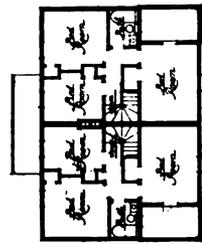


Side Elevation

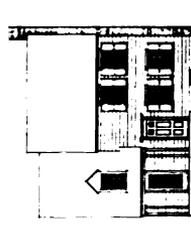


First Floor Plan

C4
Semi detached
Six Room House
with
porch

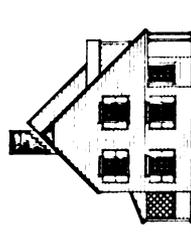


Second Floor Plan



Front Elevation

D4
Detached Seven Room House
with
porch

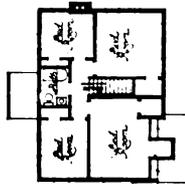


Side Elevation

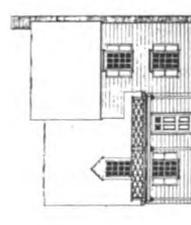


First Floor Plan

D4
Detached
Seven Room House
with
porch

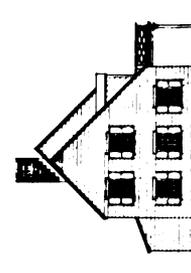


Second Floor Plan

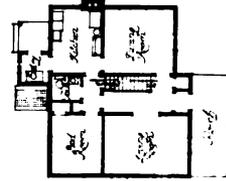


Front Elevation

E4
Extra Detached Eight Room House

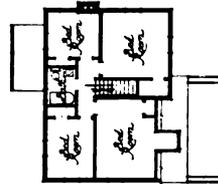


Side Elevation



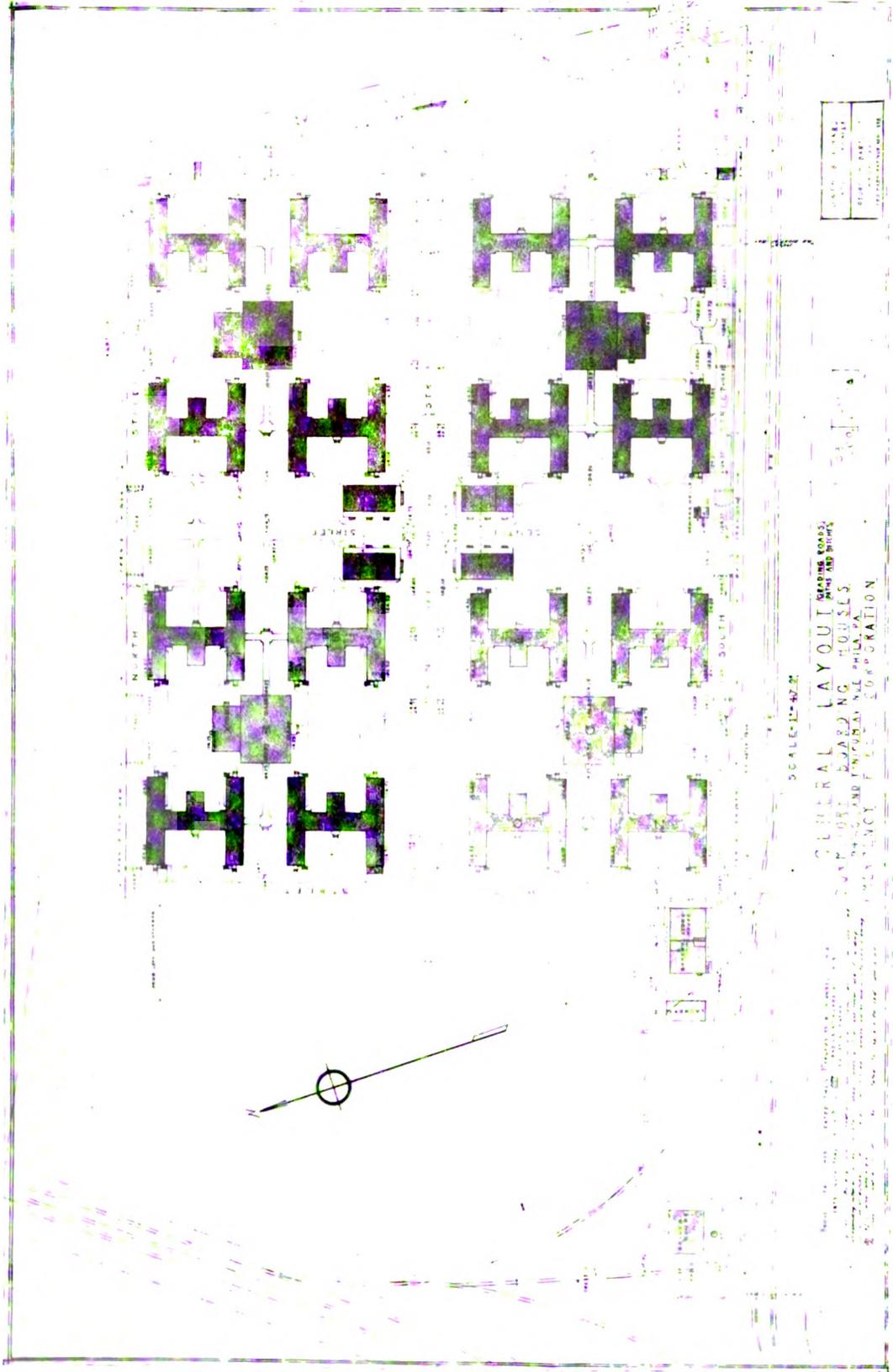
First Floor Plan

Second Floor Plan



E4
Extra Detached Eight Room House

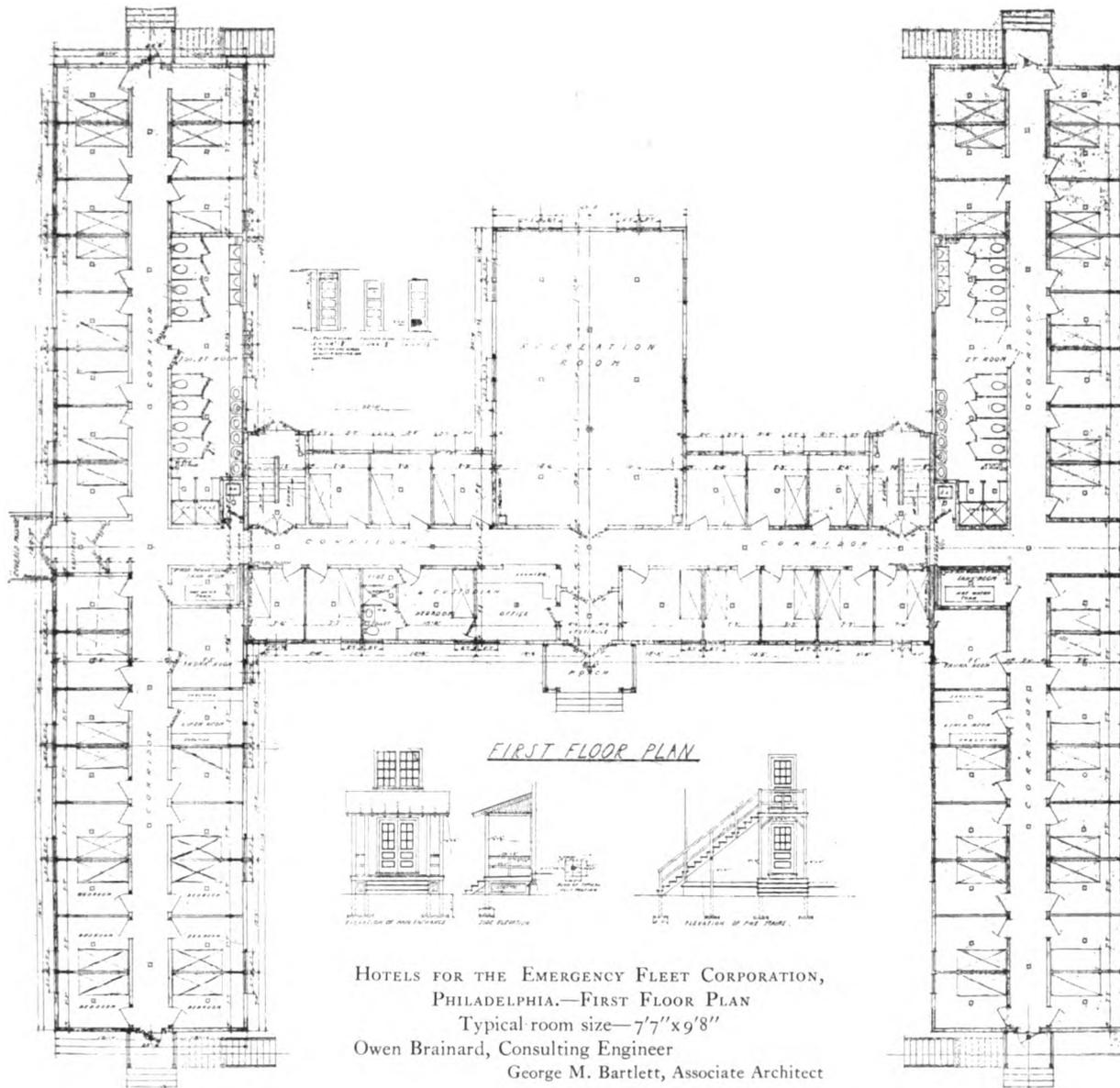
HOUSING DEVELOPMENT FOR THE EMERGENCY FLEET CORPORATION AT GROTON, CONNECTICUT
Eugene H. Lang, Collaborating Architect in Design



Owen Brainard, Consulting Engineer

HOTELS FOR THE EMERGENCY FLEET CORPORATION, PHILADELPHIA.—GENERAL LAYOUT

George M. Bartlett, Associate Architect



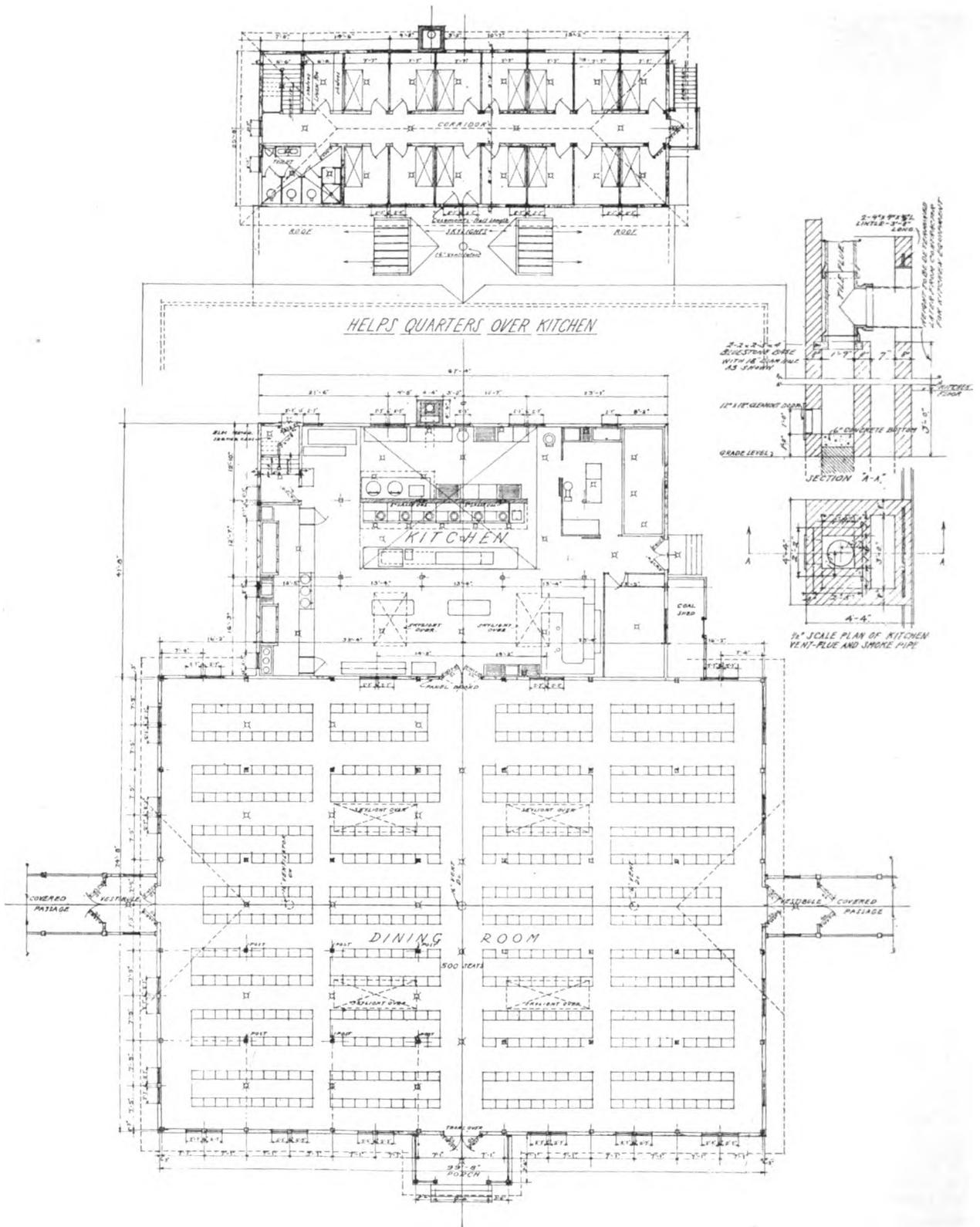
Emergency Fleet Corporation Hotels

Program

In providing for the housing of single men or men without families, as a war emergency, barracks of the Army type were extensively built in plant-yards or near plants. These proved to be wholly inadequate. The men were too much restricted. The barracks were uncomfortable and unsanitary. Boarding-houses in permanent housing groups did not meet the requirements, as the proportion of boarding employees is much larger in the new war-industry plants than in established plants in established communities. Thus the problem resolved itself into hotels or large boarding-houses, as they could be built in large

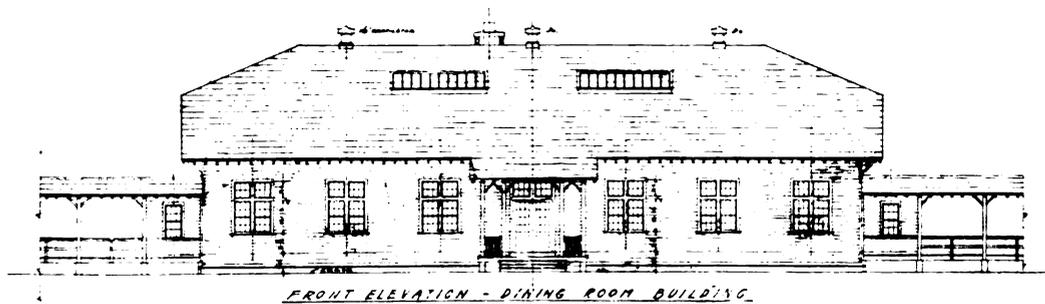
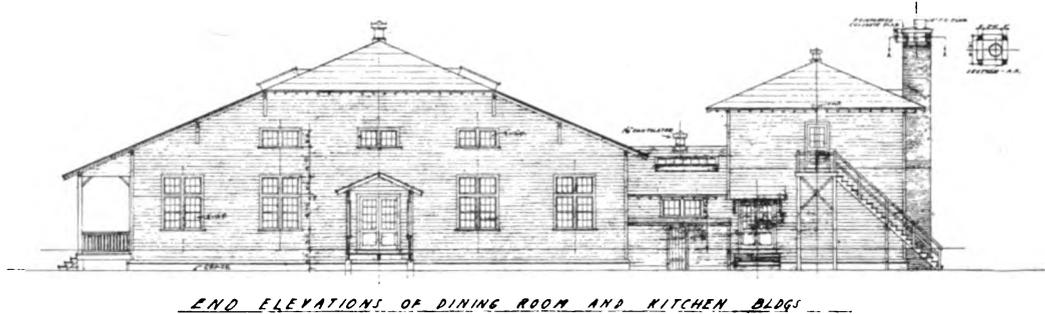
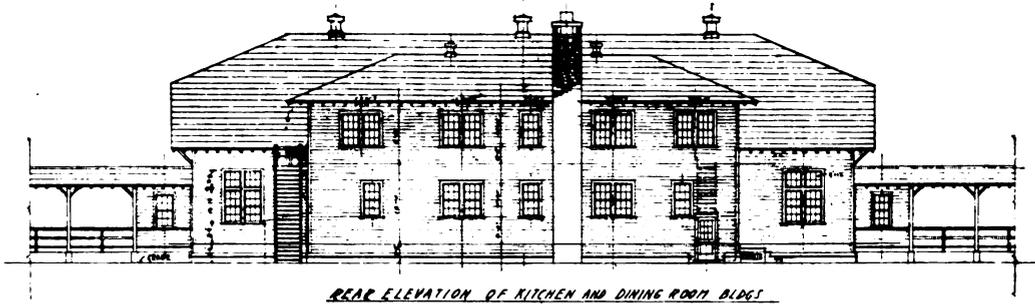
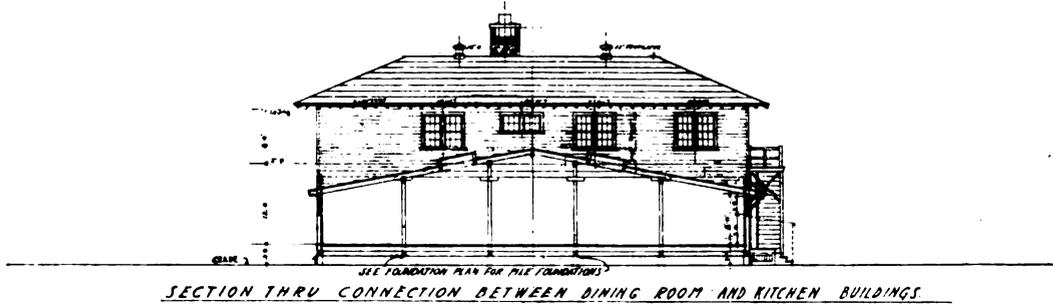
units, rapidly constructed, and could, if desirable, be managed and operated directly or under close supervision of the plant authorities. A further advantage was, that under such management there would not only be a control of the character of occupancy, but a prevention of rent-profiteering by proper regulation of prices. Experience also made desirable the placing of these hotels near plants, that is, within walking distance.

A program based upon these features was approved by the Emergency Fleet Corporation and by the officials of the American International Shipbuilding Corporation, for housing some 2,000 men at Hog Island. The plan was developed on the principle of one man to one bed in one



HOTELS FOR THE EMERGENCY FLEET CORPORATION, PHILADELPHIA.—DINING-ROOM AND KITCHEN BUILDINGS
 Owen Brainard, Consulting Engineer George M. Bartlett, Associate Architect

EMERGENCY FLEET CORPORATION HOTELS



HOTELS FOR THE EMERGENCY FLEET CORPORATION, PHILADELPHIA.—DINING-ROOM AND KITCHEN BUILDINGS
 Owen Brainard, Consulting Engineer
 George M. Bartlett, Associate Architect

room with one window. General toilet and washrooms to be located in each wing on each floor, not more than 100 feet from extreme room.

Construction

It was determined that construction should be of wood throughout, and not more than two stories, three stories being deemed too hazardous in case of conflagration. The emergency demanded a type of construction that could be rapidly accomplished.

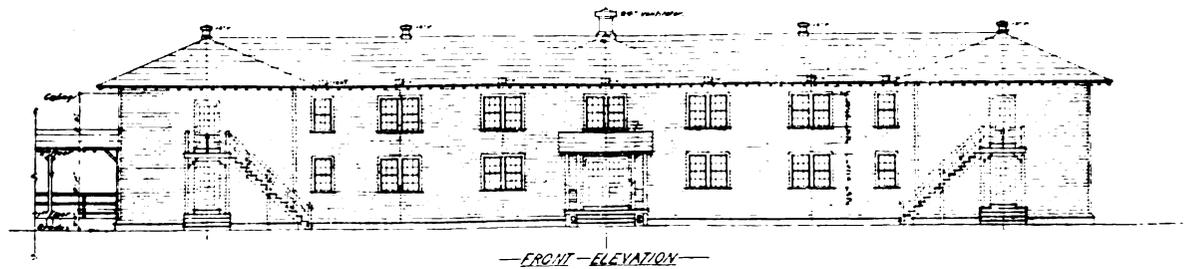
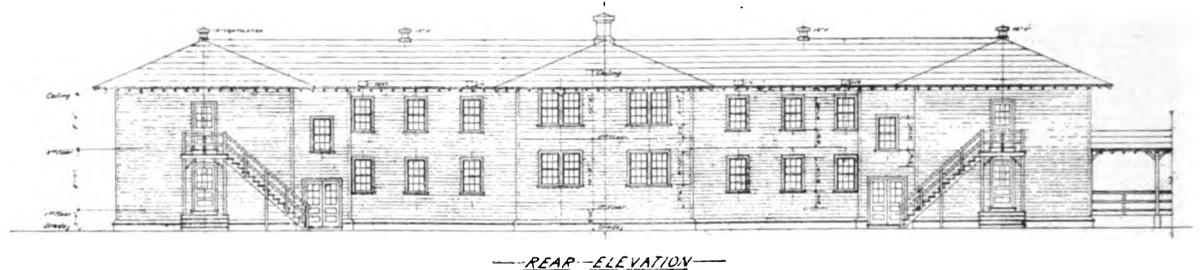
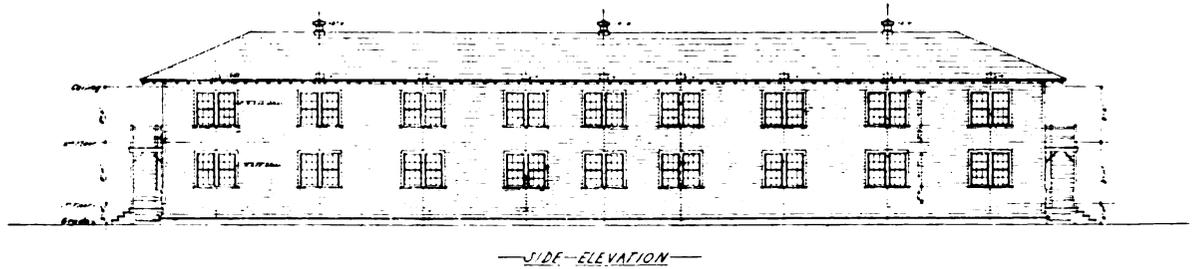
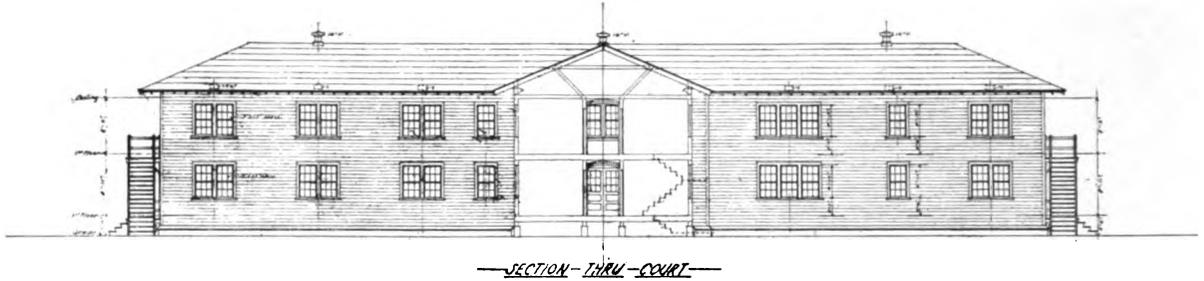
The roofs were covered with heavy sheets of asphalt-impregnated felt. The outside walls are of novelty siding,

and the inside wall surfaces of wall-board, $\frac{1}{4}$ inch in thickness, the joints being covered with $1\frac{1}{4} \times \frac{1}{4}$ inch battens.

All exterior and interior surfaces were painted, with particular attention to the floors, where painting is more necessary than on walls.

Fire-Protection

This is furnished either by apparatus at the plant or by a separate fire department in the group. Fire-exits were provided at the ends of each wing, and fire-alarm boxes are located at frequent intervals in each corridor. Fire-



HOTELS FOR THE EMERGENCY FLEET CORPORATION, PHILADELPHIA.—HOTEL ELEVATIONS
 Owen Brainard, Consulting Engineer George M. Bartlett, Associate Architect

breaks were planned by ample space between each unit, but these were afterward reduced by restriction of the site and a requirement that the original units be enlarged.

Heating and Ventilation

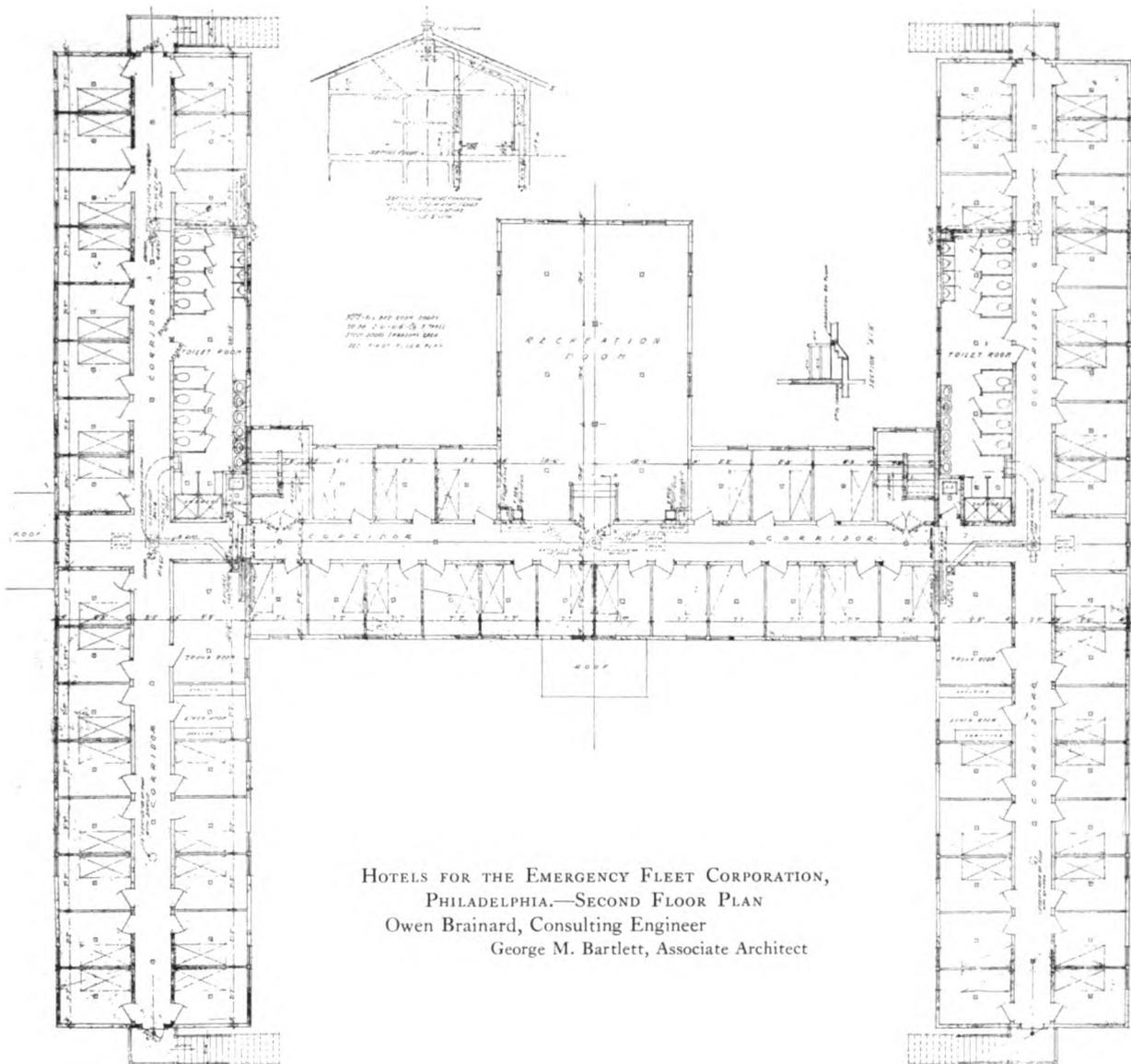
The heating is by direct steam, with small coils in each room, supplied from the central plant. Ventilation is provided by the windows and by a transom over the door of each bedroom. There is a ventilated air-space between the second-story ceiling and the roof. This is an important feature, particularly in the climate of Philadelphia or south of it, and in this case proved that the

rooms could be kept comfortable during the hottest weather of last summer.

Accessories

Each group of four bedroom units (125 each) was placed around a central kitchen, with a dining-hall capable of accommodating 500. The kitchens have first-class equipment, so that any grade of food may be served. The dining-rooms are arranged for waiter service (not "cafeteria"). The bakery is in a separate building, as is also the laundry, which does the work for the regular occupants and guests.

EMERGENCY FLEET CORPORATION HOTELS



HOTELS FOR THE EMERGENCY FLEET CORPORATION,
PHILADELPHIA.—SECOND FLOOR PLAN
Owen Brainard, Consulting Engineer
George M. Bartlett, Associate Architect

There is a recreation room on each floor of each unit of 125 rooms.

In the center of each group is a store building, with shops for the shoemaker, tailor, barber, as well as for the sale of confectionery and tobacco. An extension of these features will probably be necessary, although it is not desirable in this plan, owing to the restricted space and the increase of fire-hazard by addition of these buildings. The group is of four units of 500 rooms each, making a total of 2,000.

While this project provides housing to meet a temporary emergency, and must not, therefore, be confused with permanent work, it embodies new principles well in advance of the temporary housing often found necessary even in times of peace, and there can be little doubt that the increased comfort yields a more than adequate return, as measured in production, and a still greater return in a higher standard of life. We understand that similar solutions have been adopted by the Emergency Fleet Corporation for like problems at other points.



INDIANAPOLIS PUBLIC LIBRARY.—After a photograph by Clyde Stoughton

The Construction Division of the Army

By V. A. MATTESON

[Of the Construction Division of the Army]

THE greatest building organization the world has ever seen, which has undertaken a larger building program than ever before undertaken in any country, and which, within little more than a year, has spent over \$700,000,000, or an amount greater than that spent for buildings in a like time in over one hundred of our largest cities, is naturally an object of interest to architects. Such an organization is the Construction Division of the Army.

It is difficult for the layman to comprehend the magnitude of the work of this organization. The Navy, the Engineer Corps of the Army, and the U. S. Housing Corporation, each is engaged in large building operations, some in this country and some abroad, but the work of all these combined does not equal the amount of work being handled by the Construction Division, which is now charged with the responsibility for all building construction work for the Army in all its branches on this side of the Atlantic. It is said that, with the possible exception of the steel industry, no one of the great industries has been so completely absorbed into a Government agency as the building industry. Incorporated in this great coöperative organization are engineers, architects, contractors, material supply experts, building superintendents, landscape architects, surveyors, lawyers, accountants, expert purchasing agents, and experts in almost every conceivable line of industry, even bankers being found in the list. From a mere handful of men in June, 1917,—some thirty in all—who were gotten together to get the camps started, the organization has grown to the present personnel of something in the neighborhood of six thousand, over two thousand of whom constitute the Washington office.

