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BUILDING ACTIVITY in DEVASTATED FRANCE

BY SAMUEL CHAMBERLAIN

Illustrated with Sketches by the Author



Reims

RECONSTRUCTION is a very live and positive term in the devastated provinces of France at present; there can be no lingering doubt of that. Only by an extensive and sufficiently protracted tour of the towns and villages bordering the one-time Western Front does one appreciate the remarkable activity of the French builders, and the magnitude of the task that confronted them after the Armistice.

A surprising and gratifying progress is observed at once in the smaller towns along the Aisne, the Marne and the Champagne. Many are completely rebuilt, shining with creamy white walls and bright roofs, their shops painfully new, their inhabitants not yet feeling quite at home. But for every village that is

complete, there are two or three about it in the course of growing up anew, bustling with activity, the streets clogged with sand and bricks and neat piles of salvaged stone, scaffolding shooting up like monolithic weeds, Spanish and Italian workmen chattering and chiseling everywhere.

At the same time, there are proportionately almost as many villages, not so fortunate, whose battered, weed-covered walls have not yet been touched, or else have been converted into temporary habitations. These are sad places indeed, scraggly, bleak, sunbaked villages of barracks and dugouts and huts made of huge semi-circular sheets of corrugated iron. But everywhere is the sign of activity, especially in the fields. No better token of the everlasting industry of the French could be found than in the progress they have made in regenerating their soil during these last five years. To get their fields in working order was more important than to have a permanent place to live, resulting in the phenomenon of these forlorn villages in the midst of prosperous fields.



A newly built house in the Aisne

Brick, white stone and blue slate roofing have been used here with sufficient judgment to make this a most harmonious and pleasing house from the standpoint of color

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The new public buildings, shops and homes are of pleasing and well calculated simplicity. There is but a very faint trace of the "villa" and ultra Beaux-Arts influence, and there is apparent evidence that the older buildings often served as models for the new. Entirely in keeping with the hardness and simplicity of the courageous people who came back to their desolate home plots, their rebuilt homes are sturdy and unaffected. Above all, they are built to possess permanence and utility. A hayloft, a butcher shop, a way-side cafe and even a thing so American as a garage are often incorporated in the shells of these new homes with none other than a frank and naive motive of utility.

The favored building material is certainly a creamy white sandstone, which saws easily, can be trimmed with a hatchet, and is supple material for the modest efforts of the Italian sculptors. It

has the additional virtue of hardening after being exposed to the weather and of being quarried in the neigh-

boring region. Huge, brilliant blocks of it are scattered in every village where building is going on.

Brick of many tones and textures is used a great deal, especially with white stone trims and lintels, and the stone salvaged from the wreckage is often made up into an attractive rubble, particularly in the rambling farm buildings. It is gratifying to note that the fantastically awful mustard-yellow rubble houses, spotted with gaudy tiles and glaring brick ornament, and capped with weird, jutting yellow orange roofs, so plentiful in the outskirts of Paris, have not appeared in this post-war era of

building. It would seem to the casual passer-by that the French architects, under the supervision of the *Ministere des Beaux-Arts*, have shown a most happy and sympathetic understanding of the characteristic needs and wishes of the country people. A rebuilt house is made to stand for centuries as its predecessor has done.