General Scope

The popular notion is that the work of the Construction Division consists principally of the design and construction of a jumbled-up collection of unpainted shanties, for some reason unknown to the popular mind, called "cantonments," and which nearly every carpenter in the country thinks could be very much improved in design and construction. As a matter of fact, for the period between November, 1917, up to nearly the present time, these cantonment buildings have been a very minor part of the work handled, which has consisted of every conceivable form of building, including storage warehouses, ports of embarkation, port terminals, manufacturing plants, munition plants, special and mysterious plants for the Ordnance Department and Bureau of Mines, Chemical Research Laboratories, housing projects, Coast Defense fortifications, aeronautical projects, Signal Corps work, enormous hospitals, and now, more camps. For obvious reasons the number and size, and even the purpose, of many of these buildings cannot be stated, but nearly every field of building endeavor has been included, and the materials used have been of every kind and description

suitable. In fact, it has been the endeavor to utilize materials of all kinds, even in a few instances materials that might not be considered the most suitable, in order to keep the building industries going, and not to overtax any one particular industry or source of supply. Handling and mobilizing the enormous quantities of material required has been one of the important problems, and the matter of transportation has been handled with great skill. Enormous quantities of material, particularly lumber, have been kept moving across the country; in many cases the destination has not been known at the start, but it was given a push in the right direction, and before landing anywhere, the materials were shunted to the proper location. This has required fast work, but, on the whole, there have been very few mistakes or delays. The materials have usually been on the ground when wanted.

The First Organization

The Construction Division started as an offshoot of the Construction and Repair Division of the Quartermaster General's Office, a division the duties of which in peace-times were to do such building and repairing as was necessary for the housing of men and quartermaster's stores. When the cantonments were decided upon, the work was naturally entrusted to this division, and a special branch of it was quickly developed and called the "Cantonment Division." This child quickly outgrew the parent, was separated from the Construction and Repair Division, and made a distinct Division of the Quartermaster Corps. Some time later—in February, 1918—the Construction Division was separated from the Quartermaster Corps and made a separate division of the Army, directly under the Secretary of War. Even before this time, all the building work of the Army had been consolidated under its supervision.

In May, 1917, Col. Littell was detailed by the Secretary of War to take charge of the construction of camps and cantonments for the increased Army then contemplated. He was at that time in charge of the Construction and Repair Division of the Quartermaster General's Office, having as assistants, Capt. W. H. Oury and Capt. R. C. Marshall of the Regular Army.

The Construction and Repair Division consisted of a Clerical Branch and a Technical Branch, composed of about thirty architectural draftsmen and engineers under the direction of Francis B. Wheaton, Advisory Architect for the Quartermaster Corps.

The Housing of Troops

Beginning with the time of the Texas manœuvres, and continuing all through the period of the Mexican Border trouble, the question of rapidly housing troops in the field had been given a very considerable amount of study by the Technical Branch of the office, and a series of

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temporary buildings had been designed and plans therefor were prepared and accompanied by schedules of the necessary materials, for which it was expected they could be erected, if necessary, by soldier labor. These plans were all for one-story buildings of the simplest type and were based on an allowance of about 35 square feet of floor-space per man. They were prepared with the idea of housing the small units into which the Army was divided at that time. As soon as it became evident that a great expansion of the fighting force must be made, the types of buildings used in England, France, and also in Canada, were taken up and considered, and it became evident, as more knowledge of the probable size of coming units was obtained, that it would be necessary to use two-story buildings in order to save ground-space, and on this basis a set of cantonment drawings was started and pushed rapidly to completion.

About this time, principally through the activities of the Committee on Emergency Construction, Council of National Defense, a number of prominent architects, engineers, and landscape architects generously volunteered their services, and the planning of the cantonments and the development of the drawings of the buildings was continued with their assistance. Conspicuous among these men were Frederick L. Olmsted, Jr., and Messrs. Post, Ford, Woodruff, Goodrich, Butler, Ihlder, Stevens, Metcalf, Fuller, and Hill. Shortly after the two-story type of barracks was developed, the Surgeon General's Office took a hand, and later the drawings were practically all made over again, but many of the details worked out by this committee of architects are still in use. The buildings themselves have since been redesigned several times, due to various conditions arising from time to time, the chief of which was the change in the size of the Army units. As the problem developed and the size of the undertaking increased, many buildings not thought of in the spring of 1917 have since been added. The Council of National Defense still keeps a paternal eye on the activities of the Construction Division. All contractors are selected, or at least approved, by the Committee on Emergency Construction, and the War Industries Board controls the use of all materials.

Expansion

It early became evident that the force of the Construction Division, both clerical and technical, was too small to handle the project before it, and an immediate expansion was decided on. Frank M. Gunby, of the Charles T. Main Company, of Boston, Robert H. Hamilton, of the Stone and Webster Company, of Boston, M. J. Whitson, of Seattle, formerly of the Grant-Smith Company, P. Junkersfeld, of the Commonwealth Edison Co., Chicago, and Maj. W. A. Dempsey, Officers' Reserve Corps, were immediately added.

The above, with the Advisory Architect, Francis B. Wheaton, were commissioned as majors in the Officers' Reserve Corps. Under Col. Littell with Capt. Oury and Capt. Marshall as assistants, the office was divided into an Engineering Branch, under Frank M. Gunby; a Materials and Purchasing Branch, under R. H. Hamilton, and an Accounting Branch under Major Dempsey. To these was added a Legal Branch, under Maj. Evan Shelby.

In the beginning, the task of selecting sites for camps and cantonments was delegated by the Secretary of War to the commanding officers of the various military departments, and it soon became evident that the acceptance of sites would, in many cases, not be made until the time had come when it was absolutely necessary to commence active building operations, thus leaving no opportunity for the office force to familiarize itself with the various locations. It was, therefore, determined that a typical layout, representing an ideal camp arrangement, should be made in Washington, and that this should be sent out as a guide to Constructing Quartermasters who would be placed in charge of each of the building operations. These Quartermasters were provided with engineer assistants qualified as town-planners, who were charged with the particular duty of fitting the ideal arrangement to the ground available. Considering the limited time at the disposal of the Division, this plan worked out very well.

Present Organization

The organization of the Division is, to architects, engineers, and builders, probably one of its most interesting features. The head of the organization, Brig. Gen. R. C. Marshall, Jr., is known as the Chief of the Construction Division. Directly responsible to him are seven Divisions, namely: Building Division, Engineering Division, Procurement Division, Administrative Division, Contracts Division, Accounting Division, Maintenance and Repair Division. Each of these seven Divisions has its own complete organization and management, and has duties such as its name implies.

To the readers of this paper the first two branches will be of greatest interest, but it should be pointed out in this connection that one of the features of the Construction Division to which it owes its great success is that the organization depends equally upon the other five branches for the complete functioning of its endeavors. The organization would be incomplete—its work would not be accomplished—if any one of these branches were lacking.

The Building Branch

The Building Branch is that department which has to do with the actual work of construction. It may be compared with the contractor in civil work. Directly responsible to its executive officers are the six sections into which it is divided. Into these sections are grouped all the construction activities of the Army. At present two sections are devoted to camps and cantonments. Among the rest are divided: Quartermaster depots and terminals, ordnance depots, proving-grounds, Signal Corps and military aeronautics, forts and coast defense, manufacturing plants, housing, hospitals, and miscellaneous. Each of these six sections has an executive officer, and a cabinet composed of an administrative officer, engineer, liaison officer and a materials expeditor. Attached to each section are a number of "supervisors," each with a complete office organization. Each of these supervisors has direct charge of a group of field operations and their offices are the points of contact between the forces in the field and Washington headquarters. Each project is in direct charge of an officer in the field, known as the "Officer

THE CONSTRUCTION DIVISION OF THE ARMY

in Charge of Construction" or the "Constructing Quartermaster" (the latter name is a relic of the Cantonment Division days). He is in absolute charge, has entire responsibility for running his projects, is the supreme boss of the job in all matters pertaining to construction, and reports only to the supervisor in the Washington office in whose group he belongs. The responsibility for getting the work done really devolves upon the Constructing Quartermaster. The contractor is not selected by him, the materials are principally ordered through the Washington office (the Materials Branch), the essential drawings are furnished to him from Washington, and general policies are formulated for him at Washington. With these exceptions, everything else is about up to him. He is responsible for the accounting, for the money and its disbursement, for the efficiency of the contractor, for the manner of handling the job. He has a complete office force, including a field engineer with a corps of draftsmen. Much of the drafting, especially of details, is done in the field, based upon the general drawings and policies laid down by the Washington office. Such, in general, is the organization of the Building Branch.

The Engineering Branch

The Engineering Branch is organized upon somewhat simpler lines. It has executive or administrative officers in charge of its activities, but it is very closely associated with the Building Branch, in fact. The Engineering Branch is charged with the work of furnishing plans and specifications of projects, developing typical details and policies, passing upon the suitability of materials, furnishing surveys, expert information as to the utilities, estimates, and bills of materials. Quantity surveys are made, and a great deal of work is done in connection with the preliminary information necessary to obtain authorization. In fact, it performs about the usual functions of an engineers' office, with the exception of the supervision of the work. The department has no control whatever over the work in the field, a condition which has both advantages and disadvantages, depending somewhat on the point of view.

In addition to its executive or administrative heads, the Engineering Division consists of the following departments, most of which are equipped with complete drafting forces: Advisory Architect and Advisory Engineers on the following subjects: Camp-planning, water-supply, fire-protection, electric power and illumination, heating and plumbing, sewerage and sanitation, mechanical equipment, refrigeration, transportation (roads and railways).

Included, also, is a department of materials schedules, an estimating department, and architectural and engineering drafting-rooms.

Coördination

The work of these various departments is coördinated through the office of an expediting officer, assisted by a corps of special engineers, which department acts as the nerve-center of the Engineering Branch. The Expediting Office is divided into sections which correspond to the sections into which the Building Branch is divided, with an expediting engineer in charge of each section. Each of these engineers is equipped with a number of assistants, in constant touch with the advisory engineers on the one

hand, and the offices of the supervisors of the Building Branch on the other. It is through the operations of these expediting engineers that the machinery of the Engineering Branch is set in motion on each project, the operations of the various departments coördinated, and the preliminary data gathered upon which final authorization is based, as well as the necessary data upon which actual construction by the Building Branch is executed. They are expected to be thoroughly conversant with all the details of each project, so far as the work of the Washington office is concerned. When it is realized how many different interests are served by the Construction Division, and how many different departments are concerned in each project, such as a camp, for instance, and how each of these must be consulted before final decision is made on any matter, it will be realized that much work and responsibility falls on these men.

Procurement Division

The branch called the "Procurement Division," formerly the Materials and Transportation Branch, is organized along more complicated lines than either the Building or Engineering Branches. It is first divided into two principal sections: Procurement and Delivery. These, in turn, are each subdivided and again subdivided. The work of procurement, inspection, transportation, expediting, both in the office and in the field, involves a fascinating field of organization. This, however, is not of immediate interest to architects, and it would take too much space to go into in detail in this article.

The other Branches are organized, each according to its special work, and each with a well-defined plan of operation.

Policies

The organization, policies, and operations of the Construction Division is being handled by capable men whose experience and training has been with large and successful commercial organizations. Such business concerns are apt to handle their problems with a somewhat different point of view from that to which professional engineers, and, particularly, most architects, are accustomed. The need for getting things done quickly, above everything else, has been the paramount consideration, and there is no doubt but that the methods used have been successful in this respect.

Architects and Architecture

There are several questions of interest to architects which have developed in connection with the activities of the Construction Division since its organization. One of these questions is, to what extent have the services of architects been utilized? The answer to this depends largely on the definition of the word "architect." Unfortunately, the policy of the leaders in our profession, our Institute, our schools, and our societies for many years has not tended toward a broadening of the scope of the profession, but rather has kept it within very narrow confines. The tendency has been toward the elimination of many branches which, as a matter of fact, are a part of the art and science of building. By a sort of process of disintegration, various fields of endeavor have been

started in the past half-century which we have been responsible for saying were not architecture but engineering in some form. The result is that the term "engineering" covers a multitude of activities, but the term "architecture," which should be the broader term, has been confined to very narrow limits. It has been decreed by ourselves that, in order to be architecture at all, our work must have some claim to relationship with "art." Science has been used in connection with the work of the Construction Division, but not much, if any, of what is commonly called "art" (with a capital A). Therefore, by our own definition, by the limitations we have ourselves set, by public opinion, which we have molded, and by our own narrow conception of what a "master builder" should be, architects, according to popular definition, have not been of much service to the Construction Division, as compared with those who are commonly called engineers. On the other hand, if we consider that any man who has knowledge of the art and science of building, who puts that knowledge to practical, professional service, as a master builder, is an architect, then we may say that the Construction Division is almost entirely composed of the most able architects that the world has produced. Men expert in almost every line of construction and in every special field of endeavor in connection with building construction are to be found at work in this Division. It so happens that these men are called structural engineers, electrical engineers, sanitary engineers, etc., instead of architects who specialize in these particular branches of the master builders' profession. (It may not be amiss to remind our readers that that class

of work now handled by men whom we ourselves now call "sanitary engineers" was at one time in the history of building handled by carpenter-architects.) These engineers developed with the development of building. Architects alone have not. The public has been taught to consider an architect to be a man who knows something of the practical side of construction, but principally a designer of artistic things, who gets someone else to construct them—a man who puts the "gingerbread" on the engineer's construction. The situation is deplorable, but a fact, and a condition, for which we have no one but ourselves to blame.

The second question which is asked is, How is this war-work going to affect the architectural profession after hostilities are over and the country settles down to normal conditions? Are we going to go back and open up our offices and continue to practise the "profession" as before? Or are conditions going to change and necessitate a new method of handling work? It looks to the writer of these lines very much as if there would be some change, and that it will be welcomed by everybody. Just what shape it will take is, of course, impossible to forecast. It would appear, however, that a considerable coördination of the work of the engineer and architect (to use present terms) will take place, and also a certain absorption of the work of the contractor with these. The success of the Construction Division as a practical, workable organization, its widespread influence, the magnitude of its operations and the practical success of its methods will surely have an effect that will be felt by the building industry in the future days of peace.

Housing in the British Isles

A STRIKING example of the close relationship which war has shown to exist between the various human activities that have hitherto been dealt with as isolated fragments of the great social, economic, and political problem, is found in the following statement culled from a recent and most interesting report on the subject of education in England:

Education and Housing

"Opportunities for education depend to a considerable degree upon the character of the houses in which the people live. The unsatisfactory condition of working-class housing, as regards both quality and quantity, in town and country alike, is now realized on all hands. This problem, though accentuated by causes arising out of the war, existed even before the war in acute form. Nearly half the population of England and Wales (48.2 per cent) before the war were living in houses with more than one person per room. There were 39.1 per cent of the population housed in tenements with over one, but not more than two, persons per room, whilst one in eleven of the population (9.1 per cent) were crowded more than two in a room.†

*Ministry of Education, England. Interim Report of the Committee on Adult Education. Industrial and Social Conditions in Relation to Adult Education.

†Census of 1911 (Cd. 6910), Vol. VIII, p. x.

"Serious as these figures are, the Scottish returns are even more serious. In Scotland, 43.6 per cent of the population were in 1911 living more than two in a room, over a fifth (21.1 per cent) were living more than three in a room, whilst one in every twelve (8.3 per cent) were living under such conditions of overcrowding that there were more than four persons per room.*

"It is clear, therefore, that the majority of the people are badly housed. Even the best type of workman's dwelling is only too often inconvenient in its arrangement and lacking in reasonable accommodation. In the older houses, which so large a proportion of the working population inhabit, there is little privacy and comfort. Home-life, in consequence, must suffer.

"A Birmingham cabinet-maker says: 'We are not housed. There are only sleeping and eating compartments. Usually everything has to be done in one room, especially in the winter, as the expense of keeping more than one room warm could not be considered.'

"Such conditions, it is only too obvious, militate against the full use and right enjoyment of life. It is difficult, often, indeed, impossible, for badly housed men and women to develop intellectual interests, and where such interests have been developed, almost insuperable obstacles are offered to their full realization. The information submitted to the Committee on this question is unanimous in condemning existing housing conditions; and students,

*Census of Scotland (1911), (Cd. 6896), Vol. II, p. 568.

HOUSING IN THE BRITISH ISLES

teachers, and social workers are in full agreement as to the very serious handicap imposed on those who would wish, as one puts it, 'to do more than work, eat and sleep.' "

The Housewife

The Committee also deals with the question of the housewife, and after a sweeping indictment of the burdens that have been heaped upon her by the industrial struggle, concludes with this observation: "For these reasons, an adequate scheme of housing reform is of vital importance to women, and upon it will depend in no small measure the extent to which they will be able to play their part in public affairs, and to develop the intellectual and social interests which will arise therefrom."

More than Houses

And then the Committee comes to the question of something more than houses: "The question of housing is intimately concerned with that of town-planning. The problem is to secure that the whole physical environment shall be healthy and beautiful. To build improved dwellings on the old sites in the least healthy and the most depressing and crowded quarters of the town, cheek by jowl with the factory and the mine, is to defeat the object in view. We are, therefore, strongly of opinion that in urban districts schemes of housing reform should be considered in relation to town-planning.

"Too little attention has been paid in the past to the reaction of the physical environment upon the esthetic and moral standards of the people. Contact with ugly and depressing surroundings tends gradually to dull the finer senses, and people who, under more favorable circumstances would shrink from the drab and sordid environment of large areas in all our towns, become, through familiarity, oblivious of its ugliness. It is as important not to overlook the subtle degradation of mean and sordid surroundings as it is to remember the educational influence, none the less real because unconscious, of a clean, healthy, dignified and beautiful environment."

Summary of Recommendations

"We have approached the matters dealt with in our present Report from the human rather than the economic point of view. If the individual is to make the most of his powers, if the citizen is to be worthy of the responsibilities thrown upon him by the ever-increasing complexity of life in a modern community, in other words if education in any broad meaning of the term is to become a reality, certain definite conditions of life are indispensable. The paramount consideration is that of the individual as a member of society. Material progress is of value only in so far as it assists towards the realization of human possibilities. Industry and commerce and the social conditions which are in a large degree dependent upon them must in our opinion be regarded from this point of view, and if they cramp the life of the individual, no amount of economic argument will suffice to justify them. . . . We do not think, however, that there is of necessity a fundamental antagonism between ethics and economics. Adequate pay, reasonable hours of labor, the suppression of heavy, degrading, and monotonous forms

of manual labor by machinery and improved processes, the provision of holidays, the introduction of human relations and of the social motive into industry, healthy homes and cheerful environment—these are the indispensable conditions of economic efficiency; they are also amongst the elementary rights to which the citizen, as such, and in virtue of his responsibilities, is entitled."

In regard to the specific case of housing and the progress being made in England as to the establishment of an after-the-war permanent policy for the provision of decent homes and an adequate environment for the workmen of England, we quote liberally from the recent report to the Ministry of Reconstruction.

After a general survey of the question,* the Committee which made the report, comes to this conclusion: "4. Conclusion. In our opinion, therefore, it is imperative that the Government should secure within the first year after the war the building of sufficient houses for the working classes to make up the deficiency caused by the cessation of building and to supply some part of the rural needs."

"7. Conditions to be fulfilled. (a) That building be begun without delay after the conclusion of peace in order that the labour made available by demobilisation may be absorbed and unemployment prevented; (b) That the opportunity be taken for ensuring a good standard of design and layout; (c) That the houses are built in the localities where they are needed."

About this broad question, Mr. Ewart Culpin has the following to say in his article, "A National Programme," in the September number of *Garden Cities and Town Planning*.

" . . . the question 'where' is not merely one of site and aspect; it is not even locality. It goes much further. It means that no houses should be built except in accordance with a definite policy of national housing, designed to secure the utmost efficiency of the nation; that mechanical industry may be economically carried on; that the worker may be housed under conditions securing physical well-being, rest and recreation; that agriculture, the oldest of the industries, may not again be neglected. . . . Birmingham may say it requires ten thousand additional houses at once. But that is not the question; the question is, Is it for the national good that these houses should be erected at Birmingham? The answer may be affirmative or negative, but the question should be put and there should be such a record of national requirements and national possibilities as will enable an intelligent answer to be given. Because Blanktown says it wants five thousand houses, and is prepared to find the 25 per cent loss, is not the reason for supplying them there. What really matters is whether Blanktown can be developed on such scientific lines that its increase will prove beneficial both to reconstructed industry and a regenerated population, or whether these new industries which are expected to go to Blanktown should not be established with the five

*Ministry of Reconstruction. Housing in England and Wales. Memorandum by The Advisory Panel on the Emergency Problem.

thousand houses on a new site or around some small existing center and form the nucleus of a new town where the evil heritage of the past does not overwhelm, where land is cheap and unpolluted, and where the singing of the birds, and the trees and the flowers, which formed the charm of its rural condition, may be retained in its ordered growth because of development, upon natural and scientific lines."

(In connection with this question the committee then considers the cost of building and in the belief that high prices will delay house building, concludes as follows:)

"9. Conclusion. It will be clear then, that whatever other measures may be taken, no considerable number of houses will be built in the year after the war, unless financial aid is forthcoming from public funds, to make good the inevitable loss due to abnormal prices."

(If the conclusion about high building costs after the war is as well founded as it now appears, the result upon house-building would be either to delay it until prices dropped and leave workers in the slums where they are, or else build more slums which, even at the high cost of building, would still be profitable, since the rental charged could be high. Undoubtedly, unless checked, the tendency to build slums in the United States will be greater than ever before, immediately after the war, due to the high building cost.—EDITOR.)

"10. The task before the Government being of this magnitude it is evident that every agency which can fulfil the necessary conditions should, if possible, be utilized. These are: (a) Private Enterprise; (b) Public Utility Societies; (c) Local Authorities; (d) The State.

"11. *Private Enterprise.* About 95 per cent of houses in the past have been built by private enterprise in the form of speculative building. In the case of working-class houses, this form of building has shown a tendency to diminish, and abnormal conditions apart, the expectation that it would continue to provide the necessary number of houses in the future would not be justifiable. In rural districts private enterprise in the shape of estate building by owners of land has done something, but as has been pointed out, speculative building has been practically non-existent. We willingly, however, accept the principle that no obstacles should be put in the way of the free working of private enterprise in the future, subject only to its conforming, as we believe it well can, to a sufficient standard of design and arrangement, internal and external, of the houses built. But we are convinced that it would be a policy which is criminal in its effects on posterity and which is justified by no reasons of necessity or immediate utility, to accept in future the accretion to our great towns of mean street on mean street."

(Unless the United States, through some form of governmental authority, Federal, state, or municipal, can advance control over housing beyond the present weak and futile tenement-house laws—which are in themselves only an additional stimulant to "mean street on mean street" and toward more slum building, this country will experience an orgy of cheap house building such as will leave its mark for a generation. Only a persistent activity on the part of those who can see beyond the present laws, which are, in effect, an effort to Prussianize the worker, his home,

his children, and his very soul, can save us from the impending disaster.—EDITOR.)

The Committee then discusses the merits and demerits of several different methods of granting financial aid, and then offers its conclusions, which are worth careful study by those in authority over our governmental housing work in this country.

"21. The Panel's Scheme:

"(a) That the State should provide the whole cost of the building and should own the houses for a period to be fixed, say five years, at the end of which prices may be expected to have attained a normal level. This period is referred to as the transitional period;

"(b) during this period the Local Authority will act as agents of the State, and will be responsible, subject to the approval of the District Commissioner hereafter described, for building and managing the houses and collecting the rents.

"(c) At the end of the transitional period the ownership of the houses will be transferred to the Local Authorities at a figure to be arrived at by deducting from the original cost such a percentage as represents the fall in price of materials and labor together with the fair allowance for depreciation.

"(d) During the transitional period the rents, collected by the Local Authorities as agents, will be paid over to the State. In urban districts the aim should be to fix rents at a figure likely to provide a fair interest, sinking fund, etc., when normal conditions are restored and the abnormal cost has to be written off. In rural districts the rents should be fixed in consultation with the Agricultural Wages Board, and in coöperation with that body raised by stages to a similar figure, which should be reached by the end of the transitional period.

"(e) Upon the transfer at the end of the transitional period, it should be incumbent upon the Local Authorities to secure, as far as may be practicable, rents sufficient to cover the annual charges.

"(f) It will be clearly impossible to forecast a date when, conditions having become normal, the transitional period may be equitably considered to be concluded. It may be desirable, therefore, to give power to the Government of the day to postpone by order the date of the transfer of ownership in any district where circumstances might require it.

"The result of the scheme is that the State will bear the capital loss due to abnormal cost, the abnormal interest charges and the annual loss which is inevitable in the case of rural cottages. The scheme will no doubt cast the most heavy burden on the Exchequer; the answer thus must be that the community, whether by way of rates or taxes, will have to bear the burden, and if the end is to be attained, this method seems most likely to attain it."

(From these proposals it can be seen that the Committee is wholly opposed to leaving the question of decent homes to be worked out on the economic basis of the past, where the workman perforce took what the speculator handed to him. The plan here presented is, in effect, a scheme for having the nation absorb any loss which may be incurred

HOUSING IN THE BRITISH ISLES

by building good houses after the war, or at least, immediately thereafter. Otherwise it recognizes that all the old evils will spread with increasing malignity. Comparing the plan with a possible plan for our own country, it would amount to having the state advance the money necessary to build the number of decent homes required. At a period some time later, the houses would be turned over to the municipality in which they were situated, at a price to be agreed upon and based upon the then prevailing normal building cost and with an allowance for depreciation. It must be evident that it is only by such a plan that adequate housing can be provided.)

"24. Conditions to be laid down. The present scheme of State building provides an opportunity, which must not be let slip, of securing permanently a greatly improved standard of building.

"(1) The Government should, therefore, insist on a high standard of design and layout, and, save in exceptional circumstances, on a restriction of the number of houses built to the acre to, say, 12 in the towns and to 8 in the country.

"(2) The houses must be completed within a definite time: we suggest that for this purpose a year be fixed.

"(3) The houses built must be for the occupation of the working classes, the definition of which term as given in the Housing Acts, needs some extension. The right view appears to be that adopted in the Workmen's Compensation and National Health Insurance Acts, namely, that all persons should be included whose incomes arise from all sources below the limit of £160 per annum. In view of the great rise in prices, the limit might be raised to £200.

"42. *Steps to obtain a high standard of building.* Every endeavor should be made to ensure that in the houses built under the present scheme a high standard of design and layout should be maintained, which will be an example to be followed in all future building. At the same time, economy must be carefully studied, as without it no advance will be made toward a permanent solution of the problem. For the achievement of these objects considerable skill and experience in design and planning is required. Great importance is, therefore, attached to the plan outlined in the following paragraph, with the object of ensuring the employment of a competent architect. (Reference is here made to the housing competition conducted by the R. I. B. A.; the premiated designs have already been published in the Journal.—EDITOR.)

"43. *Employment by Architects.* But it is not enough to obtain a series of good type plans. It is essential that these should be adapted to local needs by an architect of experience and taste, and that architectural skill should be employed in laying out the building estates on town-planning lines. Comparatively few architects or surveyors have experience in this work. On the other hand, a man who had good architectural training could, with a little coaching, soon pick up sufficient knowledge to enable him to lay out cottages on town-planning lines fairly satisfactorily.

"We think, however, that it is very important that the work should be in charge of an architect, otherwise the high standard of design and layout which is desired

will not be secured. But unless the Government gives encouragement it is probable that but few Local Authorities will employ an architect: they will consider that their surveyor is quite capable of providing any professional skill which may be needed."

(Reference to the abilities of architects in general, in so far as they apply to the general subject of laying out a community, are perhaps quite as accurately applicable in the United States. While the reference to their ability to "pick up" sufficient knowledge, seems a little humorous in view of the full scope of the work to be done, it still remains true that architects are, by virtue of their training, (in practice,—not in the school) best qualified to train themselves for these larger fields.—EDITOR.)

"44. To secure these objects we make the following recommendations:

"(1) That a competent architect, with experience in town-planning, be appointed to the staff of each Housing Commission. (Referred to under 21*b*).

"(2) That a panel of local architects be chosen, in consultation with the Royal Institute of British Architects, and with local opinion, and that the Government should undertake to pay the fees of any one of them whom the Local Authority might choose to employ in the planning and supervision of the scheme. The Local Authority would not be bound to employ any of the panel architects.

"(3) It would be the duty of the Housing Commissioners to see that all the best experience and practice available at the Local Government Board or collected by the Tudor Walters Committee should be placed at the disposal of the Panel.

"(4) It should be possible to arrange with the Royal Institute of British Architects for payment on the basis of a retaining fee, and a small percentage which should be economical and equitable.

"(5) The supervision of Housing Commissioners would of course, still be retained.

"45. *Miscellaneous.* The question of the Acquisition of Land is being considered by the Committee under the chairmanship of Mr. Leslie Scott. From the point of view of future housing policy great importance attaches to their conclusions. It may be pointed out, however, that the Committee will doubtless deal with the question from the point of view of permanent policy, and it is possible that in the emergency that will arise stronger temporary powers comparable to those exercisable under the Defense of the Realm Act should be reserved to the Local Government Board."

(From this statement, it will be seen that a recognition of the land problem is no longer in need of urging in England. The Committee very evidently realizes that it will be necessary to keep the provision of the Defense of the Realm Act in force, at least during the emergency; under these provisions, land could be taken at its pre-war value, not only for a first building operation, but for an enlargement of the first. By this method alone, will it ever be possible to provide adequate housing for all. The report of the Committee on Land Inquiry will be eagerly awaited. Unless it can find a solution of this problem which will be acceptable to the nation, the whole proposed program will be of little avail.—EDITOR.)

Committees of the Institute for 1918-1919

(Supplementing the partial list published last month)

Education Committee

(Standing)

Frederick L. Ackerman, *Chairman*

Milton B. Medary, Jr. Dwight H. Perkins

Instructions: The Committee on Education is charged with the task of evaluating our system of education by measuring the result as expressed in terms of the architect's service to client, community, and nation, and in the degree of honorable livelihood made possible to the practitioner by such education.

Committee on Fire-Prevention

(Special)

George C. Nimmons, *Chairman*

Julius Franke Wm. J. Sayward
F. A. Narramore

Instructions: This Committee is charged with the task of studying the subject of fire-prevention; of cooperating with other societies, in aiding the promulgation of information on this subject, and with the new Committee on Structural Service.

Building Committee

(Special)

William M. Kendall, *Chairman*

D. E. Waid Edward W. Donn, Jr.

Instructions: This Committee is charged with the major repairs to The Octagon and with such projects of restoration or rebuilding as may come up for consideration.

Committee on School-Building Measurements

(Special)

William B. Ittner, *Chairman*

(Committee of One)

Instructions: This Committee is instructed to consult with the National Educational Association which is understood to be engaged in this work on an elaborate scale.

Structural Service Committee

(Special)

Sullivan W. Jones, *Chairman*

Rolland Adelsperger Benno Janssen
John L. Hamilton H. W. Tomlinson

Instructions: In addition to the instructions of the convention, this Committee is charged with the task of advising and cooperating with the Journal in the continuation of its structural service work.

Preservation of Historic Monuments and Scenic Beauties

(Special)

Horace Wells Sellers, *Chairman*

Arthur Benton	Elmer C. Jensen
Warren R. Briggs	Fiske Kimball
Glenn Brown	L. A. Livaudais
George Cary	Thomas MacLaren
Charles A. Coolidge	L. W. Robinson
Reinhardt Dempwolf	Howard Sill
William M. Ellicott	Egerton Swartwout
Norman M. Isham	Ornan H. Waltz

Instructions: This Committee is charged with the responsibility of fostering all movements looking to the preservation of historic monuments and scenic beauties, and of increasingly extending the influence of the Institute through public service of this kind.

House Committee

(Standing)

William M. Kendall, *Chairman*

D. E. Waid Edward W. Donn, Jr.

Instructions: The House Committee is instructed to have charge of The Octagon property in all that pertains to its physical care; to make necessary minor repairs, and to call the attention of the Building Committee to such major repairs as are necessary to insure the safety of the premises.

Post-War Committee

(Special. Created by the Board)

W. R. B. Willcox	Edwin H. Hewitt
Robert D. Kohn	A. L. Fechheimer
N. Max Dunning	Frederick A. Russell
Sylvain Schnaittacher	Waddy B. Wood
Charles A. Coolidge	Sullivan W. Jones
S. S. Labouisse	Frederick L. Ackerman
H. Olin Jones	John Calvin Stevens
John Robert Dillon	Frank C. Baldwin
William L. Steele	John Lawrence Mauran
A. C. Martin	Arthur Dillon
Ben J. Lubschez	Josiah Dow Sandham
William W. Emmart	Dwight Heald Perkins
Ornan H. Waltz	Horace W. Sellers
F. R. Walker	Thomas MacLaren
Herbert W. Foltz	A. C. Eschweiler
Albert Kahn	W. T. Robertson
Folger Johnson	E. J. Russell
H. Van Buren Magonigle	Charles Harris Whitaker,
	<i>Secretary</i>

NOTE.—At the meeting of the Board of Directors in Philadelphia on November 16, the task of the Committee was the subject of a most interesting discussion, and it was resolved that the Board should refrain from offering anything more than such suggestions to the Committee as appeared in the October Journal. The sum of \$5,000, was voted as an initial appropriation for beginning the work. The Chairman has not yet been chosen.

Notes by the Wayside

"We all are dreamers in our square.
There is no sound but laughter there;
We win to joyance, win to mirth;
We are the glad ones of the earth
Because the thing we dream, we do;
All men dream dreams, our dreams are true.
For the work we love our hands are free;
We, too, create and are deity."
—MARY CAROLYN DAVIES, in "The Quill"

ALTHOUGH some people think of Bohemia only as the place where long-haired men and short-haired women, aspiring to fame as artists and authors, live and loaf—these people would never accuse Bohemians of working—this conception fits only the veneer put on for the benefit of tourists and other curious folk. There is a place in every large city where those who dare to be unconventional, who dare to act and think freely, who love the beautiful and strive to create it, usually gather; the little section of the city where they choose to live and dream and work, be they painters, sculptors, poets, musicians, or artists of whatever kind. This is the real Bohemia, and always there grows around such a place the cheap veneer of queer restaurants, high-priced "antique" shops, and other places that capitalize curiosity and make for an unsavory reputation. Greenwich Village, in New York, lying mostly between and around Washington Square and Sheridan Square, is a real Bohemia despite the many places which are obviously there to cater to the tourist's curiosity, places, for instance, where a short-haired girl in a soiled smock serves you tea and crumpets on an old kitchen table painted lavender and green and in a tumble-down room weirdly "decorated," all at a very fancy price! But we may ignore such places. There is always a charming atmosphere about Washington Square. The people on the benches are not afraid to wear color and to act quite naturally. Through the shimmering leaves of the trees are seen the old red brick houses with their marble doorways, and the whole is one of the delights of New York. And then there is Sheridan Square, where the little narrow streets come together at all angles, and where one street actually crosses itself! Where the skyscrapers are blocks away, and where the quaint old houses and shops make you forget you are near Broadway or Fifth Avenue. And the people of Greenwich Village are quite human. They are not afraid to be spoken to or to speak to you. They tell you naively of themselves and their likes and dislikes as the verses following and at the beginning, all quoted from "The Quill," show:

"I hate circles;
They enclose.
They compress.
They have no outlet—
Yet I know that circles are perfect.

"I like straight lines;
They lead somewhere.
They are strong.
They allow complete freedom
And infinite extension.

"I love curved lines;
They flow.
They leap.
They are alive with joy.
They do that which is unexpected.
My eye follows them happily."

—ELINOR C. WOOLSON

"I often think that buildings hate
To have to stand so stiff and straight,
In regulation rows,
With never room to twist about
Or push their elbows in and out,
Or wriggle up their toes.

"A sort of wistful sadness lies
Within their staring window eyes,
As though they longed to change
And be an old tramp barn or shack,
Asprawling on its crooked back,
With freckles or the mange.

"And when I hear a building falls
Or sways upon its well-built walls
Within the town,
I know the reason is—it's tired
And, with a grim rebellion fired,
It just—*sits down!*"

—AOGIE in the *New York Tribune*

WE HAVE often wondered what was the matter with some buildings, they looked so sad and pained and woe-begone. It must have been due to their mute protest at having to stand "so stiff and straight." Would it not be interesting if buildings could speak, if they could look into a mirror and say: Is my cornice on straight? Are my windows large enough and in the right place? Are my pilasters long enough? Don't you think this band a little higher up and a little wider would look better? Oh, I just hate my old tin modillions! Oh, my insides are all out of gear! I am suffering from poor circulation and my floors groan so, I must have rheumatism. Such might the complaints be if buildings could speak and the architect's work might even become as serious as the choosing of women's clothes or the regulation of one's diet, if he had to face the audible complaints of his buildings the rest of his life.—TRAVELER.

Book Reviews

New Towns After the War. By New Townsmen.
London, 1918. Dent & Sons.

We borrow an appreciation of this book from what Mr. Culpin has to say of it in the September issue of *Garden Cities and Town Planning*:

"It is not only well written, it is thought-compelling. Even the restatement of the case comes with a welcome freshness because it is today and tomorrow it deals with, and with eighteen years of experience to base its arguments upon, the value of Mr. Howard's cardinal principles is the more apparent. There are three sections: The Problem, The Solution, The Programme. Of these possibly the Solution will be found the most valuable. It is a new presentation entirely and brings home its points admirably. There is a first attempt at a logical formula for modern towns and the size to which they should grow, and this is its brief summary: 'A town should be of a population large enough to allow of efficient industrial organization and full social activity; but no larger. The urban area should be limited to a size requisite to house this population well, and should be surrounded by a zone of open land large enough to possess a distinctively rural and agricultural character.' 'The Programme' shows how this policy may be applied to today's needs and how the new houses and new factories may be brought together, and how, as the state must control the new housing, there is an unparalleled opportunity for a real state programme of garden cities. It is an ambitious programme, and demands new legislation and new conditions, but we are learning to think in big terms, and not to be afraid because a thing is big.

"The creation of a hundred garden cities will give a far better return to the state in health, happiness, public spirit and efficiency than any other method of meeting the shortage of houses. Merely to scatter a million dwellings in our suburbs and villages, wherever a chance economic demand may occur, is a feeble and planless proceeding. It means that a colossal national enterprise is undertaken without national consideration or design, and in total disregard of some of the most vital factors. The nation is in the position of a man regarding a runaway vehicle; there is nothing for it between cowardice and courage. To neglect this magnificent opportunity would be ignominious; to seize it would be glorious. No more inspiring task can be imagined than the provision for millions of our people of the best physical environment that modern art and industry can produce.

"What a dramatic opening for the era of international reconstruction—Britain, which led the world to industrialism, now showing the way to a system in which industrial wealth is compatible with a sane, natural and cultured life for all! And what an impulse it will give to the solution of the major problems of society! Even the great questions of income and control now underlying the industrial and political conflicts of every nation will be profoundly modified. If so many town dwellers secure the inalienable advantages of comfort in their houses, beauty and grace in their surroundings, sunlight, fresh air, health,

and a share of civic power; if the rural workers gain the social pleasures and opportunities of the town; if people of all classes in town and country are brought together and come to understand the interests of each other; then vital political issues will be immensely clarified, and the rise of numerous groups of alert and responsible citizens will quicken national progress in every sphere.' "

The Meaning of Architecture. By Irving K. Pond.
Marshall, Jones & Co., Boston, Mass. 1918. \$2.

Mr. Pond, the author of "The Meaning of Architecture" gives evidence throughout the book of a deep love of art, of lofty purposes, and of genuine and worthy reactions to the noble monuments of the past. His aspiration and intentions for the architecture of the present and future are inspired by the wish to see the world henceforth realize, as fully as has been done in the great periods of the past, that which lies within the potencies of civilization. But when we have spoken in commendation of Mr. Pond's personal reactions, we have said most of what can be said of a commendatory kind. A few quotations from the book will show why this is so.

Mr. Pond tells us (page 165), that "As architecture above all others is the art of self-expression, an age which has anything to say will say it in its architecture. A race which has any vital message to impart will deliver it in its buildings. Architecture will carry the message," and so forth. From page 148 we take an instance of how Mr. Pond reads the message: "I shall reject the theory that these Caryatids are immortal monuments to slave maidens, for the Greek ideal controlling in architecture was too profound and too spiritual to admit of any such perversion. . . . I doubt if the Greeks were deeply concerned with the spiritual development of their slaves or kept them in bondage to develop in them beauty and perfection of character through restraint." (This is almost like a bit of super-solemn "Alice in Wonderland.") "Therefore I reject the theory that the Maidens of the Porch are slaves and adhere to the theory I have already advanced that the Caryatids were developed to proclaim the essential femininity of the Ionic order, to characterize and define that order which was a monument to the eternal feminine." Since, as we are told on page 167, the Greeks "were evolving consciously and with the highest ethical and esthetic intent an expression of that race spirit . . . which became more clearly defined and more susceptible of rich and beautiful interpretations", we are to understand that not merely Mr. Pond but the Greeks, too, knew all about the relation of the Ionic to the eternal feminine, and so forth. Of course, this sort of interpretation is sheer caprice. About such assertions there is nothing to be said except that if you like that sort of thing it's just the sort of thing you like. Mr. Pond has not one iota of evidence, except his personal impressions, and he should set these notions forth as personal impressions. They have no other value.

Elsewhere, (page 161), we are told of the interesting

BOOK REVIEWS

fact that the Ionic entablature can be diagrammed by use of the signs that engineers employ to indicate compressive and tensile strengths. The former is the plus (+), the latter, the minus (-) sign. Mr. Pond adds zeros for the area of no force. Then if we put down rows of plus and minus and zero signs like this:

+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+
0	0	0	0	0	0	0	0	0	0	0
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

we get a pattern that resembles the Ionic entablature.

"Is not the result of the comparison suggestive if not startling?" exclaims Mr. Pond. He would not suggest for a moment "that the Greek laid out a series of + and - signs and from the diagram shaped the forms of the entablature," but "I insist" he says, "that the esthetic intuition of the Greek, guided by his reason, compelled him to use in the compressive fields the broken lights and shades of the dentils which the series of + signs suggests, and in the tensile fields the fine-spun lines of tension into which the - sign is so readily translated."

Now the plainest of plain men would find nothing startling in the fact that when a beam is laid across supports—here they are columns—one wouldn't cut them up so as to weaken them actually or in appearance, but that after horizontal courses had been laid it would be quite practicable and pleasing to decorate the further horizontal courses with vertical markings, since a continuous support has been supplied. The aforesaid plain man would not have thought of compression or tension and neutral zones, and it is highly probable that the Greek of the entablatures did not either. Of course I don't say that they did not. I don't know anything about it. I can only say that I find that kind of elaborate, unhistorical, and apparently fantastic explanation of the obvious as tedious as it is futile.

In another place (page 86): "This is what the Corinthian may have had in mind and may have been endeavoring to express in applying his two fillets of acanthus leaves; it would have been an attempt at the expression of a democratic ideal. But really democracy was never achieved in Greece, that is, not in the mediæval nor in the modern sense; and so (another 'and so'—two words, the frequent recurrence of which seems a fair measure of Mr. Pond's critical and scientific reasoning—) we must believe that the Corinthian leaf-band was introduced for the sake of embellishment rather than to embody a deeper meaning or express a higher ideal." Such are the somewhat "personal" methods by which Mr. Pond proposes to read "the vital message that a race will deliver in its buildings" (page 165).

I am willing to risk the prophecy that if modern architects are going to concern themselves with the expression of democracy in this manner of the minor literateur, architecture will go from bad to worse, and that the only solution will be for the architect to abdicate in favor of the engineer who will go ahead and build without muddling his work with such fantastic crotchets. However, there is no great danger that Mr. Pond's teachings will have

great extension, and so, from that blight at least, the profession will be secure.—LEO STEIN.

Fire Waste in Canada. By J. Grove Smith. The Commission of Conservation, Ottawa, Canada. 1918.

The Commission of Conservation of Canada has just issued its report in book form under the title of "Fire Waste in Canada." This is one of the most valuable contributions to the subject of fire-prevention that has yet been issued. The usefulness of a work of this kind is emphasized by the fact that Canada stands at the head of all the nations in the waste and destruction of property by fire. Its annual rate of loss per capita is \$2.73, with the United States as a second to Canada with a rate of \$2.26, while France at 74 cents, England at 64 cents, Germany at 28 cents, and other European nations at similar low amounts show the great opportunity for the reduction in the fire-loss of Canada.

The book treats the subject in a most comprehensive manner. It gives statistics showing the number and cause of fires in Canada, the results of a systematic canvass of all the insurance agencies which was devised for the purpose of securing for the Commission all the facts and recommendations which the various insurance men could offer. Conditions that produce fires in small towns was a subject investigated with particular care, so as to bring out and emphasize strongly the great waste of property that annually takes place by reason of carelessness and other causes that might easily be remedied in such communities. Canada is fortunate in having a modern set of laws on town-planning, which places the control of the designing and construction of new villages and housing groups in the hands of the Government. The report of the Commission shows that it is their intention to take advantage of the opportunity afforded by these laws greatly to improve the fire-resisting qualities of all new villages and housing groups.

A very good suggestion is made in reference to the utilizing of the men in the fire departments, not only for extinguishing fires, but also for inspecting property and enforcing regulations to prevent fires, which might very well be done during much of the spare time which the men of fire departments have at their disposal. It is pointed out that a great service could be rendered by these men in addition to that which they already perform in their single duty of extinguishing fires.

The great need for arousing the public in Canada to the urgency of a reform on fire-prevention is the fact that the fire-waste of Canada is steadily increasing as fast as ever, and that the cost to carry adequate insurance for protection is a burden on the industries greater than people ordinarily imagine. Concrete examples are given to show how much larger amounts of money each of the important industries must pay for fire-protection than do those in England. For example, boot and shoe factories in Canada pay an average rate of \$2.05 per \$100 for insurance, while those in England pay only 47 cents per \$100; clothing factories in Canada 87 cents, in England 17 cents; machine shops in Canada \$1, in England 15 cents; and woolen mills in Canada \$3.25, and in England 92 cents. The report also shows how the cost of every loaf of bread

is made to help carry the burden of needlessly high insurance.

The report shows not only the deplorable conditions existing in Canada, but it is also just as constructive in character in recommending, in a comprehensive manner, how all of this vast waste by fire may be greatly reduced, and the people of Canada placed in a position where they can readily reduce the horror and wastefulness of fires by coöperating with the Commission in the new reforms which they hope to bring about in these matters.—GEORGE C. NIMMONS.

The Colonial House. By Joseph Everett Chandler. Robert M. McBride & Co. New York, \$2.50.

Mr. Chandler has written a curious, though valuable, mixture of history, advice, and criticism, with plain scolding generously interspersed. There are paragraphs which bring to mind Shaw's biting shafts. Speaking of the downfall of the Colonial style and the blossoming out of "such a riot of jig-saw invention as only a disordered imagination, resulting from too long a diet of hard cider and mince pie, could explain," he says: "And the architects! Where

were they? The masses, pleased with the jig-saw invention of the board-butcher, had ceased to call for his services—and he became a sporadic visitor from abroad or a rare native product performing weak imitations and adaptations and abetting the public in its call for first the obvious, then the ordinary, and at last the vicious."

One wishes that the book had been confined to history, criticism, and scolding—which is mostly delicious reading—and omitted the advice which is inserted quite freely. The chapter on "Modern Work" does not strengthen the book; the last chapter on "Colonial Gardens" is quite charming. The illustrations are numerous and of exceedingly well-chosen examples, including many little-known ones. Their typographical presentation is rather poor, however.

Perhaps what has more nearly spoiled the book than anything else is that Mr. Chandler has tried to temper a really scholarly essay on Old Colonial to the mediocrity of a book of advice for future house-builders. The result is not entirely happy. It is doubtful whether the advice will prove of as much help to the future house-builder or be of as much inspiration as would have been the pure unadulterated essay.—B. J. L.

Correspondence

Cost of Housing at Hilton

To the Editor of the Journal:

Sir:—Will it be possible to publish a belated criticism of matter that appeared in the July number of the Journal? I refer to parts of an article entitled "The First War Emergency Towns: Hilton, Virginia," by Henry V. Hubbard and Francis Y. Joannes.

As part of this article there is printed on page 340 a full page of data, the first part of which is headed "Hilton—Cost of Development per Family" and concluding in a "total Government Expenditure per Family . . ." of \$3,232.77. Another section of the data is headed "Hilton—Cost of Development of 500 Houses" and concludes with a total of \$404,218 (inclusive cost of land), or \$632.77 per house.

Had this page of figures been entitled "Architects and Engineers Preliminary Hopeful Guess at Approximate Cost of Development," a correction would not be necessary. As it is, I fear some enthusiast or innocent stranger may be unintentionally misled, as he would be by the "sketchy" estimates of cost of country houses contained in the Sunday supplements. To the careful reader of the article, the qualifying statements (page 337) which rather vaguely explain that the figures represent "what these homes may

be reasonably expected to cost" might indicate their true character as estimates; but the figures are even inadequate for normal times, unfortunately, and their publication may lead to regrettable misunderstandings.

I am certain that the department now having jurisdiction would not approve their publication, either as an estimate or a statement of cost.

ROBERT D. KOHN.

Philadelphia, Pa., November 19, 1918

NOTE.—The figures relating to the cost of construction at Hilton, to which Mr. Kohn refers, were approved by the Bureau of Housing of the Department of Labor, which was the body having official jurisdiction over the undertaking at its inception. When the housing necessary for the Emergency Fleet Corporation was made a separate matter, under the first appropriation granted by Congress, the Hilton project was taken over by the Bureau of Transportation and Housing of the Fleet Corporation (now the Department of Housing and Transit Facilities, in which Mr. Kohn is Chief of Production), which completed the project. The qualifying statements in the text of the article, to which Mr. Kohn refers, should have been directly related to the page of figures by a supplementary note. We regret the omission.—EDITOR.

The American Housing Competition

By a vote of the jury, the time for sending in submissions was extended to December first, 1918, for men engaged in service abroad or who were prevented, through the influenza epidemic, from finishing their work. The announcement of the result will be made at the earliest possible moment, but it must be remembered that the task of reading and composing the theses is a formidable one.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

Special War Service

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE
MATERIALS AND METHODS

CONTRACTS AND SPECIFICATIONS

FIRE-PREVENTION
STRUCTURAL SERVICE

SERIAL NO. 11, NOVEMBER, 1918

INDEX TO SUBJECTS TREATED IN THIS ISSUE

(For index of subjects previously treated, see Index on page 539 and consult the General Index in Structural Service Book, Vol. I)

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War Industries Board 11A (9A and 10A)

With the coming of peace, the policy and machinery of the War Industries Board have been reversed. The less essential industries are being permitted gradually to increase production. Restrictions placed on the uses of essential materials are being gradually lifted. Thus war industry will be demobilized through an orderly process controlled by the coördinating authority of the War Industries Board. The statement made by Mr. Baruch, Chairman of the War Industries Board, on November 8, brought to many a feeling of intense relief, giving great assurance that the transition of industry from a war to a peace basis will not be convulsive, but smooth, and unaccompanied by widespread unemployment and a profound economic disturbance, or worse.

The wisdom of continuing and gradually diminishing the control of the War Industries Board is quickly and clearly understood when it is realized, as it must now be by every observant man, that industry before the war was composed of ill-fitting, badly assembled parts which could neither work smoothly and efficiently nor develop that stimulus to production which is vital to growth and progress.

The coördinating influence of a common purpose was absent in industry until the war furnished it. The function of the War Industries Board has been that primarily of a coördinating medium. Industry will understand, perhaps, as the result of its war experience, the need for coördination between its several branches, and between industry as a whole and public interest. It may now also understand the importance of setting up, by common agreement, some kind of an instrumentality for coördination to take the place of the War Industries Board, but without the Board's authority to control.

Many of the conservation standards established, and those about to be established by the War Industries Board, constitute positive betterments. Some of them effected economies that should have been practised for years. It is to be hoped that, by agreement in and between the groups interested, these standards will be maintained, and that the work of establishing new ones, started by the War Industries Board, will thus be continued through coöperative action. This work can best be done by the organiza-

tions created to serve the Government. They, and the relationships which have developed between them during the national emergency, ought to be made permanent. The value of their assistance in solving some of the grave problems of readjustment can hardly be overestimated.

Demobilization of War Industry 11B

Circular No. 57, issued by the War Industries Board on November 11, modifies many of the provisions and regulations contained in circulars previously issued. But in order that the full import of this new Circular may be understood, it is necessary first to reprint portions of Circular No. 21 as revised October 15, 1918, which had not been issued at the time the October Journal went to press. (For original Circular No. 21, and subsequent modifications, see 9D2 and 10E.)

Building Projects Released 11C

Construction for war purposes, and the need for converting industrial facilities from a peace to a war basis, ceased with the signing of the armistice. This condition leaves the Facilities Division without a useful function. All construction now will fall into the non-war class, and licenses to build, where they are still required will be issued under the provisions of Section 5 of Circular 57, which reads as follows:

"SECTION 5. *Construction projects not requiring permits or licenses from Non-War Construction Section.*—Construction projects falling within the following classifications are hereby approved, and no permits or licenses will be required therefor from the Non-War Construction Section:

"(1) Construction projects approved in writing by the Facilities Division of the War Industries Board.

"(2) All farm and ranch buildings, structures, or improvements.

"(3) All buildings, structures, roadways, plant facilities, or other construction projects of every nature whatsoever, undertaken by the United States Railroad Administration, or by any rail or water transportation company, organization, or utility (whether or not under the direction of such administration) or by the American Railway Express Company, or by the owner or operator of any telegraph or telephone line.

"(4) The construction, maintenance, improvement, or development, by Federal, state, or municipal authorities of highways, roads, boulevards, bridges, streets, parks, and playgrounds.

"(5) The construction, extension, improvement, maintenance, or

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

repair of any public utility, including water-supply systems, sewer systems, light and power facilities, and street and interurban railways.

"(6) The construction, extension, or repairs of all irrigation and drainage projects.

"(7) Construction projects connected with the extension, expansion, or development of mines of every character whatsoever or connected with the production and refining of mineral oils and natural gas.

"(8) The construction, alterations, or extensions of, or repairs or additions to, plants engaged principally in producing, milling, refining, preserving, refrigerating, or storing foods and feeds.

"(9) The construction of new, or the alterations or extensions of existing, schoolhouses, churches, hospitals, and Federal, state, or municipal buildings, involving in the aggregate a cost not exceeding twenty-five thousand dollars (\$25,000).

"(10) The construction of new buildings or structures not embraced in any of the foregoing classifications, or the repairs or additions to, or alterations or extensions of, existing buildings and structures, in either case involving in the aggregate a cost not exceeding ten thousand dollars (\$10,000).

"(11) The construction of new buildings or structures not embraced in any of the foregoing classifications, or the repairs or additions to, or alterations or extensions of, existing buildings or structures, in either case involving in the aggregate a cost not exceeding twenty-five thousand dollars (\$25,000), when approved in writing by the State Council of Defense or its duly authorized representative.

"(12) Buildings begun prior to September 3, 1918, where a substantial portion of the building has already been constructed."

The methods by which the above provisions of Section 5 of Circular 57 will be enforced are set forth in a circular letter addressed to the Regional Advisors of the Facilities Division, which reads as follows:

To All Regional Advisors:

1. Under date of November 11, Circular No. 57, superseding revised Circular No. 21, was issued by the Priorities Division of the War Industries Board. Copy of this Circular is enclosed for your information.

2. Section 1 of Circular No. 57 revises Section 5 of revised Circular No. 21 as regards restrictions on non-war construction.

3. Practically speaking, almost all construction projects from date of signing of the armistice, will logically become non-war construction, and it is therefore important and necessary that the procedure of this Division, in connection with any projects on which permit applications are pending or which may be hereafter submitted to it for consideration, follow along the lines of Circular No. 57.

4. You may therefore assume that any construction projects enumerated in Section 1 of Circular No. 57 will not require permits from this Division and should be treated as outlined in this Section.

5. In the case of projects now before this Division, on applications for permit, the following procedure has been determined upon:

(a) Permits will be issued automatically, at once, for all projects involving, in the aggregate, a cost not exceeding \$10,000.

(b) In the case of construction projects involving, in the aggregate, a cost between \$10,000 and \$25,000, permits will be issued if these projects have been approved in writing by the Regional Advisor or by the State Council of Defense.

(c) In the case of construction projects involving, in the aggregate, a cost exceeding \$25,000, they will be referred to the Non-War Construction Section for such action as it may deem proper, unless the project is clearly one relating to war construction, when action will be taken by this Division.

6. Heretofore in approving many projects on which construction permits have been requested, it has been necessary for this Division to restrict the use of structural steel, steel sash and steel products. Such restrictions hereafter will not be necessary and it is the purpose of the Division to advise all those to whom permits with restrictions of this nature have been granted, that they may proceed with their work upon the basis of their original plans if they so desire, and that they may consider restrictions noted in their permit of the above character as having been withdrawn.

7. We would appreciate the assistance of Regional Advisors in disseminating this information, as it is the desire of this Division, now that it is possible to do so, to release restrictions which have been, in many cases, a hardship upon those desiring to build.

8. We would also suggest that you advise those desiring to proceed with building projects to submit same to their State Councils of Defense for recommendation and forwarding to the Non-War Construction Section for consideration, and believe if this is done the projects will, in general, receive favorable consideration. S. P. BUSH,
Nov. 15, 1918. *Director Facilities Division War Industries Board.*

Building Materials Released 11D

Section 2 of Circular 57 removing the restrictions hitherto placed on building materials, is as follows:

SECTION SECOND. All limitations on the production of building materials, including brick, cement, lime, hollow tile and lumber are hereby removed, and the materials so produced may be sold and delivered for use in connection with any building project for which no permit or license is required under revised priority circular No. 21, as further revised by section first hereof, or to any project authorized by permits or licenses issued in pursuance of said circular. All limitations upon the production or use of lime or crushed or pulverized limestone in any form for agricultural uses are hereby removed.

As the result of removing all limitations on the production of certain building materials listed under Section 2 of Circular 57, the usefulness of the Building Materials Section has been very greatly diminished. All of the more important materials formerly released by this Section are now free from restrictions. Many will still be allocated but only when the local conditions in respect to labor, railroad transportation, and fuel demand it. Such allocation will be made by the Non-War Construction Section. All restrictions of every nature will, however, be completely removed as soon as conditions warrant. A letter has been sent by the Facilities Division to all who are now building under permit issued by the Division advising them that restrictions on the use of steel have been removed and construction may proceed in accordance with the original plans. The letter is as follows:

To Manufacturers, Firms, Corporations and Individuals to whom construction permits have heretofore been issued by this division:

1. It has heretofore been necessary for this Division in issuing permits to construct, in many cases, to combine with the issue of the permit a restrictive clause limiting the use of structural steel, steel sash, and steel products.

2. While this action was necessary up to the signing of the armistice, we feel that at the present time those desiring to build or those to whom permits of this character have been issued, should be privileged to proceed with their operation if they so desire, including the use of structural steel, steel sash, and steel products.

3. We would therefore advise that any restriction as to the use of structural steel, steel sash, or steel products, which may have been embodied in the permit issued to you by this Division, is hereby removed, and you are at liberty to proceed with your plans to construct without said restriction.

4. In order to reach each one to whom a permit has been issued, in the shortest possible time, this communication is being sent out as a circular letter, but it can be taken as carrying equal authority with the permit originally issued, and is hereby made a part of same.

S. P. BUSH,

Director Facilities Division War Industries Board.

November 15, 1918.

Non-War Construction Section 11E

D. R. McLENNON, *Chief*

As previously stated, and as indicated in the circular letter to Regional Advisors (11D) applications for licenses to build are made to the Non-War Construction Section through the local Council of Defense. (See 10C2.)

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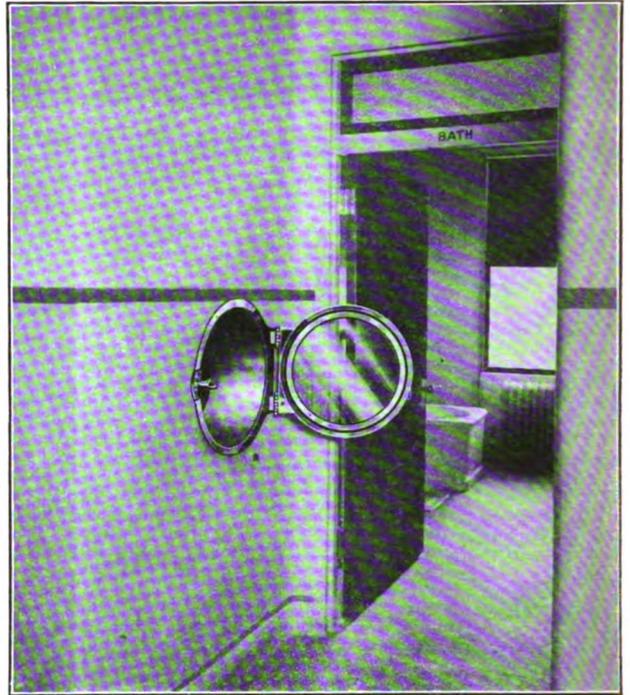
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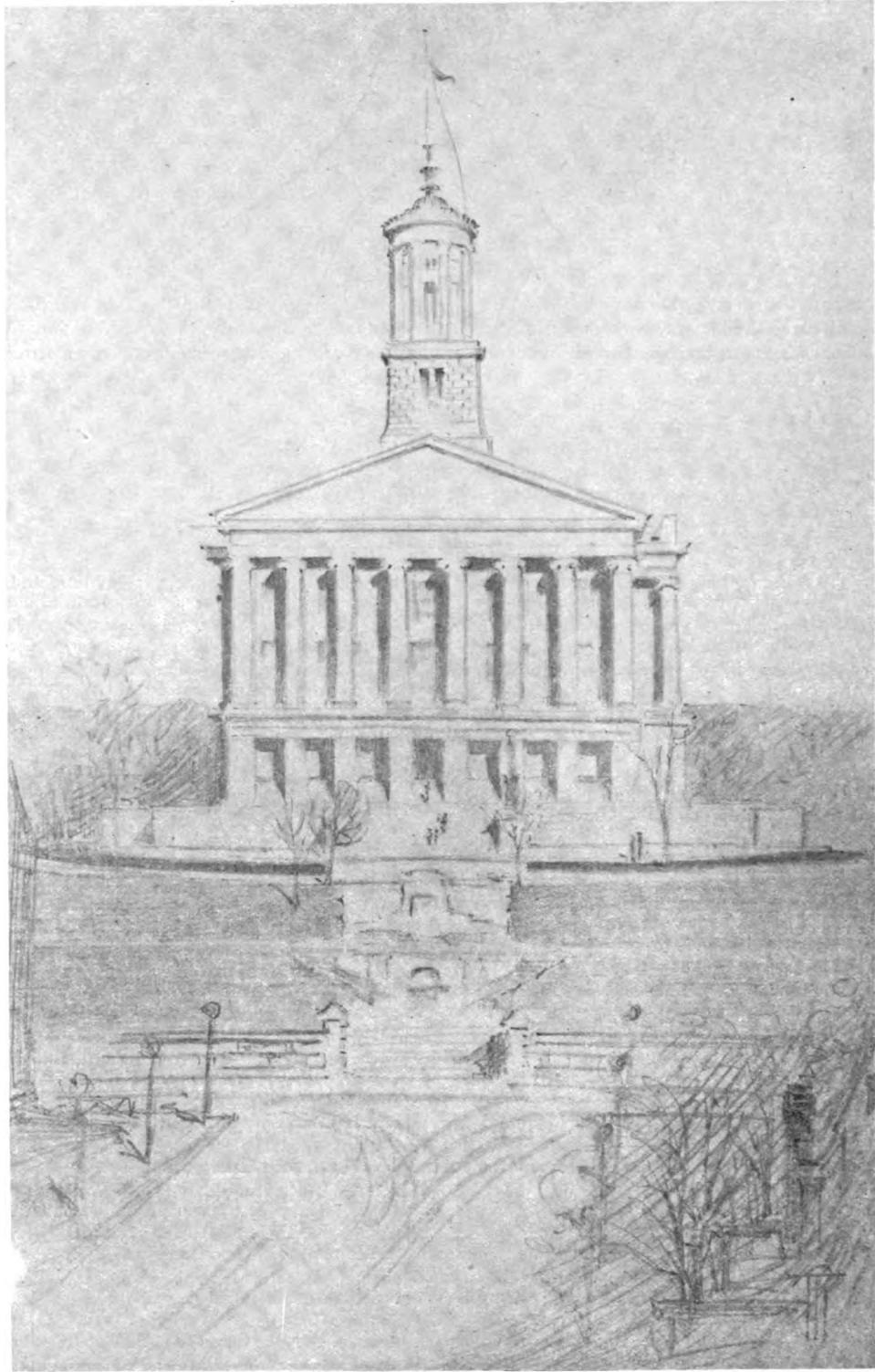
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THE CAPITOL.—NASHVILLE, TENNESSEE
After a Pencil Drawing by Thomas R. Kimball

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Shadows and Straws

TO STUDY AND TO SUGGEST: Those are the instructions given to the Post-War Committee of the American Institute of Architects by the Board of Directors of that body. Those words seem so simple in their directness as to require no explanation. They follow a sequence, the logic of which requires no defense. They stand for a method of procedure such as the progress of science has clearly ordained for those who care to make an effort to gain any useful knowledge, or to find out where goes the road over which so many are content to be whirled along, in the sure belief that speed is an infallible sign of progress.

To be sure, as Philonous pointed out in the *New Republic* a month ago: "Nobody, of course, likes to see his cherished beliefs questioned, and we are all convinced that the safety of the universe depends on the maintenance of what are to us established truths. But unless we adopt the Mohammedan or medieval view that all truth is limited and has already been revealed, and that therefore all genuine inquiry is pernicious, we must leave those engaged in research absolutely free to question all things and to publish the results of their inquiry." It is in this very freedom that there lies so large a possibility of usefulness for the Post-War Committee.

Just at the moment there is some hysteria in the yellow section of the architectural press in the East; there are splenetic outbursts from its fledgling of the Great Lakes. We hear loud calls for the "red-blooded" man, accompanied by frantic appeals for haste, lest the profession be left at the post, in the mad rush, or lest the world take the wrong track through lack of

advice from architects. Those who so cry out have no idea of what they wish done, but they insist on the doing of something. "Let us at least make some noise," is the real thought in their minds, for they have observed that most people can be impressed by a drum. But, and very fortunately, these little Hearsts may be dismissed as not counting. To have listened to the discussion in the last meeting of the Board of Directors, when the possibilities ahead of the Post-War Committee were being canvassed, was sufficient evidence to the sixteen men who sat in the room that from one end of this country to the other, thoughtful architects are not jumping to conclusions. Neither are they to be prodded into any futile and hasty action by sneers and snarls. Abundant evidence has accumulated to make it plain that the profession recognizes in the Post-War Committee a serious purpose and a scientific method for the attainment of that purpose.

THE NATURE OF THE PROBLEMS that now beset the practice of architecture is largely a matter of speculation on the part of those who seek light. The old problems are remembered, but they now have to be examined through the experience of the last four years. They have been four unusual years, and, as a consequence, it is generally felt that they are likely to bring unusual changes. Perhaps, however, we shall find that they may have had no other effect than to hurry along the inevitable changes that time is always working. Life has a way of refusing to stay put. Just when we feel that we have reduced it to a static condition, it has a fashion of suddenly turning on us with an intense

dynamic protest. On all our little locks and dams it descends with an overwhelming rush, sometimes so fiercely as to leave no trace of them, but more often with the gayety of a challenge, mocking our small brains with the wonder of its continuity and the completeness of that law with which we seek to compromise. It is at such moments that Life reminds us that there is no solution to any problem until we cease our refusal to make her needs our first and only guide.

Thus it is, perhaps, that now, in the midst of the reaction occasioned by the end of war and the sudden release of a mental and moral pressure of which we had perhaps not guessed the strength, we feel a keener consciousness of the need, deep in our hearts, for light on the path. Where is it leading us? What is the purpose before us? What can we do, as architects, toward helping to make a better world? What would Life have of us? If we ask what we would have of Life we are going back to the old pre-war language. That is not the way to frame the question; we must put it in the soldier's terms: "Life—what will you have of me?"

PERHAPS, FOR THAT SMALL GROUP of men and women in which are found those who gain their livelihood through a profession, there may have come a glimmer of a line of demarcation in the affairs of this world—a line of which they have been vaguely conscious for some time, but which now seems to have been clearly illumined by the glaring light of war. And this line, which has slowly assumed a visibility that cannot be blotted out, is the line which separates the professional idea from the business or commercial objective.

It is the line that symbolizes the struggle that has long been going on unperceived in all the affairs of men. There are few indeed in the professions who will not recognize that fact. But in the minds of thinking architects, all over the country, there is by no means an agreement as to what the outcome of the struggle may be, or, indeed, what it should be. No one can answer the question surely, for no one has that complete knowledge upon which to base an answer that will be something more than a good guess.

Then there are those for whom the whole problem of the architectural profession is summed up in the word "education." To them

the answer is very clear. Educate architects to practise the styles competently, and, at the same time, educate everybody else to appreciate their performance. Result—a world full of happy architects, good architecture, and satisfied clients. *Q. E. D.*

A third group has an idea that while there may be some sort of a general problem connected with the practice of architecture, it is really nothing serious, and does not require that anything should be done about it; we are even thought to be wasting our energy in bothering with it at all. Time will set us right, say they, and time may be trusted to do it well and thoroughly. *Verb. sap.*

AND THEN, as we have said, there is the excited group that is bent on action—never mind what kind—but let's have some action. In the meantime the Post-War Committee is organizing the machinery with which to undertake its work. There was no suitable machinery in existence at the time of its appointment, nor was there any definite plan. Both machine and plan must be developed in consonance with the purpose sought, and we prophesy that as the work of the Post-War Committee gains in momentum and its suggestions are laid before the profession, it will be loyally supported and encouraged. No architect with a grain of intelligence will deny the wisdom of the study the Committee proposes to make,—not for the American Institute of Architects, but for the profession of architecture,—a study of the profession, by the profession, for the profession.

The Committee's personnel was published in the last number of the Journal. Since that time the work of organization has proceeded, and we are now glad to announce that the direction of the work will lie in the hands of an Executive Council, the Chairman of which is Mr. N. Max Dunning, of Chicago, the other members being Messrs. Robert D. Kohn, of New York City, and Milton B. Medary, Jr., of Philadelphia. In the January and succeeding numbers of the Journal the work of the Committee will be fully reported.

WITHIN THE WALL OF THE CAPITOL at Nashville, Tenn., rest the remains of William Strickland, architect of the building. So rare is the tribute here recorded that we

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pause before it in a pleasant reverie. Even though we knew of the tablet that marks the spot, we now read the inscription with a deeper appreciation of what it means. For we have seen the Capitol,—in the early morning, when its cupola floated, a mysterious apparition of loveliness, above the drifting bank of fog that hid all else; and later, when the sun had wholly conquered the enveloping shroud and thrown the building in silhouette against the smoky blue of the distant hills. We have seen its outlines disappear into the dark, until, for one last moment, they seemed to hover like a phantom shape of beauty departing swiftly for her nightly rendezvous. We have walked about its walls as it sits templed on the hill above the city and the river. We have measured its perfect proportions with our eye, from far and from near, and if we have rejoiced that William Strickland has here found honor and recognition such as few architects have known, yet do we also rejoice to know that in his day he served a community which knew how and why a noble piece of architecture should be honored.

Of the history of the placing of the tablet we know nothing. We leave the story for those dry historians who love to pick and pry. For us, there is apparent a recognition far greater than can be marked by any words of pen or chisel. The influence of the Capitol on the city of Nashville far exceeds the importance of the tablet in the wall. The noble spaciousness of the building and its setting are reflected in the amplitude of the city itself. The abiding presence of the building is realized as one scans the city streets. If we sigh with regret over the fact that Nashville has momentarily fallen a victim to our great American folly—high buildings on narrow streets—we still cling to the hope that her good sense will ultimately prevail and that she will not, for the sake of achieving an industrial supremacy (which need not demand any such sacrifice), abandon the ideal that Strickland bequeathed to her.

WHENCE CAME THE VISION of the architect? From Greece, of course, we may say, as the purity of line and proportion rise before us. But not from Greece alone, we shall surely agree, as we leave the city and plunge into the beauty of a landscape that leaves us dumb under its spell. Where else do we know a country-

side so queenly in its stateliness and yet with no vestige of austerity; charming with no trace of coquetry; brilliant, yet full of peace and quiet; gay with the sweep of hill and vale, yet reticent in the circling hills of blue? It is the landscape of superb trees and softly undulating meads, with bolder outlines flung about the horizon; of rugged oaks flinging gnarled shadows on the level sward; of sycamores making mosaics that dance in the sun to the tune of flowing water, sometimes swirling over rocky beds, sometimes babbling in faint whispers through the gently sloping intervalles. It is Nature, in her moment of greatest happiness, scattering beauty with a prodigality such as greatly must have moved the spirit of William Strickland.

For, after all, who can say where loveliness begins and ends? We are all made to be a part of it, and yet we spend our lives in denying it. It is by our own hands that we make the world ugly and our cities hideous—thinking to cheat beauty for the thirty pieces of silver. In the end, Nature blots us out and our work as well, spreading the gentle mantle of ruin and decay over the mess of pottage for which we sold our heritage and restoring the beauty that we defiled. All the more honor to William Strickland, and to the builder, Samuel Morgan, whose bones also rest within another one of the Capitol walls. They carried on the Great Tradition, no doubt under heavy difficulties and only by overcoming many obstacles. Into their work they have embodied the glory of the land over which the building stands sentinel, and from its walls there flows forth that influence of spirit which cannot be imprisoned in a sarcophagus or made lifeless by a tablet of stone. Here, architect and builder have risen to the greatness of their calling, giving it immortality, and speaking a silent lesson to the prattle of our day.

ONCE WE CALLED IT City-Planning. Today we are calling it Town-Planning, after the fashion of England. Tomorrow we shall call it Community Planning, for the narrow and inelastic idea which once fluttered its brief, and worse than futile, existence under the title of "city beautiful," has become humanized at last. Now we see that THE PLANNING IDEA is a great and wonderful and beneficent science. Its purpose has become

enlarged until we have seen that it includes the Relation of All Things to our physical and spiritual development, no matter whether we are dealing with the arid desert, the swampy wastes, or the mysterious giant ant-hills we know as cities.

Community Planning is, then, a science which depends entirely upon the measurement of forces; upon their utilization to the full when they are constructive and contribute to the common good; upon their restraint, regulation, and control when they are destructive and operate to produce the bad. The forces with which Community Planning must deal, in order to achieve any measure of success, are not merely the physical forces which inhere in streets and squares, sewage and water-supply, transportation, and buildings. Over and above these there are profound and eternal forces inhering in the laws of economy and in the social struggle for a more rational life, for which the common word is Democracy.

In the story of the development of New Zealand, which Mr. Waller has written for this issue of the Journal, the subject of Community Planning is given a definition and a significance which far transcend the importance at present attaching to the words themselves. The phrase "town-planning" has been much too lightly taken to express a realization of certain physical necessities of plan and arrangement. It has been used by a few who recognize and are humble before the problem which is implied; it has been appropriated by many whose astuteness enables them to recognize a demand for services which will be classed under the name of town-planning, and a consequent opportunity for profit by successful masquerading.

THIS STUDY OF NEW ZEALAND is illuminating, because it goes deep and far. It recognizes the nature and the extent of forces which are as immutable as they are little acknowledged and less understood. To utilize the good in them, and to prevent the bad that is wrecked when they are misused as instruments of monopoly or oppression, is as vital to planning as air is to life. No drawing-board study of contours and vistas, though it respond to every considered physical necessity, can produce a plan which will serve and endure unless it studies and masters, and still provides for the growth and change of the

forces of commerce and industry in all their aspects—political, social, and economic. Such work is laborious and suggests the despair of a problem which can never come to that fruition which gladdens the worker and which promises its bright reward of more problems and commissions. Yet it is along these lines that man struggles upward, and it is because of the few who love science and life better than they love notoriety and the glamor of professional popularity, with its attendant profit, that knowledge adds to its store and man gropes his way on.

The future will lay an emphasis on THE PLANNING IDEA and the business and science of planning beside which the greatest efforts of the past will seem childish. Is it not beyond doubt that the world holds its brightest wreath for those who can lead it out of the chaos of our present physical development and prepare a plan which will continually work for the thwarting of disaster rather than seeking to palliate it with the application of patchwork remedies? Is it not equally probable that the future of a sane and true architectural development lies in the same hands?

WHEN THE ARMISTICE WAS SIGNED there came a violent cessation of Government construction work. No capitulation of the cancellations and suspensions is possible at this time, but it is not unlikely that the greatest injury will be wrought upon the various housing projects which were then under way. In the Emergency Fleet Corporation the following condition existed:

Projects under contract and being built . . .	30
Ready to proceed	1
Under consideration	Several

In the Housing Bureau of the Department of Labor, where the volume of work is much larger, the situation was as follows:

Construction contracts let	60
Plans completed, ready for contract . . .	25
Plans in preparation	5
Plans ordered	3

Immediately upon the signing of the armistice, the Department of Labor abandoned 56 projects, curtailed 15, and decided that 22 should proceed as planned. In the Emergency Fleet Corporation it was decided to make some curtailments only. Naturally, although im-

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mediate action was taken by the Department of Labor, it was impossible to cancel contracts for materials as a whole, since great quantities of these had already been shipped. Large cancellations were made on unshipped material, and an effort was made to divert shipments to those projects which were to go on, wherever possible, to avoid the least possible loss; the balance of materials accumulated at the projects or under shipment will require to be disposed of as circumstances may make it advisable.

ON DECEMBER 12 the Senate passed a resolution obliging the Department of Labor to cease all work on projects which were not 75 per cent completed. Should the Senate's action be ratified by the House, it is impossible to estimate the loss which will fall to the nation, either in money or in prejudice. Sinister interests have been at work, steadily, in an effort to force the abandonment of every possible project. Such resolutions as those presented at the Chamber of Commerce Convention at Atlantic City, which sought to have the Convention declare in favor of having the Government abandon its housing projects, may very likely be taken as indicative of the attitude of the real estate operators of the country. A cessation of house-building by the Government will have the effect of opening the immediate field for speculative building in localities where the Government sought to provide adequate housing facilities, while the abandonment of the various projects, in an incomplete state, will also be likely to afford an opportunity for buying in the partly built houses at great profit to the speculators; manifestly, the houses cannot long be left standing without rapid depreciation, and it appears to be believed that this condition will move the Government to consider an immediate disposal at a large sacrifice.

Whether Congress passes the resolution to which we have referred is, for the moment, very important, but even if it does not take such action, we may look for further persistent effort to force the Government to such a disposal of its housing property as will afford the greatest profit to speculators and work the greatest injury to the nation and to the cause of good housing. Nothing will be left undone to make it appear that a great undertaking, made necessary by the emergency of war (the results of

which cannot be measured in peace terms), offers every reason why the building of workmen's houses should be left to the unrestrained activities of those who make it their business. The disasters that have resulted from their methods in the past will be made to appear as great successes, in comparison with the Government's methods. The friends of the movement for better housing in the United States will be called upon to defend, to the last ditch, every progress that has been made through governmental activities.

THE BUILDING SITUATION has not materially changed since the signing of the armistice. Apparently there has not yet developed a basis for forecasting building values, and, until this is done, money is not likely to be released in large sums. Authorities seem to agree that no immediate decline in the cost of materials is to be looked for, while the price of labor is, of course, shrouded with considerable doubt. It will require time for the situation to steady itself, and this seems not wholly undesirable, since we are the more likely to look carefully before we leap.

Vast sums of money will be required for reconstruction work abroad, but here again there enters the question of money and the added factor of repayment through an exchange of commodities. It is manifest that neither France nor Belgium nor Serbia nor Poland can hope to repay the large sums which they need to borrow unless they can sell the lenders such commodities as they have for export.

Many inquiries have been made as to whether American architects would have an opportunity for helping in France. The answer is that, in so far as general architectural practice is concerned, the architects of France are quite capable of looking after their own problems and of calling for such technical assistance as they might need, in the event that large quantities of American materials were to be used. In such a case our skill in method might very likely prove of value. Our opinion is that in no other way would the service of American architects be useful or welcome. The Institute, through its officers, has tendered to the architectural societies of France and Belgium any assistance that might be thought useful by the practitioners of those countries.

Institutional Architecture and the Social Point of View

By LOUIS N. ROBINSON

DEMOCRACY, with its tremendous emphasis on the value of the individual, is a gospel of salvation to our so-called dependents, defectives, and delinquents. Long neglected and despised, persecuted or left to perish, each group in its turn was finally given by society, grown more merciful, a chance to live. They were, for the most part, gathered together into institutions, and from that time on architects have been planning and building these great human storehouses which are now to be seen in every civilized land. The newer buildings are wonderful improvements over the older ones. The wider choice of building material, the development of the science of sanitation, and the general progress of the art and science of building have enabled the architect of the present to give us institutions which would have seemed like the realization of a heavenly dream to the early philanthropists. But, while all these changes looking toward the better housing of these unfortunate individuals have been taking place, the point of view has altered. Our attitude now is that each individual in each one of these classes must be given an opportunity to realize the most of which he is capable. Not to be stored and finally handed back to the world, as our prisoners have been; not to be kept until death from old age or disease removed them from the institution, as have our feeble-minded poor and insane, but to be treated as raw material—some of it damaged, it is true—out of which it is still possible by wise and consecrated endeavor to make wonderful works of art.

Not storehouses but factories are needed in the institutional world. The manufacturer gets the architect to devise for him a building which takes into account each separate stage in the process of manufacture. If it is an assembling industry, the layout is of one sort; if it is a continuous industry, there is a different plan; but whatever type of industry it may be, the architect does not turn to his drafting-board until he knows what is to be made and how it is to be done. Why, then, is it not worth his time to learn something of the processes of making the most out of human material?

No more crude or absurd way of starting an

institution could well be imagined than our present method, which is reported to be somewhat as follows: Once the need for a new institution, let us say for the feeble-minded, has become clear to a few discerning people, there follows the work of getting a bill through the legislature. In their lobbying efforts, the philanthropists are sometimes aided by a firm of architects who scent a job in the offing. Usually, the bill, after stating the type of institution, creates a building commission to erect the institution and makes an appropriation. If passed, the building commission may junket around, visiting other institutions for a while, and finally vote to turn over the work to a firm of architects, presumably those who have been instrumental in getting the bill passed. The institution is built; the commission makes a report and gives way to a new commission or board who are empowered to manage it. These select a superintendent, the institution is filled with wards, and the project is then launched!

Now I maintain that this procedure is all wrong and dooms the work of the institution, from the beginning, to mediocrity. Even assuming that the architect has, in his plans, departed from the idea of a safe and sane (?) storehouse for human beings,—and few of them have,—he is not the man to determine the character of the institution, nor the type of building to house the different operations of remaking or remodeling human beings. The situation is somewhat different from that which would confront the builder of a cotton factory, for example. The method of production in the cotton factory has become to a large extent standardized, and the architect can plan a new institution on the basis of existing ones with certainty that he will produce something which will fill the need. Not so with the human factory. There is no standardized way of working over human material. It is still a matter of experiment. But the reason why architects are wedded to the storehouse idea is because the housing of human beings has become standardized, and he feels that he is on firm ground so long as he sticks to this. His attempts at making a human factory are thus feeble and perfunctory, and

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must so remain, as long as he continues to be forced to work in this manner and to undertake the duties of a position which by all reason belongs to another, with whom he should collaborate from the beginning.

The first step in starting an institution should be the selection of a man to run it. In this connection it is but fair to say that architects are not the only ones who remain faithful to the storehouse idea. Many a superintendent can keep him company. Only a man of the highest caliber can handle a factory using human beings as raw material; a mediocre man can run a storehouse, and, unfortunately, too many of our institutions are manned by superintendents of this type. But given a man of creative intelligence to run a public institution, he should start his work when the first shovelful of dirt is lifted. The institution should grow up around his personality and should be merely the material instrument to accomplish his will. To place a man of this type—and he should be the only type employed—in a ready-made institution, with orders to go ahead, is an act worthy to be called a crime against nature.

But what, then, should be the position of the

architect, it may be asked. His task should be actively to aid and abet the superintendent in every way, helping him to do his work by furnishing him the necessary buildings. He has, moreover, another task, which is worthy of his noble profession. One of the best public institutions of which I know has grown up in this way about the personality of the superintendent. Unfortunately, however, he had only a carpenter to help him, and all that might have been gained through the artistic expression of his ideas in buildings has been totally lost.

It is unfair, of course, to place the whole burden of progress on the architects. It might even be urged that their business is but to create what others wish. Yet they are, it must be acknowledged, in a strategic position, able to give a decided slant to the plans, usually ill-defined, of those who employ them. The crime of omission is as punishable as that of commission. Unfortunately, we are all guilty, and what has been said is not so much a condemnation of architects, although it may appear so, as it is an appeal for help to men of training and vision (nothing can be expected from others) on behalf of unfortunate humanity.

The Present and Future Government of War-Created Communities

By ERNEST CAWCROFT*

THE Forefathers gathered in the cabin of the Mayflower to formulate and sign a compact, which became a chart of government for the freemen of North America. They planned their type of government before they established their community life on the shores of Massachusetts Bay. In both of these tasks they were at liberty to apply pure principle to the matter in hand, and they were not required to modify their conception of government to conform to existing right or vested wrong. They were privileged, therefore, to build their community life to fit into their ideals of government.

The exigencies of war compelled the United States to face the problem of war-created communities from just the opposite direction. In

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the reverse order, the war communities are finished, or are nearing completion, and systems of government must now be provided for them. While the Forefathers fitted the structure of community life into their concept or principle of government, those charged with the development of war communities must aim to provide, or at least induce, systems of government as modern as the type of construction. This means that eighteenth-century ideas of community government should not in principle be applied to the twentieth-century war city. The town-planner is the social engineer of the immediate future, and he has enjoyed his first opportunity, in the creation of these war communities, to show to large centers of population that right conditions for a group or a community may be impelled by deliberate city-planning. Like-

wise, the architect has been given his opportunity to be as much a factor in assuring wholesome housing for the humblest worker as has the humanitarian or legislator. But the problem of creating war communities is not solved when the town-planner and the architect certify that the public utilities and the houses are completed.

It is at this moment that the questions of political control and business administration become vital. Have we a right to expect that these twentieth-century communities shall be governed by twentieth-century systems? Are we going to permit an eighteenth-century politician to undo the work of the town-planner? Will it be possible to induce the inhabitants of the war communities to sustain a political administration as modern and efficient as the type of community construction? Are we justified in hoping that the modern war community will raise the political, sanitary, and general economic level of the city in which it is located, or of which it becomes a part by annexation? And, conversely, but equally important, is not the adjacent or annexed war community entitled to the thinking attention and continuing interest of the labor, church, and commercial bodies of the nearby city? Will not each make it worth while by learning from the other? May not the democratic forces of the nearby city be used to give political stability and social cohesion to the war community, while the architecture and civic foresight of the latter stand as an ideal and point the way to better housing and industrial conditions in the former? These are questions which are pressing for an answer as the industrial housing projects of the United States are nearing completion.

These housing projects are the first approach of Democracy to the problem of reconstruction. The town-planners may have been as farseeing as the projectors of the New Jerusalem; the architects may have enjoyed that rare privilege of putting their ideals into stone and brick—an opportunity in housing only possible under the liberality of governmental expenditure; but unless proper governments are organized and sustained within these war communities, these housing projects will stand as a monument to the civic incompetency of Democracy. The war having disposed of the dictum that we must

tolerate public inefficiency in order to enjoy the fruits of individualism and democracy, the way is paved for clear thinking as a condition precedent to right action in relation to the control of the war communities. I have detailed and given emphasis to these questions in order to define the problem as the basis for studying the administration of communities created with the people's money and because the officials responsible for a practical solution of the problem need, and will welcome, the suggestion of a body of experts.

This problem is embodied in the 100,000 houses or other structures erected, or in course of construction, by the United States for the accommodation of war-workers. The continued building of a mercantile fleet, and the possibility of thousands being engaged in the construction features of economic reconstruction, will make these housing projects available for peace-workers. In other words, the houses are needed for peace- as well as war-workers, and the problem does not pass with the ending of the conflict. These projects, in the main, have been under the direction of four agencies of the United States Government:

1. *The War Department*, which has constructed such temporary or permanent structures, sometimes in group or community formation, within the United States as its military needs required, and which has, and will, provide for the government and maintenance of such centers as Federal reservations.

2. *The Navy Department*, which has created similar communities, and which has likewise undertaken the government of such centers by military law and at the expense of the Federal taxpayer.

3. *The United States Housing Corporation*, an agency of the Department of Labor, and which has in process of construction, or has completed, the largest number of structures for those general war-workers whose health and well-being were made the basis of maximum production for supplying the army and navy.

4. *The United States Shipping Board, Emergency Fleet Corporation*, organized within the District of Columbia and vested by special act of Congress with full corporate, coupled with semi-governmental, functions.

In the army and navy groups an army and navy government is provided for and by army

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and navy men; we know that such government will be effective, even if not democratic. I shall not discuss the United States Housing Corporation projects, except as the principles and experience gleaned from an examination of the Emergency Fleet Communities may be applicable. I do desire to discuss certain community projects in which the United States Shipping Board is interested. I shall direct attention to these projects as the first American attempt at reconstruction, and as an open challenge to the forces of Democracy to determine whether communities, started right, have the conscience and intelligence to continue in the right or modern direction, from the standpoint of political administration.

I am not authorized to define the community policy of the Shipping Board, and my comments are the fruit of my own observations. But in the course of many trips to war communities, I have come to view the Fleet Corporation as a ship-builder, banker, and benevolent paternalism. The Shipping Board was compelled to face the problem of building ships in competition with the German submarine, but it also was required to enter the industrial race for sufficient labor, and then to house these workers. The difficulty was further complicated by the fact that, unlike the other industries, ships must be built in existing yards, or on ways established on the harbors of the two coasts. This added to the necessary concentration of population for ship-building purposes, and it became evident at the outset that community housing projects were, and are, necessary, both as a war and peace measure.

We shall see that the business method of starting these housing projects tends to determine the system of government to be adopted. It is understood that the United States Housing Corporation takes title in fee to the majority, if not all, of its housing projects. But, with few exceptions, the Fleet Corporation has followed the opposite course. Shipbuilders, local business men, and chambers of commerce displayed enthusiasm in meeting the suggestion of the Shipping Board to form separate housing corporations, subscribing for sufficient capital stock to purchase the land for the local project, and then borrowing from the Board, on a five- or ten-year mortgage, a sum sufficient to construct the houses. The terms of this mortgage

give the Shipping Board direction over the plans and the supervision of construction, while the assignment of the stock in the local housing company to the Board, as additional security for the payment of the mortgage, means that this governmental agency is in control of more than thirty housing projects or communities in course of construction on the Atlantic and Pacific coasts. This method of working through separate housing corporations has served to focus local interest in the projects, especially from the standpoint of police, fire, and business control; to this extent, provision is made for the present government of the war communities. I dismiss without discussion the suggestion that these communities should be governed as proprietary corporations, like Pullman of old, or Gary in part, especially when our returning troops will be pledged to make America safe for Democracy, and Democracy safe in America. Hence this discussion turns upon the future, the immediate future, of the government of the war communities in an hour when the town-planner, the architect, and the contractor are about to depart, and groups of people who never knew each other until they gathered and concentrated in the war plants of the coasts, are expected, as good neighbors, to develop that gradual social cohesion and economic balance without which any community government becomes a mere legalism.

The Problem at Chester

A few concrete examples will show that the problem of providing a government for a war community differs in every instance. This difference is caused by the law of the state, the attitude of the local population to the housing-site, the varying methods adopted in initiating a local project, and the progress, or lack of progress, made by the existing nearby city prior to the war. Let us take Chester, Pa., as a typical case for discussion and conference. This city, with a pre-war population of 30,000, now has over 100,000 people. Through local housing companies, the Fleet Corporation has two large projects nearing completion, and within the city. It follows that these projects are subject to administration by the existing government of Chester, and without assuming to determine for this purpose whether the city government is efficient or inefficient, expensive or inexpen-

sive, certain questions here become important: Is the Fleet Corporation, as an agency of the Federal Government, and in view of the large expenditure of public money for shops and houses, justified in urging the adoption of any different form of administration by Chester? Is a suggestion as to a form of local government, by a Federal agency, both unwise and improper, under our conception of home rule, even though such same Federal projects are subject to heavy taxation as corporate owners?

But Chester presents another phase of the problem. The Fleet Corporation is interested in a large housing project on the Buckman tract, which adjoins the city of Chester. This and similar housing projects attract the attention, and sometimes the envy, of the suburban assessors. Many townships object to the adjoining city annexing a war community. In this and many other instances, the city of Chester and the public utilities have been induced to expend large sums of money for public conveniences, in reliance upon the final annexation of the project as a means of compensation by increased assessments, water, and light rates.

Annexation questions are determined by councils and courts in Pennsylvania; there is a legal contest in progress between the city and the township as to the possession of the Buckman tract. In wartimes it was necessary to proceed with the housing construction without waiting for a settlement of the legal questions. In this particular instance, the Fleet Corporation is favoring the annexation, as a mark of good faith to Chester and the public utility companies. The type of government for Buckman will be determined by whether it remains within the township or becomes a part of the city of Chester; it is doubtful whether the township has an adequate system of administration to provide fire-control, police, school, and public utilities for Buckman. But apart from the practical need of making Buckman a part of Chester in times of war, just how far might a Federal agency with propriety intervene in disputes of this kind after the coming of peace? And yet, some type of government must be provided for projects in this situation, and in this instance it was sound business sense to annex a system of government by annexing the housing-site, leaving to time and the people of the larger community the making of such altera-

tions in the system of municipal administration as may seem wise.

Yorkship Village

Two thousand modern houses are completed at Yorkship Village, which forms part of the city of Camden. The Government housing projects in that city will provide for 10,000 people. With their dwellings and the public conveniences, as concentrated in one section of Camden, they compose a typical small American city, which, under other conditions, might well be the site of an interesting experiment in municipal government. But, in fact, no such experiment is possible, and Yorkship Village must abide by the governmental system which the progressive spirit of Camden provides from decade to decade. Concentrating shipbuilders through employment agencies, and then building from 100 to 2,000 houses on a given site, must be followed by water, light, sewer, and school facilities.

The Emergency Fleet, as a matter of policy and under the stress of war, was right in not lending money to local housing companies for the construction of public utilities. It had no assurance that those companies knew how to manage utilities; it did not need to be convinced that the tenant shipbuilders, having no property interest in the project, and coming from the four corners of the Republic, did not have that knowledge of, or faith in, each other, which would warrant the Fleet in entering upon a public utility enterprise, subject within the early future to the management of the voters of the town-site. This was, and is, just the situation at Camden, and that city is expending \$654,000 for water, light, sewerage, school facilities, and the like, in connection with the Government housing projects. The Federal agencies were compelled to invite this local aid for the reasons of policy here outlined; but, in addition, the military forces needed the same machinery which would have been required by the housing-sites if it had been decided to embark upon a public ownership program; thus the War Industries Board has played a part in determining the future life of the war communities. But it is obvious that the government of Yorkship Village was shaped in advance by the very fact that it depended for its utility services upon the public and private plants of

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Camden. The city which expends the money as Camden is doing must enjoy the power of assessment over the housing project in return.

Hilton

Those who seek in the war communities a possible field for sound civic experiment may find in Hilton Village their real opportunity. It is stated that the United States Housing Corporation contemplates the construction of a similar village in the vicinity.* Situate in the heart of Warwick County, Va., and not in immediate geographical contact with Newport News, there is a chance to combine the two villages into one municipality. Without obligations to Newport News, and supplied by public utilities owned by corporations, the establishment of such a municipality, under the laws of Virginia, is in itself an opportunity for selecting and applying a type of government in keeping with the construction of the houses and the layout of the settlement. Shall those having a business or civic interest in the possibilities of this community seek legislation or judicial decree creating a manager or commission type of government for Hilton, or shall they be content to permit the locality to establish a conventional system of administration, and later seek to foster public sentiment favorable to a change in the type? This embodies the whole question facing those who are interested in the permanent welfare of war communities through efficient governmental control.

Dundalk and St. Helena

The so-called Dundalk and St. Helena housing projects seem to present an interesting subject for civic experiment. The Fleet Corporation owns the fee to the St. Helena project, which consists of dormitories, and which is situated on the opposite side of the highway to the Dundalk enterprise, now being constructed through the Liberty Housing Company. Together, these projects constitute a compact and fully equipped village, designed to house the families of the men employed by the Bethlehem Shipbuilding Company in their plant located at Sparrows Point, some two miles away. These projects are located in a rural portion of Baltimore County, Md., free from geographical con-

*The second Hilton Village project was abandoned after the Armistice.

nection with other immediate centers of population, and, when I made my first tour of inspection, I decided in my own mind that I had found a center in which to pivot a practical experiment in municipal administration. In other words, I felt that at Dundalk and St. Helena, where the incoming population may start community life under modern conditions only, free from the prejudices of an older community and from those legitimate rights in private property which sometimes bar public progress or render it unduly expensive, it would be both possible and wise to give the village the most modern system of local government. I started with that aim in view—to give legal life to my ideal. The fate of my ideal is a typical illustration of the difficulties inherent in the problem of making political progress keep pace with the architect and the town-planner. I found that many years ago the Maryland legislature was induced to annex a portion of Baltimore County to Baltimore City; years of litigation followed when the act was questioned in the courts, but, by final decree, a portion of the county becomes a part of Baltimore City on January 1, 1919; that portion includes one corner of the St. Helena project. Thus the unity of the Dundalk and St. Helena projects is not possible from a governmental standpoint. But there were and are other difficulties, due to the Maryland law. The annexation to Baltimore, as finally sanctioned by the courts, deprived the county of property having an assessed valuation of \$125,000,000. The suggestion that other portions of the county be annexed, or established as a separate municipal corporation, thereby making further reductions in the valuation for county purposes, under the law of Maryland, is not received with favor by the political powers and their constituents. What, then, is the status, or predicament, of Dundalk and St. Helena on January 1? Plainly, it is not possible to establish a commission or commission-manager government there, and thus further test those municipal systems under the most favorable circumstances. It is fortunate, indeed, that the county law of Maryland does provide an excellent system of rural administration, including modern fire-fighting and school facilities; and that the projectors of Dundalk, in securing a conveyance of the site, caused clauses to be inserted in the deed providing in perpetuity for a land-area tax

to be collected each year, and to be applied in securing additional community services and utilities for the residents.

There are those who profess to believe that the Federal Government plans to divest the corporate title to these housing projects and take the ownership in fee. This is followed by the intimation that the adjoining cities should not be asked to make expenditures to provide public services for the war communities, because, when the Government takes title, these housing projects become Federal reservations and free from taxation. I do not believe, and cannot believe, that the Government will be guilty of such a breach of faith with those cities which have made, or are about to make such expenditures on the highways of the housing-sites. And, apart from the question of financial good faith, I do not think that it is wise for the general Government to set up industrial housing reservations in various sections of the nation, even with the consent of the state legislatures. These housing communities should enjoy the responsibilities, as well as the privileges of Democracy; and I am convinced that people inside and outside the housing-sites will not want these projects managed, except as experiments in Democracy under democratic control.

At Other War Communities

The conclusions as to Chester, Dundalk, and Camden are confirmed by investigations at Wilmington, Gloucester, Bath, and twenty other Fleet cities. The creation of community governments is not an exact science. It follows, therefore, that the policy of the Shipping Board must vary to meet the community situations due to different state laws and economic conditions. In seeking to establish governments for these war communities, three primary things must be borne in mind; first, the new community must keep faith with the adjoining city which has provided the utilities during a period of expensive wartime construction; secondly, the new community has no claim to special privileges as a Federal project, but it does invite, and is entitled to receive, the friendly interest and helping hand of those who see in better housing the key to economic reconstruction; and, thirdly, the housing-sites and their residents, within existing cities, should stand as an example to older portions of the community burdened

with less attractive structures, but the housing enterprise should not be "marked" as the dwelling-place of particular social groups or of one class or race of industrial workers.

The attitude of the Federal Government and the friends of these housing centers *must be one of political opportunism*. Even if the local or state laws permit, the imposition of the best or expert type of community government will not solve the question. A democracy may develop leadership but it does not tolerate chaperones. A list of patrons will not establish and sustain efficient and democratic systems of control in and for these war communities.

What service, then, may the larger Government and the friends of the housing projects render to war communities about to pass into centers of peace production? None, except to give these communities a chance, and that is much; if they cannot make them small but complete democracies, then they may head them in a democratic direction. They must take care that at the outset no corporation or local political agency obtains a vested interest in the stoppage of civic progress. They must make it easier for the people than the local interest to control these communities as the Republic's greatest experiments in Democracy.

But though the Federal agencies and their friends start these war communities on a right basis and chart them toward Democracy, the success of these great experiments in architecture and politics depends upon the voting residents of the town-sites. Good people are needed to make a family home and a community life, just as bad people are required to make a jail. It is plain, then, that while the war communities were initiated by the need for war-workers, peace permits a more liberal policy in the peopling of these new cities. The laborer and the lawyer, the plumber and the politician, the banker and the preacher, are needed as residents of these new communities to assure that diversity of viewpoint and balancing of interest without which these towns will lack cohesion and stability. Mere laws and charters, even though democratic in inception and intent, must be supplemented by that attrition between the rights of the many with the privilege of the few, arising out of differing vocations, and forming the basis for continued but deliberate progress in these centers of democratic hope and vision.



TORO.—THE CHURCH

Early Churches in Spain

III. TORO AND ZAMORA

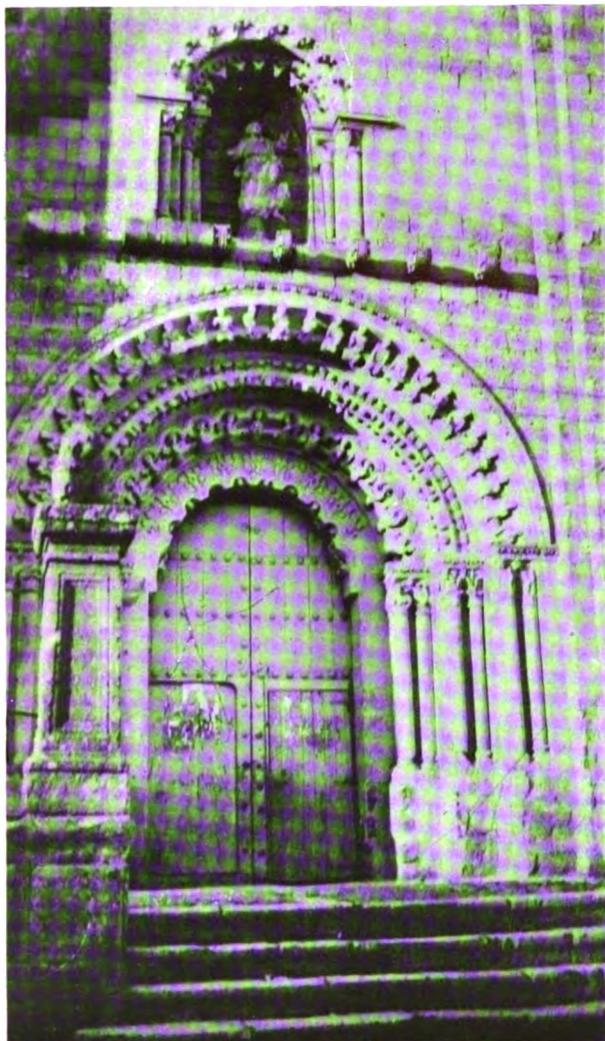
By GEORGIANA GODDARD KING

PERHAPS because there are not so many little branch roads in Spain, the railways, almost as much as the water-courses, seem to express the natural divisions and relations of the country. Where the Iberians tracked and trekked, where the Romans marched, ran the roads of the Middle Age, and there, today, the railways lay down their lines of steel. That, for instance, which runs from Salamanca to Astorga, keeps yet, for the traveler, a curious frontier feeling. To the right lies all of known Spain; to the left, mountains, and then something vaguely imaged as Portuguese. Just so the road, which it scarcely supersedes, will have felt to Ferdinand the Great, and his ill-fated son, King Sancho, and his ill-used daughters Doña Urraca and Doña Elvira, her of the Siege of Zamora, and her of Toro, of *las almenas de Toro*. By Roman roads Almanzor and the Hagarene horde had penetrated in their raids; over Roman roads King

Ferdinand, when they turned back, followed them, and around the cities that lie thereon threw up hasty fortifications; a Roman road ennobles even the course of the trains that run twice a day along the Douro from Medina to Zamora, under the battlements of Toro. The roads, rebuilt for armies, served for peaceful penetration, and pilgrims came in to Santiago, not only by the great northern route from the Pyrenees, but likewise between Douro and Miño by Toro, Zamora, Benavente and Orense. The road is yet marked on Ford's map made for Murray's guidebook. Thus came pilgrims from the East, and they brought strange gifts, and left strange and fragrant offerings along the way.

When the traveler has crossed the steep spur that shelters Salamanca, he enters on a world far more ancient and primeval in its aspect than that which he has left, older in traditions, stranger and more regional in art. The wide and dusty plain is limited on every hand by

distant blue mountain ranges that seem to keep pace with him as he goes on, all day; whenever he looks afar, the horizon is changing only with the hours, from purple-shaded to vaporous amethyst, and the rolling country, before spring-time or after midsummer, is brown like a toad, speckled like a snake, green like a lizard, and then again wan, under the passing shadows



TORO.—THE CHURCH, NORTH DOOR

of clouds that move slowly through the incandescent air. Midway, or not quite, of the long journey the Douro is crossed, and there, where the Valderaduey falls into it, Zamora rears the queenly head, crested and tower-crowned, of the cathedral, and his imagination pierces almost to the vision, upstream, of Toro golden on the tawny cliffs in the still noon.

Through Spanish weather, always the white

clouds sail all day, and at night the heavens are populous with stars, the great constellations swinging free, the innumerable swarms between, and the flying star-dust, wheel ceaselessly about the low-lying pole. Toro, when you come upon it at midnight along the river-bank, appears seated among the stars, like another Cassiopeia, "a sign in the heavens," as the queen says in Lope de Vega's play, and at sunrise the cathedral flushes while the valley yet lies grey and drowsy.

The park in which it stands, the *Espolón*, green and rustling, far above the water, commands a noble prospect, and the town-folks' pride, and memories of a great past. Down below, King Sancho and his soldiers camped; up above, the Doña Elvira appeared upon the battlements in black, so like a star that the king was stricken and bewitched. "Who is this?" he asks in the old Romance:—

"If she be a King's daughter, she shall wed with me:
If a Duke's daughter, my leman she shall be:
Her daughters shall be married to Knights; her eldest
son
I will make the Lord of Palencia and Carrión:
And all her other sons shall have great names,
They shall be Bishops of Burgos and S. James."

It fell to the Cid to explain that, as she was his sister, none of this could be, and the prohibition seems to have counted more than the fact: the king in a black and raging chagrin gave orders to his archers to shoot her down, which again the Cid prevented. So the king turned to abusing of the Cid, who must have been a young man still in these days, and gave back rather better than he got; and King Sancho withdrew to besiege Zamora where Queen Urraca was installed. All these children of the Great Ferdinand, while he yet lay on his death-bed, had quarreled indecently over the division of his conquests, and, when he was buried, D. Sancho incontinently set about getting the whole realm into his own hands, though, indeed, in one of the old Romances, D. Garcia, far out in Galicia, admits that he was the first to break the oath of fraternal loyalty. There is not a sin, there is not a horror, that the story does not somewhere touch, and the end of it is, as the reader will remember from *The Chronicle of The Cid*, that, because the beauty of Queen Urraca was a flame in his poor traitorous blood, Vellido Dolfos slew King



STREET'S DRAWING OF SALAMANCA



THE DOME OF IRACHE

Sancho shamefully in the meadow below Zamora. He got his price in a cruel mockery, before four wild horses tore him asunder in the same green meadow beside the Douro stream; but the stain of his treason lay upon Zamora town and was only purged by the blood of good knights, four brethren, sons of the good old knight Arias Gonzalo. Yet another Romance declares that when Vellido Dolfos came to beguile D. Sancho into the camp, a figure that men took, afterward, to have been Arias Gonzalo, appeared on the battlements and cried to the king a warning against the traitor.

That women played a great part in Spanish history is small wonder, since the Salic law never went in Spain; but the part was, as a rule, good. There are more figures like Queen Berenguela than like Maria Padilla. They had the habit of rule, and the heart. At the siege of Toro, in 1476, when the issue lay between Isabel the Catholic and her hapless niece called *la Beltraneja*, the Alcazar was held against long odds by such another as Queen Elvira, Maria Sarmiento. She was the wife of a great captain, Juan de Ulloa, and probably by this time widowed. The almost oriental seclusion of ladies, which travelers admire in Spanish families, does not appear until the last Moor had quitted Spain forever, and is more likely to be

Jesuit in origin than Mohammedan. It belongs, in fine, with the Victorian ideal.

The meadow by the waterside, where the sons of Arias Gonzalo met Diego Ordoñez one by one, is, according to tradition, the place where stands the ancient church of Santiago; there, it is said, the Cid was armed a knight, and the Infanta Urraca buckled on his spurs. When the siege under the King Sancho was pressing the city hard, and the Cid was in the front of the assault, Doña Urraca came out upon the walls and reproached him with this, and went further; she told him how he might have married a King's daughter and he preferred that of his father's foe. The Cid reined up; he could not answer; he withdrew his men, head down. "Mine eyes dazzle," he said. All these histories, and more, are not only in the Romances but in the quick, rhythmical prose of the *Cronica General*, which I have never read but that, like Sidney, I found my heart moved more than with a trumpet.

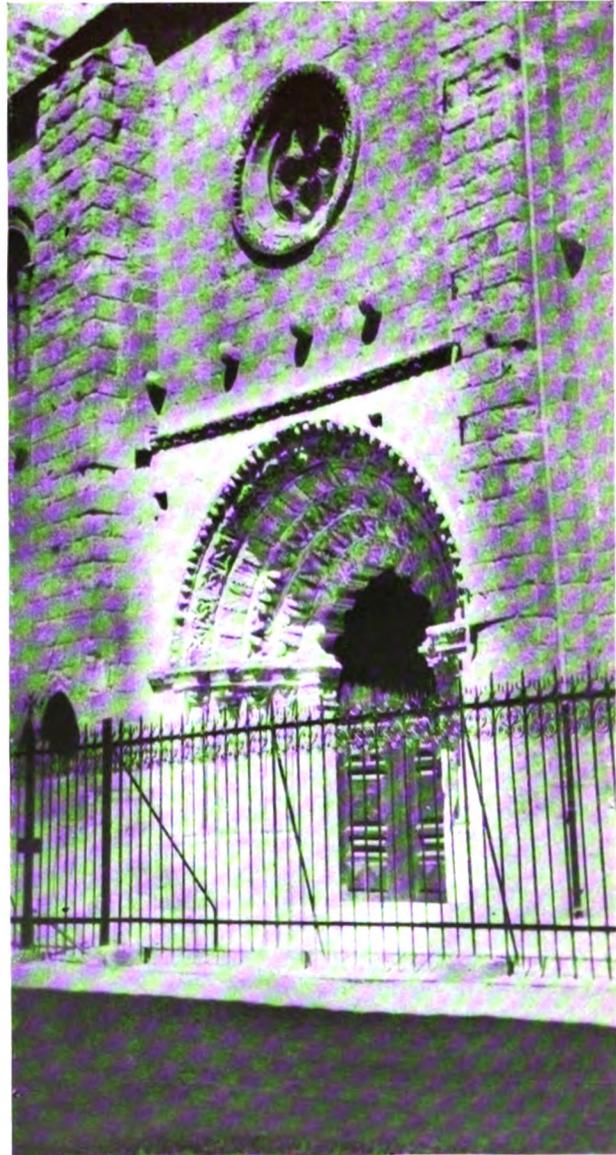
Still over there, across the noble bridge that on nearly a score of arches spans the sleeping stream, stand three little churches, of which the eldest is S. Claudio, that date from the very beginning of the twelfth century. Timber-roofed now, all once had stone barrel vaults, all keep carven capitals, and string courses, and a

EARLY CHURCHES IN SPAIN

rich door somewhere, and the two already named look straight to southwestern France for their origin. D. Francisco Antón has written only in this past year: "Spaniards, in these days, were not building churches. Our countrymen were either nobles, fighters by profession, whose nobility inhibited work, or serfs, serving-men or artisans, with precise occupations of service to these, or labourers of the ground. The architects, decorators, and masons are generally French, and do the work after the fashion of their own region." Notwithstanding, S. Tomé, the third church, with its three square apses without, and its horseshoe arches within, may be determined by Visigothic or Mozarabic tradition, and is probably imitated from S. Marta de Tera, a place of pilgrimage. S. Tomé was begun about 1106.

Zamora possesses, besides these, a set of Romanesque churches which fall later in the twelfth century, which Street saw and discussed, for instance, S. Leonardo, with its pyramidal roof; and, in between the two series, the Cathedral. About this the records are explicit: the bishop who began it saw its consecration, and that was Stephen, 1149-1174. Notwithstanding, we are likely to give the credit to Jerome of Périgeux, and to Bernard of Valencia, likewise a Périgord, who were his immediate predecessors. If they are allowed to have established the *chantier*, imported the workmen, and settled the plans, the honors of the consecration matter little. Now, the *Puerta del Obispo*, and indeed the whole north façade, which is the only original one, bears a great likeness to the south transept at Aulnay and others in that region; and the likeness had appeared earlier at S. Claudio. The Virgin enthroned, as in a tympanum, over one of the flanking arcades, is moreover, curiously French in aspect; the figures in the other tympanum are of the school of Toulouse. The actual ornament of the archivolt, however, is, I think, a local style; it recurs at S. Martin of Salamanca, which is a noble church, not unworthy to be classed with the cathedrals hereabouts. The lantern is low, with only a single range of windows; as at Salamanca, the melon-shape and the ribbing are accentuated on the outside by a sort of rich crocketing which by its likeness to a cock's comb explains the Salaman-tine title of *Torre del Gallo*.

Within, the east end has been built over; the west end has been built up. Instead of a deep porch between the towers, you have an effect like a western aisle, and then three parallel chapels. The original intention was probably to vault with a great central barrel and *voutes d'arretes* in the aisles, but, except in the transepts, for this was substituted the domical ribbed vaulting of Aquitaine. Yet the effect of the whole is one of pleasant openness, richness, and grace, due partly to the lightness of the railings and other ironwork in the eastern portion, and partly to the charming doors in the *trascoro* that flank an altar painted by Fernan Gallegos.



ZAMORA.—LA MAGDALENA

All these great churches,—Toro, Salamanca, Zamora,—belong to the height of the twelfth century, and were planned in the Burgundian style, under the influence of Cluny, and during the reign of Alfonso VI; but building went on so leisurely that one style could supersede another without confusion or alteration, and the *châtelier* took the color of the soil. Whereas, in such outlying lands, the style might have been provincial, starved, and warped, here it is only racy and regional, so strong, so noble is the life native to the soil.

Sister to Zamora, elder and yet fairer, the collegiate church of S. Mary Major at Toro is almost unspoiled; the aisles and the deep chapel, which was once the porch, are vaulted in divers manners, but the apses and the mighty



ZAMORA.—THE CATHEDRAL, PUERTA DEL OBISPO

barrel vaults persist yet, and the dome is ribbed above two rows of windows. The western porch is rich in French sculpture of the thirteenth century, with statuary upon the jambs and the midpost, on the tympanum, and in the archivolts. The south door, here, is carved with very exquisite leafage of a late Romanesque sort, that appears again at the Magdalena of Zamora. The north door, upon the deserted square, which is the usual entrance, recalls Ste. Croix at Bordeaux and Master Mathew's porch at Santiago.

A few notes on detail will not, even in the briefest study, be out of place. These three doors, the two named at Zamora and the north one at Toro, illustrate with peculiar force how a certain effect desired, in a particular style, may be attained by very different designs. The essential thing, here, is the effect of roughness, of hollows and projections, sought in the soffit of the arch, something like shallow cusping conceived not in one plane (or nearly) but thickened. There is a parallel series of doors in which the cusping is kept in the plane of the surface, in Navarre, at Santiago of Puente la Reyna, at Ciráqui, and at S. Pedro la Rua of Estella. This is, perhaps, in its effect more oriental.

It has been said by one competent that to the mixture of Burgundian and Aquitanian elements manifest in the building of this region we must add a third, the Byzantine or oriental, fetched by Santiago pilgrims. The tabernacles at the Magdalena, now used for Templars' tombs, must be attributed to the same source as those, far cruder, found further up the same river-road, at S. Juan del Duero*. In the sculpture, symbolic themes, not wholly European, abound, of which two may be noticed, one very briefly: at S. Claudio the two griffins drinking from a chalice, that occurs also at Barbadelo, on the *Camino de Santiago*, and likewise in the ambulatory of Montierneuf at Poitiers. The other is the presentation of souls or sacred figures in the midst of green leafage, which signifies usually the Paradise in which the Blessed await the final resurrection. The theme, dear to the Coptic Christians, was treated in the north doorway of Master Mathew's porch at Santiago, c.1188. This is the doorway which the carver at Toro may have

*Both sets have been photographed by Arthur Byne, of the Hispanic Society, and may possibly be shown by him this winter, either at the Society or at the Avery Library.



ZAMORA.—S. LEONARDO

EARLY CHURCHES IN SPAIN



ZAMORA.—THE CATHEDRAL

seen, as he may have seen Ste. Croix also—or instead. The theme has its fullest and most delightful expression in the west porch here at Toro. But a capital in S. Claudio of Zamora, according to Sr. Antón, shows among and above a row of leaves a Virgin with the Child Jesus asleep, who yet holds the orb, and other figures who hold things indeterminable; this he interprets as an Adoration of the Shepherds, the pendant to it being that of the Magi. The sleep of the divine Child, however, has a mystical intention. Finally, the enthroned Virgin of Majesty on one side of the Puerta del Obispo, though she recalls very exactly the hieratic elder Madonnas of the Porte Ste. Anne at Paris, and S. Yved of Braisne that was in the north transept at Rheims, is set in a thick arbor of leafage that culminates in a form meant probably for the pine or cypress cone. Zamora was Romanesque; the work on this facade, as anyone may see, is full of Roman reminiscence, but here in the midst escapes a hint of some-

thing very ancient and Asian, which may possibly be in its immediate provenance Syrian. The great Syrian goddess lived, certainly, in a cypress tree, or was a cypress tree, in some cases, and folk-lore lives on surprisingly. Sr. Lampérez will have it that the dome at Irache, in Navarre, in spite of its likeness, outside, to these, was designed by some Syrian architect wandering down the *Camino de Santiago*; if so, he may have gone home by the southern route and left his mark here as well.

The other buildings which should be considered with these, did space and other conditions permit, are the Cathedral of Ciudad Rodrigo, the chapter-room of the Old Cathedral of Plasencia, and perhaps S. Martin de Castañeda. The churches of Benavente are in another style. It should, perhaps, be added that Toro, Zamora, and Salamanca are all rather fully discussed, where they are easily accessible, in Street's "Gothic Architecture in Spain."

Town-Planning in New Zealand

By A. G. WALLER

I. The Town-Planning Bill of 1917

New Zealand, known for her social legislation, has been quoted as an example to be followed by other countries.

She is particularly interesting as a small country endowed with most of the advantages of a temperate climate, a fertile soil, and isolated as Great Britain is by being an island, yet, like her parent nation, in touch with the outside world. Steamships, and cold storage (discovered in 1882), are the main reasons of her prosperity and of her contact with the outside world. Geographically, New Zealand is about the most isolated of inhabitable lands; 6,000 miles from California; 1,100 miles from Australia; and 12,000 miles from her chief customer, the United Kingdom. Yet, in truth, she is not more isolated than any other country, and her development has synchronized with present-day inventions.

No more virtuous than other nations, she must thank her situation for her progress. (I include all the factors at work in New Zealand under the title "situation.") It is because she is small in area, rapidly changing or developing in harmony with the present economic situation all over the world, and because of the balance of the economic interests of her people, that she is of such significance to the great world outside.

Within are the same conflicts of interests as within the great United States of America and all the modern European peoples. These interests are asserting themselves, checking each other, and evolving a constitution. This is already becoming manifest in the short span of New Zealand's history. The Colony was only proclaimed in 1842, and because of the rapid rate of development in modern civilization, she is writing a history of current interest to the rest of mankind.

The United States is so large that the process of reform is slower than in New Zealand, which can respond quickly to the opinion of one or two men. Public opinion is healthy and agile, more as it is in the western United States.

But, essentially, both countries are in similar stages of civilization. The same principles of business guide trade, even though local conditions vary. But as progress results from the play of opposing forces, so New Zealand has her battles. It is the overcoming of difficulties and of abuses that makes a people great, since every reform indicates an abuse corrected. Today, New Zealand finds herself, through congestion, up against the lack of town-planning. This is because of her prosperity, since there is no congestion where there is no expansion of industry. Christchurch, Invercargill, and a few other towns are the only examples of enlightened planning of cities in New Zealand by the pioneer settlers of the earlier days.

The proposed bill for New Zealand is inspired by the English Act of 1909. The English act is "permissive," i. e. it may be enforced if the people of a locality so wish.

It is a general act, giving permission for schemes to be prepared for particular instances, and each scheme must be passed by Parliament as a particular act of Parliament. It is the way of England to "permit" reforms, and then when they prove successful to extend power until eventually they become compulsory.

New Zealand, being a child of modern times, is quick in her movements. Besides, her problems are simple in comparison with those of the United Kingdom. New Zealand recognizes a need, sees what others have done in the emergency, and then, because of her development of state enterprises, proposes to make her town-planning compulsory. In this way, in her development, she sometimes outstrips other nations.

This measure is an ambitious one, but we are prepared nowadays for the heroic. It is comparatively easy to pass legislation, but it is harder to put it into force and make it work well. For successful planning there are three things necessary; public support, legislation, and professional talent of the very highest ability. The first two factors, which are generally supposed to be difficult to set in motion, are now well started. As regards professional skill, New Zealand has grown up in a time of poor craftsmanship; as yet there is no tradition, which means an empty field on which to build. The future is in our hands to mar or enhance, but the professional who can seize and direct this opportunity must be a man with an understanding of the requirements of the people; a pioneer who can express their true ideals, and who arrives at a state of lively harmony with the Government. In fact, the professional who finds himself the first true exponent of city-planning must be a cultured man who practises his calling as an expression of the life which broods over all creation.

There was a doubt in the minds of some who were desirous of improved town-planning legislation as to the capacity of the machinery of government which New Zealand could set up. There was no such well-equipped body as the Town-Planning Committee of the English Local Government Board, and there was a doubt as to the talent that New Zealand could produce. There are capable persons, born in New Zealand, but in several cases these men have gone "home" to England for education and have remained there because of the larger field of opportunity. But any country must finally develop itself, and its people must make their own opportunities. New Zealand has made the opportunity for planning, which means that she will likewise be able to develop it.

New Zealand is fortunate to have been possessed from the beginning of devoted permanent Government officials. Particularly may I say this of the Lands Department, with whom I have had occasion to deal. They are desirous for improved planning and all that this implies, but they are necessarily limited by the will of the people who express themselves through their representatives in Parliament. These officials to whom I refer are delighted to give

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information to any citizen who has the public good at heart; they are pleased to cooperate, yet recognize it is not their place to alter conditions, and that legislation is the prerogative of the people's representatives.

The assets in favor of this Town-Planning Bill are:

1. Sympathetic Government officials.

2. The legislation already in force and in working order: The Land Act of 1908, being a consolidation of land acts since 1892; the Land for Settlement Act of 1908; the State Advances Act of 1913, under which money is advanced to local bodies, to settlers, and to workers; and the Workers' Dwellings Act of 1910, under which the Government erects dwellings on Crown property. This last is really a town-planning act, as the Government has laid out small villages, but there is nothing out of the ordinary in the plan of these places.

The Minister for Internal Affairs, the Hon. G. W. Russel, had promised to introduce legislation on town-planning a few years ago, after the visit of Mr. Davidge of the English Town-Planning Association, in 1914. The war delayed the introduction of this measure until influential deputations from the Dunedin Amenities and Town-Planning Society (the oldest as well as most active organization of the sort) and various other societies waited on Mr. Russel last year.

There is fear in the popular mind, in New Zealand as elsewhere, of discussing anything but the war itself. Members of Parliament do not wish for any controversial matter; therefore Mr. Russel deserves credit for his boldness in introducing such a fundamental measure. May he achieve a triumph in passing it, for it will mean that New Zealand intends now to provide for the reconstruction period. In this sense Mr. Russel sees the bill as a war measure.

The Prime Minister, who is also Minister for Lands, is now in London attending the Imperial War Conference which represents the British Dominions beyond the seas. He will probably meet the town-planning authorities there for it is on such occasions and by such means that the Colonies come into touch with the progressive movements of the Motherland.

A Résumé of the Town-Planning Bill*, 1917

The machinery of the New Zealand bill is simpler than that of the English act, which is possible, as New Zealand is a smaller country. The bill starts out by setting up a commission to administer the act. Clause 3 defines the Commission to be appointed consisting of:

The Surveyor-General.
The Engineer-in-Chief, Public Works Department.
The Government Architect.
The Valuer-General.
The Chief Health Officer.
The Under-Secretary, Internal Affairs Department, or his appointee.

Three persons appointed by the Governor-General, including one person each appointed by the Governor-General on the recommendation of the Muni-

*We do not understand that this Bill has as yet become a law, but it seems difficult to believe that New Zealand will decline to make it a law, in view of its great achievements along collateral lines.—
EDITOR.

cipal Association, and the New Zealand Institute of Architects.

5. There shall be appointed a secretary by the Governor-General.

(NOTE:—The Governor-General is nominally appointed by the King of England to represent him in the Dominion. The Governor-General's relation to the Parliament of New Zealand is now the same as the relation of the King to the English Parliament. The appointments by the Governor are so that any person thought fit by his responsible advisers can be appointed without popular vote. There is to be one commissioner appointed by him who may be independent of any organization.)

Clauses 4, 6, 7, and 8 define the procedure and powers of the commission; they are the powers necessary to any commission.

9. Each member to be paid not more than £2. (\$10) for every meeting at which he is present, and £2. for every day engaged in connection with the work.

10. All expenses to be paid out of money appropriated by Parliament.

12 The Governor-General may, on the recommendation of the Minister for Internal Affairs, and either with or without the consent of the local authority, by proclamation, declare that any district, together with or without adjacent land as is defined by the proclamation, shall be subject to the provisions of this act, . . . provided that the councils of the cities of Auckland, Wellington, Christchurch, and Dunedin may, by resolution passed at an ordinary meeting of the Council, apply to have such city, or such city and the adjacent land as is defined in the resolution and in the application, declared to be subject to the provisions of the act. . . .

(This clause is the pith of the Bill. It provides for the compulsory laying out of new or small communities that have not enough knowledge, or do not care, to foresee the future as experts see it. This action of the Government would prevent that lack of foresight which often creates such impediments in the future. It is unnecessary to enlarge on the importance of laying the foundation right and of the importance of small things at the beginning. The inclusion of a sufficient planning area, even if the area is larger than any existing administrative unit, follows the tried practice in Great Britain. This policy need not discourage local effort. If it is to carry out the intention, then it must form the rallying point for effective local enthusiasm by dismissing little jealousies which balk the proper pride existing in the hearts of every citizen.)

(The four large centers which contain a third of the population of the Dominion are left to decide for themselves as to whether they will come under the act. They will undoubtedly do so, as there is an immediate necessity that they should. They are now so subdivided, without proper authority, but they have a common authority for water-supply; therefore they may easily coordinate themselves for planning purposes.)

13. (1) Subject to the provision of this Act, a Council may, by resolution passed at an ordinary meeting, resolve to prepare and adopt a scheme (hereinafter called a town-planning scheme) providing for all or any of the matters mentioned in the schedule hereto: Provided that

TOWN-PLANNING IN NEW ZEALAND

the Minister for Internal Affairs, if he considers it desirable, require a Council to prepare a scheme, but such scheme must be adopted by the Council before being proceeded with.

(2) Every scheme shall define the area.

(3) (Here follows a definition of the various objects of a scheme: Sanitary; amenity; convenience; streets, and)

(d) acquisition and reservation of areas for the growing of timber for the use of persons within the town-planning area;

and with those objects the scheme may plan or replan and provide the reconstruction of the whole or part of the area.

(The timber supply of New Zealand will in a few years' time come to an end if forestry is not seriously taken up. The popular belief is that timber will come from America in the future, but America is already herself approaching a dearth of timber. New Zealand is squandering her supply in the same way that America did till the commencement of this century. The idea of Clause 13 (3) (d) is to have a supply of timber, which is one of the bulkiest and most essential materials, close at hand. All through the War Zone in Europe is an abundant supply of timber, and yet it is one of the most populous parts of the earth. Timber in all the towns of New Zealand is very dear because the forests close at hand have been almost needlessly destroyed.)

13. (4) A scheme may coördinate itself with neighboring schemes.

(6) A scheme may make comprehensive provision for the whole of the town-planning area for some purposes, and separate provision for different defined parts there if for other purposes.

(7 to 14) Public notices, inquiries, submitting the scheme for approval to the Commission.

(15) Every scheme shall be ratified by Order in Council. (In England the Parliament passes a scheme as a special Act of Parliament. Clause 13 encourages local initiative. If there is none, then the Commission can prepare a scheme, but, of course, there must be harmonious action between the local people and the Commission, else in larger communities nothing can be done.)

14. Ratification of schemes.

15. A scheme may be varied, revoked, and a new scheme prepared.

16. (1) Where a town-planning area extends beyond the limits of a district, the Council which prepared the scheme shall submit to each of the local authorities concerned that portion of the scheme which affects such district. At such a conference each local authority shall have one delegate for each ten thousand or less, and the voting shall be on a population basis.

(2) Objection to be forwarded to Commission.

(3) The Governor-General may make regulations prescribing procedure for convening a conference under this section and regulating the proceedings at the Conference.

17. The Order in Council ratifying the scheme to decide which local authority shall be responsible. One authority may be responsible for one purpose and another one for another purpose, or a joint committee may be

formed, or the Council that first proposed a scheme may be responsible.

18. Power to enforce scheme.

Compensation

19. (1) Full compensation may be claimed, determined in the manner of the Public Works Act, 1908.

(2) No compensation due on work undertaken after the first notice of the adoption of a scheme.

(3) No compensation for work done which would not have been allowed if there had been any by-laws.

(There are places in backward communities which have been made into slums, and this clause will provide for dealing with these properties in a just manner.)

(4) Properties shall not be deemed to be injuriously affected by reason of any regulation of space about buildings, or of the limit in number of buildings, or as to height.

(5) Where a town-planning scheme is altered or revoked, expenditure for the purpose of complying with the new order is recoverable.

(7) Where, by the preparation, adoption, or making of any scheme, any land or other property is, as from such time as is specified therein, increased in value, the responsible authority may make a claim in respect to the increase in value within the time limited by the scheme, and shall be entitled to half the amount of the increase.

(8) No person entitled to compensation for severance or disturbance by reason of realignment of any street, road, or right-of-way, as distinguished from compensation for the land under the scheme.

20. The scheme to be deemed a public work within the meaning of the Municipal Corporations Act, 1908, and the Public Works Act, 1908, and in raising loans. It shall not be necessary to take a poll of the rate-payers unless a petition is signed by not less than 10 per centum of the rate-payers affected by the object: Provided that if the poll is rejected a fresh proposal may be made.

21. Power to suspend existing by-laws.

22. The Governor-General may make regulations prescribing a set of general provisions, or separate sets of general provisions respectively adapted for areas of different characters.

23. Land may be acquired for a scheme.

Expenses of a Scheme

24. (1) Special provision to be made for expenses.

(a) Expenses are to be apportioned between such Councils, if there be more than one Council affected by the scheme.

(b) A Council may defray its expenses out of its general revenue, or out of loans, or by both.

(c) A Council, without the consent of the rate-payers may declare such rates as may be necessary, and may borrow money on the security of such rates, by issuing debentures.

26. A Council may call for competitive designs.

27. There shall be a town-planning fund, which shall consist of: (a) Moneys paid into the fund from ordinary revenue by a Council; (b) Moneys received from lands sold or leased; (c) Moneys borrowed for town-planning purposes; and (d) Donations.

Schedule

1 to 4 is a list of things which all plans deal with: Streets, sewers, lighting, reclamation of land; parks and accessories to parks, public conveniences, location of churches, schools, public buildings, theatres.

- 5. The subdivision of land.
- 6. The replanning of the scheme area including any provision necessary for: (a) Purchase under the Public Works Act of lands affected, or of the pooling of the lands of several owners. (b) The redivision of such lands among the several owners.
- 7. Buildings generally, and in particular: (d) The prevention of the erection of ugly buildings which may destroy the local amenities; (e) Prohibition or regulation of advertisements; (g) Harmony in exterior designs of buildings.
- 8. Limiting the number of buildings to the acre, and zoning; air-spaces.
- 9. Ascertaining building lines, irrespective of the width and alignment of the streets. (This is to enable buildings to be offset, as is the practice in the modern garden villages of England.)
- 10. Classification of areas for different uses. (Zoning.)
- 11. Conservation of natural beauties.
- 12. Conservation of historic buildings and other historic objects.
- 13. Probable routes of railways.
- 18. Acquisition and preservation of timber areas.
- 20 to 22. Coöperation between owners and local and central authorities.
- 23. Betterment charges payable by and compensation payable to owners of land, and the means of ascertaining, fixing, and recovering same or charging betterment against the land.
- 24. The recovery of expenses incurred in giving effect to the scheme.
- 29. Limitation of time for the operation of the scheme.

II. Conditions in New Zealand

In order the better to appreciate the scope afforded in New Zealand for town-planning, it is necessary to set forth more particularly the economic conditions of that country. In considering the problem of laying out towns, which is an engineering and architectural undertaking, one cannot limit the discussion to the purely engineering and architectural sides. The professional, when he is brought up against town-planning, discovers that his profession is a handmaid to Society, and that it must fall into its proportioned place in the general scheme of humanity. In the discovery of service, the profession is enriched, not impoverished, and as the future will require intelligent planning service on a vaster scale than ever before, a study of New Zealand is well worth while. The combined areas of New York, Pennsylvania, New Jersey and Delaware is 104,250 square miles; that of New Zealand, 103,581 square miles, or 66,292,232 acres. The rural holdings of over 1 acre were 40,238,166 acres in occupation in the year 1911, with 16,265,890 acres in cultivation. And as indicative of the preponderant importance of

cattle and sheep, 14,214,741 acres were sown in artificial grasses, while there were only 229,600 acres of wheat. (Curiously, there are not many native grasses, and consequently English grasses are sown, which explains the large acreage of "artificial grasses.")

New Zealand lies between the latitudes 34° and 47° south and between the longitudes 167° and 177° east. The two islands together extend 1,000 miles, and correspond in latitude and climate to the Pacific coast from Seattle to San Luis Obispo. No part of the country is more than 75 miles distant from the sea, and there is a good rainfall. Stock animals stay out all the year round, and the grass is generally green.

After the gold boom in 1881 there was a long period of depression and sinking of prices. A policy of heavy borrowing, with decreasing credit, prolonged this period. This borrowing encouraged land speculation, which eventually brought on a crisis, when the banks failed. This situation was retrieved by care, and debts have been paid off by exporting more than importing.

In 1895, just after the smash, prices rose, and the prosperity of the country has increased ever since. World prices have been on the increase, and this has been to the benefit of a pastoral country and one who is a debtor. The present war, with the extraordinary rise in prices of primary produce, has benefited New Zealand, which is now beginning to be self-supporting. In 1906, £50,910,992 were raised as internal loans in London and only £8,819,318 in New Zealand. For the year ending March 31, 1914, the year before the war, £78,624,309 was borrowed in London and £42,572,637 in New Zealand. To put it another way, in proportion:

Market where raised	1914-15 per cent	1916-17 per cent
London	82.42	64.60
New Zealand	15.56	32.79
Australia	2.02	2.61
	100.00	100.00

New Zealand is a Colony, and thus in a different position from an established nation. It is like a young business that requires investments more than it can immediately pay a return on. The investments of London in New Zealand are a mortgage. As long as the prospects are good, New Zealand is able to borrow more money to still further develop her resources.

Table I shows how exports have exceeded imports, and Table II shows the great and rising indebtedness of the Colony. If the ability to raise taxes and revenue from the trading concerns of the Government were not increasing, the huge public debt would be very grave. But the public revenue from taxation and from remunerative undertakings (railways, post and telegraph office, land transactions, and advances to settlers) are both increasing, with a large proportion of the revenue derived from the commercial ventures of the Government. This is shown in Table II by the difference between total revenue and total taxation, even for the last year, 1917, when, as a war year, the difference between total revenue and total taxation is great. The bulk of expenditure is for the war, and public works have almost stopped.

TOWN-PLANNING IN NEW ZEALAND

TABLE I.

Year	Population Census	Number of Persons per Square Mile	Total Trade	Value of Trade per Head of Population								
				Total Trade			Imports		Exports			
1858	59,413		£ 1,179,328	£	s	d	£	s	d	£	s	d
1861	99,021	0.944	3,864,058	29	5	9	20	18	0	8	7	9
1871	218,668	2.456	9,360,277	43	4	9	15	12	11	20	5	4
1891	626,658	6.024	16,070,246	35	18	3	10	6	6	15	3	10
1896	703,360		16,458,425	25	10	4	10	1	11	13	3	9
1901	772,719	7.427	24,699,339	23	5	8	15	3	10	16	11	2
1906	888,578	8.541	33,506,540	31	15	0	16	9	8	20	4	1
1911	1,008,468	9.690	38,574,369	37	3	9	19	5	2	18	15	0
1915			53,477,746	38	0	2	19	15	2	28	17	8
1916	1,099,044	10.644	59,626,220	48	12	10	23	19	2	30	5	6

TABLE II.

Year	Total Government Revenue		Total Taxation		Net Indebtedness	
	Total	Per Head of Population	Total	Per head of Population	Total	Per Head
1896	£ 4,556,015	£ s d	£ 2,335,761	£ s d	£ 42,271,889	£ s d
1901	5,906,916		3,042,890		48,557,751	62 16 10
1911	10,297,273	10 6 4	4,837,322	4 16 11	79,323,036	78 13 8
1915	12,451,945	11 7 5	5,880,811	5 7 5	96,644,455	87 16 3
1916	14,507,530	13 3 8	7,266,966	6 12 1	105,957,433	96 5 9
1917	18,355,194	16 13 11	10,549,654	9 11 11	125,572,515	114 0 9

NOTE.—The difference between the total revenue and the revenue from taxation is due to the Government undertakings, railways post and telegraph, and land sales and leases.

TABLE III.

Year ending March 31	Income Tax		Land Tax			
	Amount	Number of Payers	Number of Payers	Ordinary	Graduated	Absentee
1906	£ 261,816	8,993	24,246	£ 277,144	£ 104,949	£ 3,663
1907	277,867	9,540	27,659	317,176	125,929	4,237
1908	304,905	10,420	28,991	346,166	186,000	5,680
1909	321,044	10,839	30,855	389,844	209,248	5,809
1910	316,835	11,175	33,162	417,668	220,044	4,558
1011	407,235	11,303	33,516	416,426	209,493	2,804
1912	448,935	12,207	35,273	439,398	205,114	2,503
1913	462,994	13,167	38,232	475,281	251,275	2,080
1914	554,271	14,277	40,889	506,407	258,135	2,909
1915	540,318	13,967	44,270	547,959	249,193	2,489
1916	1,392,119	20,072	45,409	696,930	351,426	*
1917	4,262,125	30,230	35,859	347,913	365,205	*

*Included in graduated Land Tax.

TABLE IV.

Year	Land Values		Customs and Excise		
	Capital Value (Land and Improvement)	Unimproved Value	Amount	Percentage of Total Revenue	Percentage of Total Taxation
1896	£ (1897) 138,591,347	£ 84,401,244	£ 1,711,968	37.58	73.29
1901	(1902) 154,816,132	94,847,727	2,266,032	38.36	74.47
1911	293,117,065	184,062,798	3,145,929	30.55	65.03
1915	371,076,683	230,705,147	3,294,943	26.46	56.03
1916	389,164,729	241,322,255	3,524,063	24.29	48.49
1917			4,037,628	21.98	38.27

TABLE V.

Year	Land Values		Customs and Excise		
	Capital Value (Land and Improvement)	Unimproved Value	Amount	Percentage of Total Revenue	Percentage of Total Taxation
1896	£ (1897) 138,591,347	£ 84,401,244	£ 1,711,968	37.58	73.29
1901	(1902) 154,816,132	94,847,727	2,266,032	38.36	74.47
1911	293,117,065	184,062,798	3,145,929	30.55	65.03
1915	371,076,683	230,705,147	3,294,943	26.46	56.03
1916	389,164,729	241,322,255	3,524,063	24.29	48.49
1917			4,037,628	21.98	38.27

Trade

Turning to table V it is noticed that the percentage of revenue derived from customs duties is falling. In the early days of the Colony most of the public revenue perforce was derived from duties on imports, because this was the readiest means of taxation. The diminishing proportion of revenue from this source is a welcome indication that the Colony is becoming self-supporting, and, according to table III, is becoming a free-trade country, with direct taxation, a tendency remarkably hastened by war.

Table III shows that farming is being encouraged by lowering the land-tax. There are fewer land-tax payers in 1917 than in 1916, because of another method of assessment by which an equivalent number of persons pay income-tax who formerly paid land-tax, the belief being that a tax on incomes is fairer because it does not discriminate as to the source of the income.

The trend of things indicates that New Zealand is on the way to cease being a Colony and to become a nation. She is becoming self-contained, which is indicated by her ability to raise loans internally instead of borrowing from outside, and she does not rely on customs duties for her revenue.

The Distribution of Wealth

We have considered the general increase in wealth in New Zealand and her growth in independence. Now it concerns us to consider how the wealth is being distributed among her people. This is of great importance to town-planning and housing, because good houses for all the people is a primary need. Especially must we see to it that the least-paid members of the community are properly housed.

(By the way, the workers in such communities as Chester on the Delaware River are stranded with high wages, since they are not in a position to command decent dwellings. The very boom in trade is actually impoverishing these people so as to make them a burden on the community, which does not provide houses for them.)

All wealth, in the final analysis may be resolved into the amount of food and other raw materials—mineral, vegetable, and animal—used by man. These may be looked on as a fund which is taxed by all those persons who do not produce but are engaged in the secondary occupations which arrange and distribute the primary products to the convenience of mankind. The value of primary products is gauged by the demand and by the proper (or improper) way men have arranged themselves in proper (or improper) proportions in all the secondary or subsidiary employments, such as transportation, manual labor, craftsmanship, the professions and brain workers. If the social mechanism is badly arranged, the price of raw materials goes up, first, the most essential, food, and then the less essential necessities. On the other hand, with increasing civilization and increased efficiency, fewer and fewer men will be needed to produce the essential food-supply, while more are set free to produce the less necessary luxuries and amenities of civilized life.

The disproportion found in the distribution of human

effort (some being directed efficiently and some inefficiently) produces that underpayment, overcrowding, and ill health of the wage-earners which is the cause of the higher cost of living.

It is interesting to compare the proportion of people in New Zealand engaged in the various occupations, according to the Census of 1911.

PRODUCERS—		Percentage
1. Primary producers	} 58.0	29.0 (46,900 farmers; 8,700 miners)
2. Industrial (secondary producers).		
MIDDLEMEN—		
3. Commercial	} 42.0	15.0 8.0 10.0 7.0 2.0
4. Transport		
5. Domestic		
6. Professional		
7. Indefinite		
		100.0 100.0

The first two classes of persons on the list produce so as to increase the capital riches of the country. The five other classes merely direct society for the better means of production. The proportion of these vary in different circumstances and civilizations. Therefore one cannot judge offhand on the health of a nation by the proportions in which the callings of the people are disposed. One may only judge by the amount of actual poverty and misery, not by the total wealth of the nation. If we only think of money values, we shall be misled, for the prosperity of any country is measured by the purchasing power of the people, and this is according to the efficiency of the arrangement of society. Values should be high while prices are low.

Production and Taxation

Looked at from the starting point of production, the last five classes, which may be classed together as middlemen, levy a tax from the producers. The middlemen demand a share of the produce of the land from which all wealth is derived. In fact, all profit is a tax levied on production. The profit of an individual farmer is a tax which he takes from the produce he raises. The income of a family is only a portion of the total production of the family, income being different from turnover in a business, which is another name for total production. On the other hand, looked at from the point of view of the middleman, or of the individual who renders service, the tax he levies on production is a recompense paid him.

Society is well served when the profits taken as taxes on production, as recompense for services rendered, are equitably distributed. This implies that there is no wasteful service, but that all service goes to make living cheap and recompense high. This means high wages and cheap commodities.

This contention can be proved by examining actual cases. Belgium, before the war, was a cheap place to live in, and her people were prosperous. Spain is dear to live in, although prices are low. Money has value because of relativity, and one must always bear in mind the distinction between "real" and "nominal" wages, incomes or taxes (which are all the same as a definition of a tax levied by the individual on the society he serves).

TOWN-PLANNING IN NEW ZEALAND

Rent

The business side of town-planning deals with the question of just rentals, and, perhaps, the most important factor in town-planning is rent, which is the price of the use of land for one year. Rent is a particular form of tax, and is one of the taxes on production as defined above. The capital price of land is the commuted rents which are paid for in one sum, so that the land is considered free from paying rent forever after. It is well to bear in mind that profit and income, when looked at from the viewpoint of production, are a tax, and, when looked at from the viewpoint of the consumer or individual, are a recompense for service rendered.

Land is generally considered a passive thing, which it is not. Therefore, we talk of rent as a tax which the land renders to man. But we should be logical and be able to consider this tax which land renders to us also as our recompense for rendering service to the land, i. e. we cultivate it to help it to grow crops better than it could otherwise do. The tiller of the soil is the middleman in the process of production. Rent, therefore, is our recompense derived from the soil. Continuing up in the chain of processes in production, the craftsman derives a recompense from the tiller of the soil, the primary producer, just as all the other middlemen command their recompense for service rendered.

Rent of land is arrived at in the same way as all other recompense for service, and is proportioned to what land will produce. It is sometimes considered as a tax paid to the landlord; but, as with all profits, rent should be considered as a recompense for services rendered by the landlord, whether he be a private individual or the Government. Prosperity is influenced by the cost of rent as well as by the cost of any of the services. It is quite possible that rent is higher than it should be. It is largely influencing the cost of living at the present time. Rent should diminish, as must the remuneration for any other service which is neither primary production nor industrial.

New Zealand has recognized this fact in that she is liberating large properties from rendering tribute to the owners, and dividing these properties into smaller holdings. The Government up to March 31, 1917, had acquired 1,606,158 acres from private owners since 1892.

Because New Zealand is homogeneous, and as yet with very little distinction of class among her people, town-planning will progress because it is based on a just recognition of the values of different lands and their uses. The discovery of fair rentals of land implies a knowledge of its uses. The taxation of unimproved land values means this, and most land in New Zealand is taxed on this principle.

The new Town Planning Bill for New Zealand mentions forestry and water-supply areas, and provides in the schedule for any other purpose that has any connection with the manifold requirements of a community. This is all a question of land use, and therefore of land-values.

At this point one would like to discuss the proper proportion that rent should bear to the value of the improvements on the land. A solution to this question is being found in New Zealand, for the new Town Planning Bill, when passed, will help people there to arrive at a fair conception of this value. Town-planners in every part of the world are at work on this problem, so that it is not

necessary here to more than indicate that there is such a problem in New Zealand, as elsewhere. That improvements are necessary in that country means that the land problem is not yet wholly solved.

Town and Country

As indicating the trend of population, the following percentages are interesting:

Year	Country Per cent	Town Per cent
1881	59	40
1886	57	42
1891	56	43
1896	56	44
1901	54	45
1906	52	48
1911	49	50
1916		

The four large cities contain more than a third of the population of the Dominion,—390,449 out of a total of 1,099,044 in 1916, but this townward trend of population is similar to that in all parts of the modern world. Farmers are increasing slowly, and the size of their holdings is diminishing, but the number of townspeople is increasing faster. This is not necessarily alarming. We must expect that, with progress, fewer and fewer workers will be needed to produce the food-supply, while more are set free to produce the less necessary luxuries and amenities of civilized life.

It is alarming, though, when the cost of living goes up instead of down in the shifting of population to the towns. The cost of living may rise because of too many middlemen, or may rise because of inflation in land prices, which is peculiar to our modern form of capitalism and of the spirit of speculation which this encourages.

While there is real danger that the cost of living will increase in New Zealand, the growth of towns must not be repressed, but must be guided by town-planning; the real antidote will be by encouraging rural development.

The prospects for the future are bright, and the effect that the war is having on our ideas of conservation of resources will be the awakening to the opportunity, here as elsewhere.

III. Conditions in New Zealand

The Land and Settlement Laws

The town-planner cannot help but be interested in the Land and Settlement Laws of New Zealand. In them he sees how New Zealand has been preparing the way to the more comprehensive Town Planning Act.

The reforming enthusiasm of New Zealand dates from the last turning-point in her history, in 1895, with the ensuing rise in prosperity. Her people all feel a stake in the country, and are all actually interested in politics, which is so close to their lives. There are no very poor people, and there are not many very wealthy people. The average wealth of persons of twenty years of age and over was £433 in December, 1914.

Land speculation brought on the crisis of 1874-76; the banks failed, and New Zealand was forced to retrench. It was the gloomiest period of the country's history, but after this artificial land-boom had burst, there was dim-

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inished production, and a considerable proportion of the population was concentrated in the towns and out of employment. A Sweating Commission found evidence of unhealthy crowding, and of overwork of women and girls, and from its recommendations sprang New Zealand's stringent code of factory laws. The unstable condition of industry led to much distress; prices were low and kept on falling, while the price of labor fell disproportionately.

Refrigeration in 1882, and rising prices since 1895, helped the increase of production, and so effected the remarkable recovery since 1895. During this period, New Zealand has carried out many social reforms. Beside factory legislation, compulsory arbitration recognized the unions and minimized industrial conflict; there is a Public Trustee, a state fire insurance, a Government life insurance, old-age and widows' pensions, a National provident fund; the Government builds homes for workers, or lends money to workers, or settlers, or local bodies.

The well-being of towns always depends on the prosperity of the country. In New Zealand this fact is directly manifest. It was because of diminished primary production that there was distress in the period before 1895. We see here an eternal principle at work, and working itself out again on a much larger scale in the world-situation today. We must recognize this and carry the inquiry a step further and see how New Zealand has turned to the rural basis of town-planning, for this country has thoroughly learned that a town absolutely depends on the country at the back of it.

"In the earlier years of the settlement of New Zealand there were opportunities for men of capital and judgment to acquire large estates at reasonable prices, especially when money was needed for administration and for roads and bridges. As the best lands in course of time passed from the Crown, the country became a series of agricultural communities interspersed with large properties, and, as time went on, those in search of land urged that they should be allowed to occupy these large estates instead of being compelled to go into inaccessible back country without roads or railways." The dense forests and broken country in most of New Zealand makes this a hardship.

The Land for Settlement Acts date from 1892. Under the Land Laws Amendment Acts of 1912 and 1913, the owners of large estates may subdivide their properties, or the state may buy them out compulsorily. Compensation is payable, as for a public work, under the Public Works Act. The total area purchased to the end of March, 1917, was 1,606,158 acres, at a cost of £7,989,220. This is generally good land, suitable for small farms.

Land Tenure

Table VI shows the number of freeholders* (outside boroughs) in New Zealand and indicates the healthy tendency of the smaller holdings to increase in number and of the large holdings to decrease. These holdings over 10,000 acres have diminished in number, but have also

*Compare this with the reverse tendency in the United States, as shown in the United States. See the Journal for October, 1917.—Ed.

TABLE VI.

Size of Holdings in Acres	Number of Freeholders, Outside of Boroughs						
	1883	1886	1889	1892	1902	1906	1910
5 and under 320 . . .	25,407	28,521	31,325	32,211	34,800	35,200	36,234
320 and under 640 . . .	2,695	2,982	3,189	3,189	4,735	5,107	5,394
640 and under 1,000 . . .	931	1,043	1,035	1,143	1,580	1,862	2,063
1,000 and under 2,000 . . .	816	916	906	992	1,369	1,553	1,748
2,000 and under 5,000 . . .	465	509	507	566	775	864	1,006
5,000 and under 10,000 . . .	203	220	221	208	260	278	306
10,000 and under 20,000 . . .	141	151	134	148	123	129	121
20,000 and under 30,000 . . .	49	43	50	45	40	40	28
30,000 and under 40,000 . . .	23	31	26	30	21	14	5
40,000 and under 50,000 . . .	11	5	13	9	9	8	6
50,000 and under 100,000 . . .	19	25	18	20	18	12	11
100,000 and under 150,000 . . .	2	2	2	4	2		
150,000 and over	2	2	7	6	3	1	
Totals	30,764	34,450	37,432	38,935	43,735	45,068	46,922

The average area held by owners of 10,000 acres and upward shows a steady decrease since 1889, as follows:

Year	Average Area Held in Acres
1889	30,009
1892	29,924
1902	28,312
1906	23,061
1910	20,523

TABLE VII

OCCUPATION OF LAND: TENURE, 1911

Total Number of Holdings	Total Area in Occupation	Number of Freeholders	Area of Freeholdings	Leased from Individuals or Public Bodies	Leased from Maoris (Natives)	Held from Crown Under Different Tenures
	Acres		Acres	Acres	Acres	Acres
73,876	40,238,126	46,922	16,551,697	3,551,697	2,147,428	17,540,115†

†Short of real figures.

TOWN-PLANNING IN NEW ZEALAND

TABLE VIII

Tenure. Up to March, 1915	Total Selectors	Area	Rental	Freehold
		Acres	£	Acres
Land for Settlement (Act consolidated 1910)	5,477	1,480,459	359,098	48,608
National Endowment (Land Act 1908)	3,767	6,374,628	103,556	
Education Endowment (Education Reserves Act 1908)	3,486	803,339	79,561	
Crown Lands	20,330	11,693,294	295,901	16,093,131
Totals	33,385	20,355,773	840,206	16,141,839
Other Endowment Lands	816	376,486	15,443	

TABLE IX

State Advances Act (1913). Up to March, 1917	Loans Authorized		Amount Advanced	Amount Repaid
	Number	Amount		
		£	£	£
Advances to Settlers	46,954	17,358,830	16,945,010	8,909,196
Advances to Workers	12,868	3,743,355	3,347,395	696,976
Advances to Local Authorities	894	2,882,554	2,624,250	163,429

decreased in average size from 30,009 acres, in the year 1889, down to 20,523 acres, in 1910. The smaller estates have increased in number more than the larger.

Table VII shows that there are more freeholds than leaseholds, but the area of freeholds is less than the area of leaseholds. It must be remembered that the large estates are much poorer land than the small estates. The small estates are often rich dairy-farms and fruit-farms. Dairying pays very well, and there are few dairy farms over 100 acres; they are mostly 10 acres or so.

Table VIII renders details of Government land. There are 33,385 "selectors" on Government land out of a total of holders of 73,876. So the Crown controls nearly half the population of farmers and half the occupied area of land.

The policy of the Government is "the land for the people," that is, the restriction in area which any person may hold. This subject had been forced upon the attention of the Legislature by defects in former systems, under which one individual could appropriate large areas to the exclusion of his less wealthy fellow-settler. Under existing conditions, where the price at which land is definitely fixed and where the choice of selection is by ballot, every would-be settler has the same chance, and may hold, under the Crown, an equal area of land, except that by the Land Law Amendment Act, 1912, preference is given to landless, married, or previously unsuccessful applicants. The Act defines the amount of land anyone may hold at 666 $\frac{2}{3}$ acres of first-class land, 2,000 acres of second-class land, or 5,000 acres of third-class land. (New Zealand Official Yearbook, 1915, p. 493.)

The Government encourages small freeholders, and this is the reason that now more than 16,000,000 acres of Crown land have become freehold. "Land for settlement" is land which the Government has bought for closer settlement.

To encourage persons of small means, the Government has bought up large estates and also advances money to settlers and workers. The Advances to Settlers Office was

established by an Act passed in 1894. Under the consolidated laws embodied in the State Advances Act, 1913, each year there may be borrowed for advances to settlers £1,500,000; to workers £750,000; and to local authorities £1,000,000. Loans can be granted only on the instalment system: On all freeholds up to three-fifths of the value of the security, provided that in the case of first-class agricultural freeholds loans may be made up to two-thirds of the value. On leaseholds, loans may be made to three-fifths of the lessee's interest in the lease.

"Securities are classified by the Board in three classes,—first, second, third. Loans are granted on first-class securities for a term of 36 $\frac{1}{2}$ years; on second-class, for 30 years; on third-class, for 20 years."

"Mortgages are repayable by half-yearly payments of principle and interest combined. They may also be wholly repaid at any time. Interest is charged at the rate of 5 per cent, reducible to 4 $\frac{1}{2}$ per cent, provided that payment is made not later than fourteen days after due date and no arrears in respect of instalments or other payments under the mortgage remain outstanding." Up to March 31, 1917, total amounts advanced were £16,945,010; total amount repaid was £8,909,196.

Advances to Workers

The Superintendent of the State Advances Office is authorized to lend money, for the purpose of purchasing or erecting a dwelling, to any person employed in manual or clerical work who is not in receipt of an income of more than £200 per annum, and is not the owner of any land other than the allotment on which it is proposed to build. The sum advanced must not exceed £450, nor may any advance be granted exceeding the value of the dwelling-house to be erected. The advance is secured by a mortgage on the whole property.

The interest is payable half-yearly, together with an instalment of the principal, which by this means is fully repaid in 36 $\frac{1}{2}$ years, 30 years, or 20 years, as the case may be. Plans and specifications, if required, are supplied free

of charge. The cost of buildings varies according to the size, from £120 to £640. Up to March 31, 1917, the total amount so advanced was £3,347,395; total amount repaid was £696,976.

Workers' Dwellings

The Workers' Dwellings Act, 1905, made provision for the erection by the state of workers' dwellings on Crown or settlement lands set apart for that purpose. A worker is defined as one who is landless and whose earnings do not exceed £175 per annum. The maximum capital value of a workers' dwelling was by amendment extended from £600 to £750. This extension has been necessitated mainly by the fact that workers' dwellings are now being erected on rural allotments of about 5 acres, with the maximum unimproved value of land of £250 for the 5 acres. This allows £500 for the cost of any building erected. The worker may acquire the freehold by instalments of 7 per cent for 36½ years. Up to March 31, 1915, 548 dwellings had been erected at a total cost of £68,737, including £396 for administration expenses. The Act of 1915 contained provision whereby the management and control of any workers' dwellings erected by the state could be placed under the control of a local body.

Also, the Municipal Corporations Act, 1908, gave authority for borough councils to erect workers' dwellings, and the amendment to the Counties Act, 1913, extended this authority to county councils.

All these activities logically lead to a general town-planning act, which will give them even a fuller meaning and amplify and consolidate these various enactments.

Other Land Legislation

Other land enterprises, but which are included under the general heads in Table VIII, are:

1. *Land for Settlement Finance Associations (Act, 1910)*. "The intention of the Act is to promote closer settlement of land by enabling groups of purchasers to buy private freehold property for subdivision among them, and to raise the purchase money by means of a loan guaranteed by the Government. For this purpose any five or more persons may by agreement form an incorporated land-settlement association, and may purchase in the name of the association any estate consisting of not less than 250 acres.

"The annual report for year ending March 31, 1915, states: 'The associations already formed, with very few exceptions, appear to be prospering. The mode of procedure for the formation of an association is very cumbersome, and in several instances has been the means of preventing suitable men from taking advantage of the provisions of the Act. The present Act should be repealed and replaced by a simpler one with wider powers.'

The number of members of such associations, up to the year 1915, was 303. The area of land so taken was 42,511 acres. The purchase money paid amounted to £583,477.

2. *Discharged Soldiers Act, 1915*. Total area set aside up to March, 1917, 337,961 acres. There have been 522 applications for land, and 319 of them allotted, for 143,524 acres. There has been set aside 133,582 acres for ordinary farms and 204,379 acres for partially disabled soldiers who would be able to work a fruit-farm, raise poultry, or run a dairy-farm.

Tenure in Towns

I have not been able to arrive at the number of freeholds and the tenancy of town property, but there are about equal numbers of ratepayers as families. Most families have one house apiece, but tenements are beginning to appear. Rent has risen with the rise in prices, but these have gone down a bit since 1914. Auckland rents have gone down most, as this is the largest city, and New Zealand is not an industrial country. Rents in Wellington have gone up, as there is a shortage of houses, and it is the point of embarkation of troops and has a training camp a few miles away. But even here rents have declined since 1916.

The area of all the 116 boroughs in New Zealand is 221,234 acres, with a population of 505,598. A community can request to be constituted a borough when it has 1,000 inhabitants, and there are many of these with an area of a thousand or two acres, which brings down the density of population of all the boroughs. Auckland City is the most densely populated, with twenty persons to the acre,—yet there is congestion in some of her streets.

The peculiar characteristic of the towns of England has been the prevalence of small houses containing one family each, rather than large tenements. This has partly arisen from the fact that land was owned in large tracts, and intensive use of building-land was not rendered necessary because of little competitive values in property. The condition has had its advantages, but in the case where land-tenancy has depreciated in wealth, rents have not paid for the upkeep of the property, and hence slum conditions arise. The local authority can only oblige the large landlord to make the minimum of improvements, and the vicious system becomes more entrenched by this tinkering.

Some of the town lands in New Zealand are in the hands of the native Maoris, who receive rents for land on which they themselves have made no improvements. Consequently, the Europeans are anxious to acquire control of the rents.

Because of the wise treatment by the Colonists of native affairs generally, this question will be solved through the mutual interest of both parties. The Maoris are more and more wishful of becoming Europeanized, and in this process, in order to obtain the privileges of the Europeans, they will discard some of those native customs which have been scrupulously respected by the Colonists.

The Future

Town-planning in its ultimate meaning is proportion. It is limited on every hand by conditions. Until planning is founded on the knowledge of the proportion of the conditions, it is one-sided and futile. But Planning, in its completeness, being wisdom, she is mistress of all things and able to breathe life and suppleness into the disjointed skeleton of Society.

Beauty and proportion are dependent on each other. There is no beauty without proportion. The beauty of the human figure is due to proportion—the balance of parts and the invigorating strength and intelligence which this conveys to the beholder. This inspiration partakes of the Divine, because we no longer feel cramped or mutilated.

TOWN-PLANNING IN NEW ZEALAND

This freedom is the message of all art. It is likewise the message of town-planning.

The artist may rise above the law by becoming the master of, and not the slave to, its precepts. But he may only become master by understanding the law, and obeying it intelligently. His emancipation will be found not by trying to push by the law, but by winning through and beyond it.

The architect is first a scientist and then an artist who is immersed in the business of everyday life. His art is greatest when most in touch with the lives of everybody. Therefore, now that civilization has become so complex, true architecture is scarce; the mind of the architect (in common with the minds of most other people) is seldom inclusive enough to grasp the complexities of the situation.

Perhaps the finest "ensemble" of architecture, therefore, is to be found in the new "garden towns" of England, because there we see Social Consciousness most clearly manifest,—an explanation which also applies to the worth of our medieval architecture.

It is not what we do, but what we are, that counts! So it is with architecture: it is not the style, or even the proportion, but what it means, that counts. One may find

fault with the proportion of all ancient architectures. There is no proportion to fit them all. The battle of the styles will always be futile. It is only by being true to one's self that one is beautiful and of use to others.

The beauty and worth of architecture lies in its proportion and harmony with the spiritual values of the society that produce it, and which, in turn, is elevated by the image which they have erected.

New Zealand has no style of building. She was founded in a time when architecture was most degraded. But she is the child of modern times, and is now in the economic and psychological position to embark in permanent building. The town-planners who are immediately to practise their art may, in their small foundations, implant the germ which will develop in the coming epoch. The unique and wonderful flora of New Zealand would inspire new and beautiful motives of decoration. The town-planner cannot be satisfied with mere landscape designing; he will want to portray the image of the ideal in durable form.

Surely the world is new now, newer than at any time since the fall of Rome?

NOTE.—The statistical information is taken from the handy and readable "Official Year Book."

"Crooked Architecture" and Photography

By BEN J. LUBSCHEZ

I

THE Brooklyn Museum recently exhibited two groups of Prof. William H. Goodyear's enlarged photographs of cathedrals in the war zone of Europe. When the photographs were made there was no thought of war. They were made with exceeding care to illustrate deviations from the normal of lines in medieval buildings, to illustrate and prove Professor Goodyear's discoveries that lines assumed to be vertical were not so but were bent from the perpendicular, that lines assumed to be horizontal and straight were bent or curved either in the horizontal or vertical plane. Most of the pictures include simultaneously photographed plumb-lines or stretched lines to show the deviations. As most of the buildings photographed have been in the path of *kultur* to a greater or less degree, and are now either badly damaged or entirely destroyed, these accurate, painstaking photographic records, many of them showing details which the ordinary tourist or even student would probably never even see, form a heritage for which the world, and especially the architects, owe Professor Goodyear the deepest gratitude. To indicate the care and thoroughness with which the work has been done, it is well to note that there are some cases where every pier of the nave has been individually photographed with plumb-line reference. These records are now priceless, for as Professor Goodyear has pointed out, not even elaborate monographs and measured drawings of these buildings have made serious note of the refinements and deviations which exist.

Nor are these enlargements valuable only as records. Many of them are noteworthy pictorially and merely for

the sake of having good pictures of the best architecture of the Middle Ages. Pictures taken from the architect's viewpoint, we should be thankful that these splendid Goodyear negatives are in existence and in the care of the Brooklyn Museum.

II

It is difficult to discuss these photographs without discussing the facts which they reveal and the assumptions for the verification of which they were taken. Without photography, it is doubtful if the truth of any of these assumptions could be definitely proven. The facts brought to light by Professor Goodyear have caused considerable controversy. He has spent over forty years studying, measuring, and photographing medieval buildings, with the view of establishing as a fact his assumption that the deviations from normal lines in these buildings were *intentional* refinements and not due to careless building, or, as his critics called it, "crooked architecture." This has not been easy to do, for, as he says in one of his essays on the subject:

"The elementary conditions of the ordinary masons' art naturally involve the use of rectangular forms and, consequently, of strictly perpendicular construction. According to the orthodox modern practice and according to the orthodox modern theory of what ought to have been good practice in other periods, any departure from the rectangle, the straight line, or the true perpendicular, in building, is, therefore, presumably due to accident, to carelessness, to inefficiency, or to natural and inevitable human fallibility where minute measurements are concerned."

Photography has come to the rescue. The impartial, all-seeing lens of the camera has revealed conditions which the unaided eye seldom saw. By turning its recording gaze on one after another of a series of similar features it revealed almost an *infallibility* among medieval builders where minute measurements were concerned.

The most common and interesting refinements noted are the "widening refinement," where the nave, aisles, or transepts are wider at the spring line of the vaulting than they are at the floor, and the curves in plan resulting in the plan axis being in the form of an attenuated letter "S."

Professor Goodyear has sought to prove that these deviations were intentional refinements in the following manner: for the widening refinement, showing by careful measurements and photographs with reference plumb-lines suspended in the camera or near the object, that these deviations were, with surprising accuracy, either similar in degree or carefully graduated in all piers of the same building, and that the same general scheme of deviation from the normal was common to widely separated buildings; that these variations could not be due to thrust, for there is absolutely no evidence of any fissures or cracks in the vaulting having been repaired, in spite of the fact that a widening of the arch would have caused corresponding fissures and cracks in the ribs and vaulting. When it is remembered that the widening refinement amounts to a foot or more in many cases, it can be seen how serious the cracks would have been were the widening due to thrust.

For the S-shaped plan, it was also shown that the deviation was common to many widely separated buildings, that the several lines of the plan, such as outside walls and the several rows of inner piers, were accurately parallel, and that the curves were not merely crooked lines but mathematical curves with regularly graduated increments of variation from the straight line.

The evidence in the case of the widening refinement is absolutely convincing. It is much more difficult to build a series of piers, all with a similar or graduated deviation from the perpendicular, than it is to build them to a plumb-line. The almost perfect parallelism of the slightly inclined piers quickly dispels the idea of crooked or careless building. The absence of any evidence of repairs to the vaulting or ribs convinces one that the widening could not be due to spreading on account of thrust. It is rather a remarkable coincidence that in many cases the profile of these piers corresponds closely to the entasis of Greek or Roman columns in proportion. In some cases the piers are vertical for part of their height and then bend back. In one case this deviation is 5 inches for the height of 46 feet, almost the exact amount of entasis on a side of the Ionic column. It is also interesting to note that an old lithograph of the interior of the Cathedral of Troyes shows the widening refinement quite distinctly in the crossing piers and arches. In contrast to the Goodyear findings, however, this lithograph shows adjacent lines vertical, which makes the widening in the crossing very apparent; the photographs of Amiens, however, show distinctly that even window-jamb and mullions are inclined so as to be parallel

to adjacent piers, all tending to make the inclinations less obvious, in fact hardly apparent, to the unaided eye. The first observations of the widening refinement were made by contrasting the lines of the piers with nearby vertical lamp-chains which served as numerous ready plumb-lines.

The evidence for the premeditation of the S-shaped plan is less convincing. The deviations, either convex or concave, vary from about 5 to 8 inches. Parallelism proves little. The easiest thing to do on the ground is to lay out a number of lines parallel to one already established. The strongest evidence for premeditation is the regularity of the curves. If it were not for this rather astounding regularity, it would not be difficult to conceive, in building a long wall or line of piers, of an accidental deviation from the straight line and then in attempting to correct the error, a swing in the opposite direction making an attenuated S form. The approach to mathematical accuracy in the curves and their similarity in widely separated buildings weakens this possibility but it remains a possibility.

III

Why should all these deviations from normal lines have been purposely made at the cost of great complexity in building and in the face of our present-day assumption that the great virtue of building is to get things as nearly square and straight and perpendicular as possible? It was done to counteract disagreeable optical illusion, to modify perspective effect, or perhaps merely to lend variety and life where absolute mathematical rigidity would have proven cold and uninteresting. To avoid the appearance of sagging in the horizontal entablature below the pediment, the Greek crowned this line—and, by the way, Professor Goodyear has demonstrated that this crowned line was polygonal and not curved—and to avoid the effect of the nave or aisle having the appearance of falling in at the top, the medieval builder spread or widened them. To make the nave appear longer, he lessened the distance between piers at the sides as they approached the crossing, thus exaggerating the perspective. To lend interest to the arcade, no two arches were quite alike in width. Lines, both in plan and elevation, were often curved, sometimes to enhance perspective interest, sometimes to counteract the disturbing optical effect caused by the proximity of a line beyond easy control, as a fixed grade-line.

Many investigations regarding such deviations and refinements, as varied spacing of arcades and pier systems, curved lines in plan and elevations, inclinations of façades (probably to increase their apparent height), and careful measurements of the Cathedral and Leaning Tower of Pisa have been made by Professor Goodyear, but were not included in the recent exhibitions and need not be discussed here further. Arrangements have been completed to show the photographs of cathedrals in the war zone in various cities, and no architect should miss seeing and studying them when they are shown in his vicinity. Such scholarly and painstaking work, full of devotion, as shown by the photographs, is none too common and deserves the careful attention of the profession.

Notes by the Wayside

IT WAS to be expected that there would be a pretty general desire among communities to erect monuments and triumphal arches for the heroes of the "home town"—temporary structures to lend gaiety to the scene when the boys come marching home and permanent ones as memorials to those brave lads who "gave their today for the sake of our tomorrow." In fact, the American Institute of Architects has already taken steps to cooperate with communities and manufacturers of monuments, offering guidance and counsel, with the hope of avoiding the building and the making of such memorials and monuments as were inflicted on our cities everywhere right after the Civil War. These memorials, although erected with the best intentions, can, on account of their lack of meaning and sheer ugliness, do but scant honor to any memory. For the temporary decoration of a street or square in honor of the returning soldiers, one can think of nothing more appropriate than the scheme used for the "Avenue of the Allies" in New York during the last Liberty Loan drive. It was a sight never to be forgotten and has much to commend it. It is within the reach of any community, no matter how small, and, owing to the entire lack of any sham and hastily conceived architecture and sculpture, it is quite safe and almost fool-proof. Few of us realize the inspiring decorativeness of flags and banners, and no one who saw the glorious "Avenue of the Allies," simply a street of flags and flags and more flags, all arranged with thought and care, can doubt the effect of cheer and happiness and gladdening of hearts such a scheme can have on the returning soldier boys or their loved ones at home. A glance at newspapers from all over the country shows the great number of our cities planning decorations for the welcome of their returning heroes. They can do no better than study the example of the "Avenue of the Allies." Fortunately, Mr. Childe Hassam has caught and recorded something of the spirit of this festivity in his series of flag pictures now on exhibition in New York.

As for the permanent memorials, the Institute can possibly do a noble work through the committee which it has taken steps to put in the field.

WITH ITS fine example of the "Avenue of the Allies" right at home, New York came near being the first victim of victory memorial atrocities. A few evenings ago, there appeared in the newspapers a sketch of a proposed Victory Arch—about as crude, ill-conceived, and meaningless a

thing as well could be! The next morning brought forth protest in plenty, and, as the *Tribune* stated it, architects and sculptors, especially members of the National Sculpture Society "clutched their hair and pointed tragically to said sketch and groaned long and miserably." Things became interesting indeed when the members of the Sculpture Society learned that the offensive sketch was the hasty contribution of their own president, a member of the Mayor's Victory Arch Committee! Fortunately, the members of the committee got together and a few days later submitted a tentative drawing of the proposed arch, the later design showing evidence of thought and study and being of considerable promise. In a younger and less experienced community, the original design might have gone through and added to the atrocities of the world war.

TO STUDY poetry is the advice often given the architect, and good advice it is, for almost any good poetry helps to stimulate the imagination. Some dramatic presentations are even better, for they administer the stimulant in visible form as well as the verbal one. "The Betrothal," Maeterlinck's sequel to "The Blue-Bird," has just been newly presented in this country. In this we have both the abstract beauty of the settings, with their wonderful color and vigor of simple composition, and the inspiring philosophy of the lines. Tytyl, now on the verge of young manhood, starts out in search of his ideal mate. He is accompanied by six maidens, all of whom he loves equally well, and a veiled figure whom he cannot recognize. He travels far, to the abode of his ancestors, and although the ancestors give him sage advice they can help him but little in his definite choice. He travels as far again, to the abode of his future children; they help him more, for they recognize their future mother. It is getting late and the party disbands and goes home, and at home Tytyl finds his ideal mate, Joy, the veiled figure—at home where he also found the Blue-Bird and Happiness. The beautiful symbolism, the simple suggestion, the play of the imagination are almost as potent as in the memorable "Yellow Jacket." Aside from the general stimulation for the imagination one feels in this play, there is an almost direct lesson for architects. The architect, like Tytyl, can get sage advice from abroad and from the past, but not definite solutions to his problems. Like Tytyl, he must find these definite solutions and his joy and his happiness, at home, in the present, within himself and in the contemplation of the future. TRAVELER

Correspondence

The Flagellants

To the Editor of the *Journal*:

There was once a sect of religious fanatics who chose, as an outward sign of their inward sense of spiritual humility and unworthiness, to flog themselves and each

other without ceasing. They held it to be a rite of equal virtue, in the sight of the Lord, with baptism and the sacrament.

A modern counterpart of this strange sect has lately appeared in the architectural profession.

Formerly self-satisfied enough to suit the most fastidi-

ous, its members have lately become converts to humility. The reason for this great conversion from complacency to humbleness seems to be, briefly, that during the war the engineers have been given the engineering jobs. This appears inexpressively to have shocked and surprised this sensitive body and to have cast a blight over their spirits. A period of morbid introspection has set in, and loud cries of anguish and lamentation find their way to the printed page. They proclaim themselves miserable sinners and cast about for crimes of which to make public confession. Among other things, they cry out that they have been neglecting the business, financial, and engineering sides of their profession. Arguing from the premise that the engineers are doing the engineering and they are not, they proclaim bitterly that they are unappreciated and misunderstood. It is quite evident that they have not impressed the neighbors as much as they had hoped. The Government is getting on without them. Some think that their loss of prestige (meaning jobs) is due to the fact that, in the past, workmen's houses have been neglected for palaces. Some say it is architectural education that is at fault; that, "we have not a sufficiently vital concept of the architectural function in a democratic society, but instead we grope in a forest of obsolete esthetic values, social prejudices, and economic fallacies." If this is not enough, add that, "we are a little army marching to archaic music from the pipes of Pan." This is serious, but we do not lose hope. Some think we may yet be saved by advertising or becoming contractors. One firm takes cover by admitting an engineer to partnership. At any rate, all admit something is wrong. We are further told that a complete metamorphosis awaits us after the war. It is hinted that we are an outgrown appendage that ruthless evolution is about to slough off.

Any man who has lived through the last four years does not need to be a seer to realize that the tremendous turmoil that has racked the world is not to cease without leaving scars behind. The rights of man will doubtless find fresh expression among every people; old systems, ideas and governmental formulas will be given a new twist, especially in Europe. But how the winning of this war will affect the practice of architecture in the United States is not clear.

"The tumult and the shouting dies,
The captains and the kings depart,"

but we may hope that they will leave behind the eternal verities of the arts and sciences.

Hindenburg's cannon have smashed plenty of architecture, but the canons of architecture are untouched. Cities innumerable have been laid in the dust, but that is only good for business. There is nothing in this long torture of architectural monuments to make men less interested in the building virtues. The habit of living in ditches will have not made them careless about living in houses; neither has the ruin of Rheims taught men that they are indifferent to architecture; rather has it not made them conscious for the first time of how great a part for joy it played in their lives?

And so let us take courage and not look with fear and envy at Hog Island. It is the Rheims of the engineers, and amply justifies their right to the niche they occupy, but there will still be room for the architects, even after the war,

and we may live to be a little ashamed of our panic and surprised to find that in an architectural sense the war has only been a nine days' wonder, and that presently, when we are once more immersed in specifications, clients, blue prints, and contractors, we may pause long enough to note with surprise how little difference it has made.

ALLEN W. JACKSON.

The Aftermath: For Better or Worse

"It is now my hope that I shall be able to return before long and finish my thesis."

—(From a letter of L. A. H., 40th Engineers, A. E. F.)

I quote a line from a letter of a graduate student whose training in architecture was interrupted by the call to arms. Expressions of like character are to be found in nearly all student letters from the front.

With the war's ending there will return many students of architecture from the colleges and universities of America who responded in such splendid proportion to the earlier calls. I do not share the view that they shall return with the qualities of perception dimmed by military service or with a lowered sensitiveness. Whether several years of trench life would so react upon those of the young men of the allied forces who have suffered the prolonged experience, remains for future years to show. But for the students of the American colleges, the experience has been fortunate in place and in duration. The idealism of the call of humanity; the crusade to the lands of France, Belgium, and Italy; the contact with part, at least, of the historic continental country life and that of its smaller cities (and at a time when its spirit was at the keenest)—these will leave a lasting imprint upon the mind and spirit of the American student soldier.

I have confident hope for and a consuming longing to witness the architecture which shall memorialize the spirit of Belgium and France in the great world war; an architecture in part called into being by the absolute necessity to replace cities and towns, churches and universities. If, as we hold, great architecture shall embody the soul of a race, it shall be a noble architecture which embodies the spirit of these countries as evidenced by the past four years of heroic courage. It will be the work of a generation and of a century to complete. The artistry may rise out of the purifying fires of war which may be equal to the task.

As for the restorations, let us hope that they shall be temporary in their nature, sufficient to serve until a re-established civilization can gather its faculties and express in permanent form its individual and community character. No more hideous prospect follows the war than a wholesale restoration, no matter how presumably true to previous types, creating a phantom countryside without spirit and without soul. Our own industrial housing, worked upon so earnestly and faithfully before the war, has suffered rather than gained by the opportunities the war afforded. The necessity alone was proven. Almost without exception whatever quality the schemes and sketches contained has been lost in hasty construction, and the resulting effect, from a purely architectural viewpoint, has been almost wholly inartistic.

We look to a world that shall be safeguarded against war as the outcome of this cataclysm; a world for the

CORRESPONDENCE—BOOK REVIEWS

activities of peace, in which there shall be the evidences of permanence in the affairs of men. To reconstruct such, we must build with character and with faith. To build in this manner is not possible either in haste or upon a multiple and commercial plan. The American offices are awaiting with eagerness the resumption of architectural

activities, too longingly looking to an increased activity of a purely material kind. The aftermath will be better only when the spirit of humanity in whose name the war has been won is cultivated and embodied in our architecture.

WILLIAM WARD WATKIN.

Book Reviews

Architecture and Democracy. By Claude Bragdon. Alfred A. Knopf, Publisher, New York City. \$2.

Seven essays on widely divergent subjects are here assembled. The author justly claims a unity of point of view, if not of subject. All but one of the essays have had publicity before, either in magazines or from the platform, but we welcome their gathering in book-form. The first essay is in three parts and gives the book its name. It is a keen analysis of architecture and its practice just before and during the war, and our hopes for it after the war. In the first chapter, Mr. Bragdon says, for instance:

"For beauty is ever the very face of love. From the architecture of a true democracy, founded on love and mutual service, beauty would inevitably shine forth; its absence convicts us of a maladjustment in our social and economic life. A skyscraper shouldering itself aloft at the expense of its more humble neighbors, stealing their air and their sunlight, is a symbol, written large against the sky, of the will-to-power of a man or a group of men—that ruthless and tireless aggression on the part of the cunning and the strong so characteristic of the period which produced the skyscraper."

And, again, in speaking of the usual practice in the planning of great buildings:

"It is the business of the engineer to preoccupy himself solely with ideas of efficiency and economy, and over his efficient and economic structure the designer smears a frosting of beauty in the form of architectural style, in the archeological sense. This is a foolish practice and cannot but result in failure. In the case of a Greek temple or a medieval cathedral, structure and style were not twain but one; the structure determined the style, the style expressed the structure."

Referring to the wage-earner's housing problem, there is this:

"He is usually between the devil of the speculative builder and the deep sea of the predatory landlord, each intent upon taking from him the limit that the law allows and giving him as little as possible for his money. Going down the scale of indigence we find an itinerancy amounting almost to homelessness, or houses so abject that they are an insult to the very name of home."

It is all pretty candid writing and interesting reading, whether we can agree or not. The second and third parts of the first essay are in much the same vein as the first part,

although Mr. Bragdon, in his constructive writing, wanders off into mystic fields and the regions of the fourth dimension, which, to some readers, at least, must seem far-fetched.

The second essay, "Ornament from Mathematics," is a discussion of the mathematical basis of "The World Order" and the use of the geometrical figures representing the theoretical forms of the fourth dimension as bases for ornament. Those interested in this fascinating subject will enjoy Mr. Bragdon's earlier book, "Projective Ornament," even more than this discussion, which is rather brief.

The third essay, "Harnessing the Rainbow," is on the question of mobile color and on the theory that there is a scale of color parallel to the scale of music. The subject is, as Mr. Bragdon says, very new and has infinite possibilities. As a brief introduction, this essay is quite valuable.

The fourth essay is a well-deserved tribute to Louis Sullivan, "Prophet of Democracy," and contains many excerpts from Mr. Sullivan's little-known writings. Its appearance in this book is highly appropriate, for Mr. Sullivan has had a profound influence on many American architects, not least, by any means, on Mr. Bragdon himself.

In the next essay we have a discussion of the use of ceramics in architecture and the possibilities of permanent color and design in color thereby. This is followed by "Symbols and Sacraments," which begins with the interesting definition that "Architecture is the concrete presentment in space of the soul of a people;" there follows an appropriate discussion of this definition, which soon becomes involved in much mysticism and occultism, which the author of this review is frank to say he does not understand.

The last paper of the book, on "Self Education," is, in some ways, Mr. Bragdon's most inspiring effort. Every architectural student should read it and reread it. To these students he says:

"Think what your work is: to reassemble materials in such fashion that they become instinct with a beauty and eloquent with a meaning which may carry inspiration and delight to generations still unborn. Immortality haunts your threshold, even though your hand may not be strong enough to open to the heavenly visitor."

In this essay are hints and suggestions which perhaps would be scoffed at by the professional pedagogue but if carefully heeded will undoubtedly result in a broader vision and greater power to think.—B. J. L.

News Notes

Housing in England

Addressing a mass meeting at Exeter, England, Mr. Hayes Fisher, President of the local Government Board, said that England was short of houses everywhere. Some people put it, as he did, at 300,000. That was the figure that had been agreed on with the Minister of Reconstruction. He had made inquiries of all Local Authorities, and they told him they were willing to build 240,000 houses, and to begin building them as soon as peace was declared. They could not build without skilled labor and materials, and there would be a shortage of both after the war, and there was other work to be done. Workingmen's dwellings would have priority. . . . The question also arose as to who were going to build the houses. Up to the present time, 95 out of every hundred houses built for the working class had been built by private speculative builders. But after the war the private builder would no longer come on the ground. There would be no profit in it. It would probably cost twice as much to build a house as it did before the war, owing to the price of money for borrowing and the price of materials and labor, and the workingman would not be able to pay a rent which would bring back the money expended and return a profit. They must estimate that for a few years after the war they would have to build houses at a very considerable loss—that is to say, the rent would not pay the interest on the borrowed money and the instalments on the loan for the sixty years or so during which it would run. . . . The Government had therefore hit on the only plan, and that was a partnership between the Government and Local Authorities. The Government asked the Local Authorities to examine their neighborhood, see what was going to happen with regard to labor in the district, . . . ascertain the houses they wanted, select the sites, call in the architect, and make their plans. The general plans had been issued in the instructions of the Local Government Board. He urged local authorities to take into counsel some practical working women in their districts to suggest the best place for the fittings. Six million women were being enfranchised, and they were going to have something to say as to the domestic policy of this country, and he hoped and believed they were going to take an interest in this housing question, which was part of the great health question.—*Journal of the R. I. B. A.*

"Cob Houses"

Mr. T. C. Bridges, writing on "Cob Houses" in the *Daily Mail* recently, says:

"You may make bricks without straw, but you cannot make 'cob' out of plain clay.

"All over North Devon, and down around Exeter as well, cob walls, cob cottages, and cob outbuildings are everywhere to be seen. Very picturesque they are, too, especially when white- or pink-washed.

"'Cob' is clay mixed with straw, and built up just like modern concrete. A bottomless trough is used, made of two parallel planks. The clay, mixed with chopped

straw, is pressed into it, and each course is allowed to dry before the next is put on. The result is a wall of great thickness, considerable strength, and of such durability that cob houses are still inhabited which were built five or six hundred years ago.

"A cob house well thatched is warmer in winter and cooler in summer than any brick or stone building, and there are no such walls for ripening wall fruit as those constructed in this simple fashion.

"Nor is 'cob' confined to Devonshire. There are cob walls in Somerset, in Northamptonshire, and probably in other parts of the country as well; while in Mexico, Texas, Arizona, and in Southern California many of the great ranch houses are 'cob' all through, only they call it 'adobe.' . . .

"Up to about 1820 'cob' was the usual building material for country cottages in Devonshire, and accounts of that date show that the price was only 3s. 6d. per perch, as against 5s. to 6s. for rough stonework.

"The trouble is that the industry has completely died out. An old man of seventy-six told me that the last time he saw a 'cob' wall built was sixty years ago. At a recent meeting of the Devon Education Committee, Lord Portsmouth suggested a grant towards the establishment of a class in 'cob' making.

"In view of the crying need for new cottages in the near future, I think that in 'cob' may be found a cheap and satisfactory substitute for brick or stone.

"'Cob' is far drier than most of the stone used.

"Certainly it is the most picturesque of building materials, and if it will deliver us from the horrors of concrete cottages by all means let us try to resuscitate this almost forgotten method of building."—*Journal of the R. I. B. A.*

The Woman's Version

"The higher standard of living and the demand that unnecessary drudgery should be reduced call for improved methods of heating, better hot-water systems, and labour-saving arrangements in the house. We fully realize that the result of carrying out our recommendations in full would involve a material increase in the cost of building and a corresponding increase in rents over those at present paid. We feel, however, that in matters where the original money cost is weighed against such vital needs as the health and general well-being of the family, the latter must be our first consideration." . . .

"Something may be effected by better internal planning, but it is impossible to secure the reforms for which the demand is most insistent, i. e., bedrooms of adequate size and separate bathroom, unless the superficial area of the house is increased."

These brief paragraphs from the Report of the Women's Housing Sub-Committee, Advisory Council, of the Ministry of Reconstruction, in England, are among the most pathetic of the utterances that the housing question has evoked, either from those who suffer or those who would prevent the suffering. They are temperate and restrained,

NEWS NOTES

yet behind them must burn the sadness of millions of mothers all over the world, and all for want of that little increase in superficial area which alone can solve the problem. How ghastly, in comparison with this appeal, are the results accomplished by the theory of legislating a minimum area, such as so many advocates of housing reform have urged in this country! The whole world stands arraigned of its inhumanity by these simple paragraphs.

A minority report accompanies the report, in which one of the Committee advocates the building of multiple houses, to the theory of which the rest of the Committee is opposed, except for the older people and those who are childless.

Housing of the Working Classes in Scotland: Scottish Institute's Competition

In view of the [British] Government's proposal to assist local authorities after the war to provide houses for the working classes, the Institute of Scottish Architects approached the Local Government Board for Scotland, suggesting the holding of an architectural competition formulated in such manner that there might be placed at the disposal of local authorities the best advice for designing suitable types of houses laid out and grouped in the most approved form with due regard to economy. The proposal was favourably received, and the Board have now authorised the Scottish Institute to promote such a competition under which architects may submit designs for various types of houses with layout plans showing the disposition and grouping.

The competition, which is open to any British subject, is divided into three sections. The first two sections are for layout plans accompanied by designs of the types of houses described below. The third section is for the design of cottages for rural areas without a layout plan. The selection of designs in accordance with their merits will be made by a committee of selection appointed by the Local Government Board and consisting of Sir John J. Burnet, Mr. A. N. Paterson, Mr. J. M. Dick Peddie, Professor S. D. Adshead, and Mr. James Thomson.

A panel of architects whose designs are approved by the committee will be formed, and a list of the names on the panel will be furnished to local authorities preparing housing schemes, with a recommendation from the Local Government Board that architects from the panel should be appointed to advise in carrying out such schemes. It is the intention of the Board that to the names thus selected they shall add, in consultation with the Institute of Scottish Architects and subject to the approval of the Committee of Selection, the names of architects whom they consider to be qualified who have not taken part in the competition owing to the fact that they are at present serving in H.M. Forces, or for other reasons. Premiums to the total value of £725 will be awarded for the most meritorious designs submitted.

In Section I, houses of the four following types are asked for:—Type (*a*), Living room, scullery, and three bedrooms, in two storeys; Type (*b*), Living room, scullery and three bedrooms, one of which is to be on the ground floor and suitable for use as a parlour, in two storeys; Type (*c*), Living room, scullery, parlour, and three bed-

rooms, in two storeys; Type (*d*), Two-storey flats, consisting of living room, scullery, and two or three bedrooms, with an independent entrance, the stairs to the upper flats being inside.

Section II, is for a scheme of tenement houses consisting of two types of houses with the following accommodations:—Type (*a*), Living room, scullery, and two bedrooms; Type (*b*), Living room, scullery, and three bedrooms, Adequate wash-house accommodation, drying greens, front and back gardens, children's playgrounds, &c., must be provided.

Section III, is for a design of a cottage of one storey containing living room, scullery, and two bedrooms—*Journal of the R. I. B. A.*

Winners of the Institute Medal for 1918

NOTE.—At the Convention of 1914, the Board of Directors was instructed to award a medal for intercollegiate competitions in architecture, following the recommendation submitted by the Committee on Education of that year. The awards for 1918 are as follows:

Jane Kuhn Pelton, Washington University, St. Louis, Mo.

Earnest L. Stouffer, University of Illinois, Urban, Ill.
Seeman Kaplan, University of Minnesota, Minneapolis, Minn.

Hiram Joseph Hamer, University of Michigan, Ann Arbor, Mich.

Carl Joseph Schmidt, Syracuse University, Syracuse, N. Y.

Earnest A. Grunsfeld, Massachusetts Institute of Technology, Boston, Mass.

Edwin Julius Truthan, Cornell University, Ithaca, N. Y.

Julius Caesar Meyer, University of Pennsylvania, Philadelphia, Pa.

Bound Volumes of the Journal

The Journal did not bind volumes for subscribers last year, due to the congestion prevailing in industry and transportation. With facilities in both much restored, preparations are now being made for binding volumes for both 1917 and 1918. The prices for bindings this year (for both 1917 and 1918 volumes) will be: buckram, \$3; half morocco, \$4. Subscribers should send their back numbers to the office of the Journal without delay, since these prices will not obtain in case a second binding later becomes necessary. Please advise the office of the Journal of your intentions at once. Those subscribers who sent their back numbers for 1917 will have their bound volumes returned to them with the 1918 volume, provided the back numbers for 1918 are sent without delay.

The Structural Service Department

The war having brought the temporary form of the Structural Service Department to an end, the department is discontinued for this issue. In the next number we hope to present the plan of this work for the year 1919.

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Committee on Community Planning* Special

(NOTE: In view of the ever-broadening field of planning, it has seemed wise to change the title of this committee from "Town Planning" to "Community Planning," thus enabling it to identify itself with town, city, and country.)

John Irwin Bright, <i>Chairman</i>	Walter H. Kilham
Frederick T. Bigger	E. C. Klipstein
M. B. Biscoe	Louis Lott
Parke T. Burrowes	Arthur L. Loveless
Hermann Dercum	Dwight H. Perkins
A. C. Eschweiler	Herman Wischmeyer
Ben. J. Lubschez	Burt L. Fenner
W. A. Etherton	Robert D. Kohn
A. L. Fechheimer	Arthur W. Rice
Thomas G. Holyoke	

INSTRUCTIONS: This Committee is charged with the duty of studying the general subject of community planning, of which the following principal subjects are indicated at this time:

The work of the United States Government in the creation of new communities; the regional survey work already undertaken at Boston, Philadelphia, and Chicago; and, above all, the Commission of Conservation of Canada, with a view to a possible recommendation for the creation of a similar commission in the United States.

*See the Journal for September and October for other committees.

Reconstruction Work in France

At a special meeting of the New York Chapter on December 3, 1918, the French point of view on reconstruction work in France, may be exemplified in the brief summaries of the following remarks:

Captain Raymond H. Michel (French High Commission in the United States).

"The French Secretary of Munitions has just been made Secretary of Reconstruction. He is an exceptionally able and progressive man. The French will ask America for what they want when they want it, first, materials; and second, ideas regarding industrial housing. Since the armistice I have received many offers from Americans who wish to help in reconstruction in France. I have politely "turned-down" all these offers. No American will be allowed to go over for reconstruction work, unless especially asked for by the French Government."

Jacques Greber (Architecte Diplômé, Ecole des Beaux Arts 1906, Atelier Redon).

"For the last ten years I have been back and forth between France and America many times, so that I feel I am peculiarly qualified to judge of housing conditions in both countries.

"France had done a good deal of modern industrial housing before the war, so that the problem is not new to her. The new question now is that of rapidity of construction. The help that the French will want of Americans is moral and technical. Experts on waterproofing, cement, and fertilizers, will especially be desirable; also machinery and raw material will be needed. The lack and high cost of building materials is the chief difficulty. Brick, \$9

a thousand before the war, is now \$25. Wood can be obtained from German forests. So many of the French forests have already been destroyed for war-work that there is a strong feeling that no more of these should be destroyed for reconstruction work. About one million houses were destroyed by the war. Not all of these will be rebuilt, as many of the inhabitants have settled in the south and west of France and will not return to the devastated regions.

"The 'Monuments Historiques' are not to be restored, as this would be worse than the German shell. The reconstruction work will consist of three classes: first, repairs on a large scale; many towns are only slightly damaged. There will be, therefore, only a chance to make repairs and no change in the town plans. Second, enlarging old cities, where growth is desired, by means of carefully worked out 'Plans d'embellissements.' Third, entire new towns built outside of old destroyed towns. Certain towns will not be rebuilt on their old sites. For instance, it is proposed to build the city of Arras closer to the sea."

Pierre le Bourgeois (French High Commission in the United States; Architecte Diplômé, Ecole des Beaux Arts, Atelier Redon).

"The French refugees are naturally discouraged with life. The new homes must be agreeable and pleasant, to give them renewed confidence in life and to stimulate them to go on. We feel that only the French architects understand the feeling that these refugees want in their homes. It is such a very personal and local matter, that it is hard for people of another country to enter into it. We also feel that these new houses will be the best cure for Bolshevism. If people are happy in attractive homes, they are not discontented.

From an Article in *La Jeune France* for December, by M. Caro-Delvaile, we quote as follows:

"Now France will follow her destiny again; the road leads towards a definite ideal, and nothing should stop or mislead her.

"Although the majority of her people are ready to accept the social changes bound to come, yet France needs the collaboration of her younger sister, American Democracy.

"America will bring to us her largeness of vision, her youthful boldness of view, and her superabundant forces. America understands also that at a certain time in life we must revert to meditation and introspection to know ourselves, and that the greatness of a country is not alone in its material activity. France, on the other hand, did not sufficiently take into account the practical necessities and material organization of the modern world. Our life was too shut-in, and like comfort-loving octogenarians, we were soliloquizing by the fireside, fond of our privacy and of our petty habits. We must give up all this. The open air is necessary to us. We need stronger muscles and a richer blood. Here is where the United States will stimulate us and be an example to us, while we may lend to them the harvest of our experience and the quality of generalizing which the world attributes to us. We together shall have to build the monument of democratic education, with the following motto: *To guide mankind from youth to maturity.*"

Obituary

Samuel S. Labouisse

Elected to the Institute in 1909; to Fellowship in 1914
Died at New Orleans, Louisiana, December 11, 1918

(Further notice later)

Cecil Bayless Chapman

Elected to the Institute, 1915
Died, August 27, 1918

Mr. Chapman was born at Dubuque, Iowa, March 22, 1876. He received his preliminary training in architecture in the office of W. Channing Whitney, in Minneapolis, after being graduated from the Minneapolis High School. He then went to Milwaukee and entered the office of Ferry & Class. Later he became associated with Elmer Grey in that city and remained there to complete unfinished work after Mr. Grey's departure for California. He then returned to Minneapolis and worked in the offices of Harry W. Jones and W. Channing Whitney. In 1907 he established his own practice in Minneapolis, and in 1910 formed a partnership with G. R. Magney, under the firm name of Chapman & Magney. This partnership was dissolved in 1916, and Mr. Chapman practised independently from that time until his final illness. He and his firm were the designers of many buildings for the Minneapolis Park Board and Library Board, and of many residences, schools, and churches. He was elected to membership in the Minnesota Chapter in 1912 and became its Secretary-Treasurer in 1916, continuing in that office until his death.

J. C. Marshall Shirk

Elected to the Institute in 1901
Died at Scranton, Pa., August 24, 1918

Mr. Shirk was born in Philadelphia, June 23, 1865, the son of Commander James W. Shirk, U. S. N. He was graduated from the Philadelphia Central High School and shortly thereafter was received as a pupil in the office of

Addison Hutton, an architect. There he received his early professional training. Subsequently he traveled in Europe and studied at the École des Beaux Arts in Paris.

In 1891 he formed a partnership with Charles L. Hillman; to this partnership Mr. Hutton was later admitted. It was dissolved in 1893 when Mr. Shirk withdrew and established himself in an independent practice which continued until his death. He was the architect of the Pennsylvania State Hospital at Fairview, Pa.; the Philadelphia Home for Incurables in that city; the Marine National Bank at Erie, Pa., as well as other minor public buildings and residences in and about Philadelphia.

Captain Charles Dann Waterbury

Elected to the Institute in 1909
Died at Washington, D. C., October 9, 1918

Captain Waterbury was born in Sandusky, Ohio, on July 27, 1868. In 1888 he entered the office of L. S. Buffington, an architect of Minneapolis, Minn., and left there for the Massachusetts Institute of Technology. He was a member of the class of 1895.

For seven years he was with the firm of Shepley, Rutan & Coolidge, in their Chicago office, and in 1901 he became associated with the firm of Pond & Pond of that city.

He was called to Washington in January, 1918, and made assistant chief of the draughting-room of the Engineering Section of the Construction Division of the Army. In May, 1918, he was commissioned Captain, remaining in the Construction Division as chief of the draughting-room, which position he held up to the time of his death.

Captain Waterbury was a member of the Chicago Chapter of the Sons of the American Revolution, of the City Club, of Chicago's Committee on Housing, and of the Society for the Preservation of New England Antiquities. He was buried in Arlington Cemetery with military honors.

Institute Business

Meeting of the Board of Directors

(NOTE.—A more extended form of the minutes of the meeting will be printed and mailed to the President and Secretary of each Chapter for use at Chapter meetings.—EDITOR.)

The meeting was called to order by President Kimball at 2.25 P. M., on November 16, at the Aldine Hotel. Others present were the First Vice-President, Mr. Favrot, the Second Vice-President, Mr. Mills, the Treasurer, Mr. Waid, and Directors Brown, Lubschez, Sellers, Faville, Fenner, Lawrence, Donn, Kohn, and Schmidt; also Mr. Whitaker, Editor of the Journal and the Executive Secretary.

Mr. Parker came in at 4.25 P. M.

Standardization of Catalogues and Advertising Sizes

Correspondence and reports were presented from Mr. Emery S. Hall, who represented the Institute at a con-

ference on standard sizes for catalogues and similar matter, held in Chicago on May 22, 1918.

Apparent differences of opinion have developed as to the wisdom of the standard size recommended by the Institute, namely, $8\frac{1}{2} \times 11$. At the Chicago conference three sizes were adopted, namely, 6×9 , $7\frac{1}{2} \times 10\frac{5}{8}$, and 8×11 .

Mr. Whitaker summarized the reports from which, and his own information, he has reached the conclusion that the proposal to change the standard size recommended by the Institute was largely agitated by commercial interests—those connected with the manufacture of paper, printing, and similar products.

Resolved, That, in view of the recommendations made by its representatives, the Board adheres to the standard

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size already in use, namely, 8½ x 11, and directs that no change be made for the present.

Reconstruction Work in France

It was understood that arrangements were being made between the French and American Governments under which many technical men, now in France in the American Army, will be held there to participate in reconstruction work. Inquiries have been received at The Octagon as to what steps the Institute was taking to participate in the reconstruction program, one of which came from the New York Chapter in a letter of November 7, from Mr. Swartwout.

Attention was called to letters from Mr. George B. Ford and Mr. Edwin H. Hewitt concerning reconstruction work in France.

The Secretary reported that he had written to the Department of State asking for information, but so far no reply has been received.*

Resolved, That the Institute, representing the architectural profession, tender its services to the Société Centrale des Architectes Français, and to the Société Centrale d'Architecture de Belgique, through a communication to be sent by the President of the Institute; that this letter express the spirit and intention of the officers and directors of the Institute, which is that matters of design should be left to the architects of France and Belgium, but in other matters related to the structural or mechanical branches the architects of America earnestly desire to offer their help in the reconstruction of those countries; and that a similar letter shall be sent to the Department of State, offering the coöperation of the Institute in the work of any commission that may be formed. (See also page 584.)

Proposed Abolition of Committee on Public Information

Since the duties hitherto performed by the Committee on Public Information, a standing committee, are now performed by the Committee on Publications, the President proposed that the Board recommend by petition to the next Convention the abolition of this Committee. This could be accomplished by striking out the name of the Committee from Section 1, Article XII of the By-laws.

Resolved, That it is the sense of the Board that this Committee should be abolished. The Secretary was requested to submit the necessary amendment in advance of the convention.

Institute Representation by Districts and District Boards

Mr. Favrot presented his plan for accomplishing local representation in the administration of the Institute's affairs, by dividing the United States into six districts, from each of which one or more members would be elected to serve on the Board of Directors. This would insure constant representation on the Board from all sections of the country. In addition, District Boards were provided to be composed of the Director Representative, and the President and Secretary of the Chapters therein. The Director

*Since the Board Meeting, the State Department has replied and suggests that the Institute take the matter up with the French High Commission.

would be the Chairman of this Board, which would look after the welfare of the Institute within its district and dispose of questions of a minor nature which might arise during the year, thus relieving the Board of Directors of the Institute of a great mass of detail and settling locally matters which are of a local significance. In general, the District Boards would be charged with administering the affairs of the Institute and the carrying out of the policies adopted by the Institute Boards in their respective districts.

Resolved, That the matter be referred to the Post-War Committee.

Appointment of Historian

The appointment of a Historian was considered.

Resolved, That the office of Historian be continued, and that Mr. George C. Mason be asked to serve as heretofore.

National Architectural Society Proposed

The President referred to a letter received from Mr. Harry I. Schenck, of the Dayton Chapter, relative to a proposal of the Washington State Society of Architects to call a convention of state societies, not connected with the A.I.A., for the purpose of forming a national body that would be more representative of the profession. Mr. Kohn spoke in favor of a closer affiliation between the Institute and the many loosely organized architectural societies in the country. He said that the four Institute Chapters in New York have considered the formation of a new state association, with a broad membership drawn from the registered architects in the state, who would not necessarily be members of a Chapter or the Institute. It was believed that such an associate class of membership would prove a good recruiting-ground for the Institute. Other Directors spoke of the confusion which might arise in the public mind from such a membership and referred to the Chapter associate class which the Institute abolished under its reorganization of two years ago.

Resolved, That the correspondence be referred to the Post-War Committee, with the request of the Board that the principle of closer affiliation between the Institute and the architectural societies, and its application, be carefully considered.

Application for Nebraska Charter

Through Mr. Kimball, the following architects in Omaha presented a petition for a formal charter of Chapter membership in the Institute:

Thomas R. Kimball	Josiah Dow Sandham
Ellery Davis	John McDonald
Alan McDonald	N. R. Brigham
H. A. Raapke	F. A. Henninger
Chas. W. Steinbaugh	Frederick W. Clarke
Harry Lawrie	George B. Prinz

Attached to the petition was a copy of the proposed Constitution and By-laws of the new Chapter.

Resolved, That a charter be issued to the Nebraska Chapter upon approval of the Constitution and By-laws by the Secretary. The Secretary was given authority to make necessary minor changes and approve them in the name of the Board.

INSTITUTE BUSINESS

Nebraska Territory Transferred from Iowa

Resolved, That the territory of the state of Nebraska is hereby withdrawn from the territory of the Iowa Chapter, and assigned to the new Nebraska Chapter—effective when the Nebraska charter is issued.

Time and Place of Fifty-second Convention

The Secretary called attention to the desirability of fixing at this meeting the character, time, and place for the Fifty-second Convention.

Resolved, That the Fifty-second Convention meet in Nashville, Tenn., on April 30, and May 1 and 2, and that it be unabridged in character.

Resolved, That the pre-Convention Board meeting be called for April 28 and 29.

Resolved, That the equalization of delegate expenses of the Fifty-second Convention be left in the hands of the Executive Committee.

Post-War Committee

President Kimball reported concerning the Post-War Committee and its functions, which Committee has been appointed and instructed by referendum vote of the Board.

He spoke of the unrest in the architectural profession, which existed before the war and increased during the war,—an unrest arising from a dissatisfaction on the part of the architects themselves with the character of the war-service rendered by the profession, and its relations generally with the public and other professions. It has become a serious question whether the architect satisfactorily met the test of the war emergency or failed to meet it. To investigate all of these matters and their subsidiary questions, the Post-War Committee was proposed. Through the instrumentality of the Journal, and the coöperation of its editor, the program outlined for it is made possible of execution.

The other Directors spoke in turn on the subject, expressing individual views on the various post-war problems with which the architectural profession and the allied professions are confronted. This discussion, to which was devoted several hours of time, showed conclusively a unanimity of opinion in favor of the Post-War Committee and the program with which it has been charged.

President Kimball said the chairmanship had not yet been filled, and mentioned the names of several men under consideration. (See page 548.)

Labor Disputes in Jurisdictional Matters

Mr. Waid spoke regarding the labor situation and the great labor turnover in many of the industrial projects during the war. One of the chief troubles in the building industries in the past has been jurisdictional disputes in which the various labor unions have disagreed as to which was entitled to certain kinds of work. He read a letter from a prominent contractor on the subject, and spoke of his conference with representatives of the American Federation of Labor. All of these men have advocated coöperation between the Institute, the contractors, and the labor interests for the purpose of forming a representative committee to settle jurisdictional disputes. He suggested the appointment of an Institute committee with power to act.

Mr. Whitaker spoke of the extensive investigation made by Mr. Dunning in Cleveland, and of his great interest in the subject. He had planned, before his appointment with the Housing Bureau, to bring it to the attention of the Board.

Resolved, That the President appoint a committee of three to coöperate with the organizations representing the labor interests with reference to subjects of common interest, and to report back to the Executive Committee for instructions.

Report of the Treasurer

The Treasurer submitted a certified audit of the books of the Institute for the first ten months of the year 1918 (the period ending October 31, 1918).

The report was explained in detail by Mr. Waid, with reference to the various activities of the Institute during the past year and the expenditures made therefor.

It appeared that regardless of war conditions the financial status of the Institute is sound and on a reasonably satisfactory basis.

The audit and the report of the Treasurer were accepted as submitted.

Signing of Buildings under Construction

The Secretary presented a resolution, unanimously adopted by the Illinois Chapter, providing that Section 12 of the Circular of Advice be revised to read as follows:

"The Institute relies upon its members to keep whatever advertising they may do within the bounds of truth and good taste and of such character as to maintain the high ideals of the Institute."

And that Section 13 be amended by substituting the following two sentences for the first sentence:

"Placing the architect's name on a building during construction and the signature of buildings after completion, in a dignified manner, is recommended by the Institute. Signs should be limited to the name of the architect, the initials of the Institute, and the address."

These resolutions were transmitted by the Illinois Chapter to the other Chapters of the Institute.

A communication of June 25, 1918, has been received from the Secretary of the New York Chapter, expressing the Chapter's opposition to the Illinois resolutions as per the following resolution:

"*Whereas*, The New York Chapter of the American Institute of Architects is not in sympathy with the recent action of the Convention in eliminating Article 4 of the Canons of Ethics, and

"*Whereas*, The New York Chapter feels very strongly that by this action the dignity of the profession has been placed in jeopardy, therefore be it

"*Resolved*, That the New York Chapter distinctly condemns the proposed recommendation of the Illinois Chapter to the Board of Directors, advocating the display of the architect's name on buildings during construction, and requests the Board of Directors of the Institute to recommend that architects refrain from advertising."

A letter and resolutions from the Virginia Chapter in favor of the Illinois resolutions were also read.

Resolved, That the correspondence be referred to the Committee on Advertising for report to the Board.

Rewording of the Circular of Advice

Mr. Parker, for the Committee on Advertising, submitted the following as a rewording of the Circular of Advice:

"Publicity of the standards, aims and progress of the profession, both in general and as exemplified by individual achievement, is essential.

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Advertising of the individual, meaning self-laudatory publicity procured by the person advertised or with his consent, tends to defeat its own ends as to the individual as well as to lower the dignity of the profession, and is to be deplored."

Resolved, That this rewording be accepted by the Board and that the Circular of Advice be published as amended.

Non-payment of Dues under Institute and New York Chapter By-laws

The Secretary read a letter of October 10, 1918, from the Secretary of the New York Chapter, to the effect that the Executive Committee of the Chapter desires to call the attention of the Board to the fact that the By-laws of the New York Chapter provide a maximum period of four months in which a delinquent member may pay his dues. Thereafter, in default of payment, it is required that his delinquency be reported to the Institute (unless the Chapter Executive Committee extends the period) with the request that he be dropped from membership or expelled.

The Chapter pointed out that this causes an anomalous condition, in view of the much longer period allowed to a member delinquent for his Institute dues. It was of the opinion that this inconsistency should be rectified if possible.

Mr. Parker then read his reply to the Chapter, dated October 22.

The Secretary was requested to advise the Chapter that the Board concurs in his letter of October 22, and that the entire relation between Institute and Chapter dues is to be investigated by a special committee for possible action at the next Convention.

Reduction in the Dues of Fellows

Consideration was given to the present inequality between the dues of members and fellows and its apparent inconsistency with the Convention direction that there be no distinction, other than an honorary one, between members and fellows.

Resolved, That it be proposed that the By-laws be changed to provide that the dues of fellows and members shall be \$20 per year. The Secretary was requested to transmit notice of this proposed amendment by the customary procedure.

Investment of Reserve Fund

The Treasurer reported \$1,000 of the Reserve Fund invested in the Fourth Liberty Loan, and he also requested authority to invest \$1,000 in new securities.

Resolved, That the Treasurer be requested to purchase from the Reserve Fund certificates for the next Liberty Loan, in such amount as the Reserve Fund may justify.

Handbook of Architectural Practice

Mr. Parker, as Chairman of the Committee on Contracts and Specifications, reported as follows on the status of the Handbook of Architectural Practice.

The Handbook is now in the hands of Mr. Fetterolf, who will take it up with Mr. Medary, the Vice-Chairman of the Committee, at the first opportunity. He will develop the present form for printing in the Journal at such time

as it seems expedient to publish it. This form will be for the purpose of inviting further consideration and will be issued for amendment and comment.

Dues of Those in War-Service

Concerning those in military service, it was

Resolved, That the Treasurer be requested to send all bills for dues on January 1, 1919, but to print a note on each to the effect that if the member is in war-service, his dues for the year will be remitted upon the sending of notice to the Treasurer at the Octagon, and further,

Resolved, That the dues of those in war-service be remitted up to the time of their discharge from the service, during the year 1919.

Remission of Dues

Resolved, That the standing order for the remission of dues of those in war-service include those men who are actively engaged in the work of any of the seven war-service associations.

Designs of War Monuments

Mr. Kohn spoke of the great danger that poorly designed war monuments would be inflicted on the communities of the country, as was the case after the Civil War. Numbers of these were erected through the activities of commercial firms. He felt that the artists of the country, and their associations, should put their talents at the service of all communities, particularly the smaller towns. It has been suggested that the art societies hold a conference and offer their services without charge, or at a nominal charge, and that those who make monuments, the tombstone makers, the bronze founders, and others, be invited to participate.

Mr. Sellers spoke of the activities of the Philadelphia Chapter, not only with respect to designs for monuments, but in guiding the plans for victory pageants and similar community work.

Resolved, That, pending action by the Post-War Committee, Mr. Magonigle be requested to prepare a letter to be sent to the several chapters of the Institute, outlining the plan he proposes to follow and urging upon them action for creating public sentiment in favor of proper monumental designs, through coöperation with the various art bodies.

Publication of the Annuary

The Secretary reported that the publication of the Annuary had been omitted for 1918 by a vote of the Executive Committee.

The Annuary was ready to print in the spring, so far as the alphabetical and Chapter lists were concerned. It was held for completion of committee personnels. In the meantime the paper-shortage became acute, and the War Industries Board requested the publication be omitted "until the paper-shortage has been overcome." Another reason in favor of omitting publication was the largely increased cost of manufacture. The type is to be kept standing, and several page-proofs will be taken in order to make the Annuary files at The Octagon complete.

Resolved, That this action of the Executive Committee be confirmed by the Board.

INSTITUTE BUSINESS

Publication of Constitution and By-Laws

The Secretary desired the opinion of the Board on publishing now, for distribution to the membership, the Constitution and By-laws as amended at the last Convention.

Publication was delayed until final approval of the amendments as printed in the Proceedings. In view of the distribution of the Proceedings, which contain the amendments in full, and the fact that other amendments will be made at the spring Convention, it seemed wise economy to omit publication until after the Convention.

Resolved, That the publication of the document wait until after the next Convention.

Agreement Between Contractor and Owner on the Cost-Plus-Fee Basis

Mr. Parker, as Chairman of the Committee on Contracts and Specifications, reported progress in the preparation of the Form of Agreement between Contractor and Owner on the Cost-Plus-Fee Basis, which document had been put into tentative form by Mr. Frank Miles Day prior to his death.

Model Registration Law

The Secretary reported that the formulating of a model registration law has been placed in the hands of the new Committee on Registration Laws. The model law will be submitted to the Board for final approval by referendum or at the next meeting.

Affiliation of Registered Architects with New York State Association of Architects

A letter of July 20 was presented, from the Secretary of the Brooklyn Chapter, calling attention to a resolution of that Chapter to the effect that the New York State Association of architects should receive as affiliated members all architects registered by the New York State Board of Examination and Registration, and that the American Institute of Architects be urged to recognize such affiliation.

Resolved, That the resolution be referred to the Post-War Committee for its information.

Subcommittees on Materials and Methods

The President stated that so far no subcommittees, in the Chapters, have been appointed for the Committee on Materials and Methods.

Resolved, That the question of appointing these subcommittees be referred to the Chairman of the Committee on Materials and Methods for a recommendation as to the expediency.

Subcommittees and Advisory Committee for Committee on Education

In submitting to the Board the personnel of the Committee on Education, by referendum, no provision was made for the subcommittees heretofore appointed in the localities of the architectural schools or for the Advisory Committee.

The expediency of making these appointments was left

in the hands of the President and the Committee on Education.

Small-house Plans by Institute Chapters

The Secretary read a letter of May 8, 1918, from Mr. G. H. Bulford, of the Columbus Chapter, stating that the Chapter wishes seriously to consider the matter of making, publishing, and selling, at a nominal price, plans and specifications for small houses, ranging in cost from \$2,000 to \$3,500. The motive is to better small-house architecture in the community.

The Chapter proposed to designate certain of its members to make the plans, paying them the customary fee. The plans will then become the property of the Chapter, which would advertise them for sale. It desired to know if such a proceeding would be in accordance with the Code of Ethics of the Institute.

Resolved, That the Board is sympathetic with the desire of the Chapter and with what it wishes to accomplish. However, the proposal is one which raises many questions to which the Board wishes to give further study. In the meantime, the Chapter is referred to the Oregon and Minnesota Chapters, which have done work somewhat similar to that proposed by the Columbus Chapter.

Procedure in Election of Members

Resolved, That hereafter the election of new members be made as promptly as possible, and by letter ballot of the Executive Committee, if desirable.

Delinquents

The Treasurer presented a complete list of delinquents, showing the amounts due and the period of the delinquency.

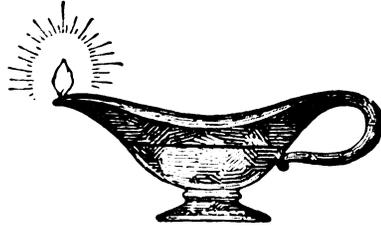
He pointed out that a number of these men, namely those owing for 1917-18 and prior years, were advised after the April meeting that they would be dropped if they did not make payment, by July 1, 1918, of back dues up to 1918, or some satisfactory arrangement with the Treasurer. This excepted those in military service.

Owing to the harsh conditions in the profession during the war, and the letters received asking for leniency from the Institute, the Treasurer requested the Executive Secretary to withhold action on those to be dropped until the present meeting. These delinquents now appear with others on the complete delinquent list.

After consideration, and in view of the existing conditions it was

Resolved, That those indebted for two years or less be given until July 1, 1919, in which to pay not less than one-half of the indebtedness; and that all those in arrears for dues for more than two years, or the equivalent thereof, be dropped from membership on December 31, 1918. Delinquents in both classes are to receive full notice from the Treasurer, and if payment is made in whole or in part before December 31, by those in the second class, their membership may be continued in the discretion of the Treasurer.

The meeting adjourned at 10.25 P. M.



The Architect as a Builder

ARCHITECTURE of all ages has demanded that those who follow it possess the endowment of imagination and acquire that technical or specialized skill which enables one to produce the thing that has been visualized.

There must be a harmonious blending of the ability to see a structure before it exists and to formulate and coordinate all the parts of the mental picture.

We have contended that the Architect is naturally an artist, in his appreciation of design, color values, proportions, types, etc.; a business man, in his use of figures, specifications, and the rendering of that kind of service which marks good salesmanship; a counselor, in his professional relations with his clients.

He is also the world's real *builder*—the source of that structural inspiration which is steadily improving the physical appearance of every community.

As a builder, the architect appreciates Tiles. He knows their value in helping to introduce the element of *quality* into the home, the school, the hospital, the factory, or any edifice entrusted to his care.

The architect knows that Tiles increase pride of possession; that they lift the standards of new buildings and make old ones better; that their introduction of beauty reflects credit upon his profession and upon his own ability to practice it successfully.

The real *builder* must possess an appreciation of structural values. For this reason, the Architect *believes* in Tiles.

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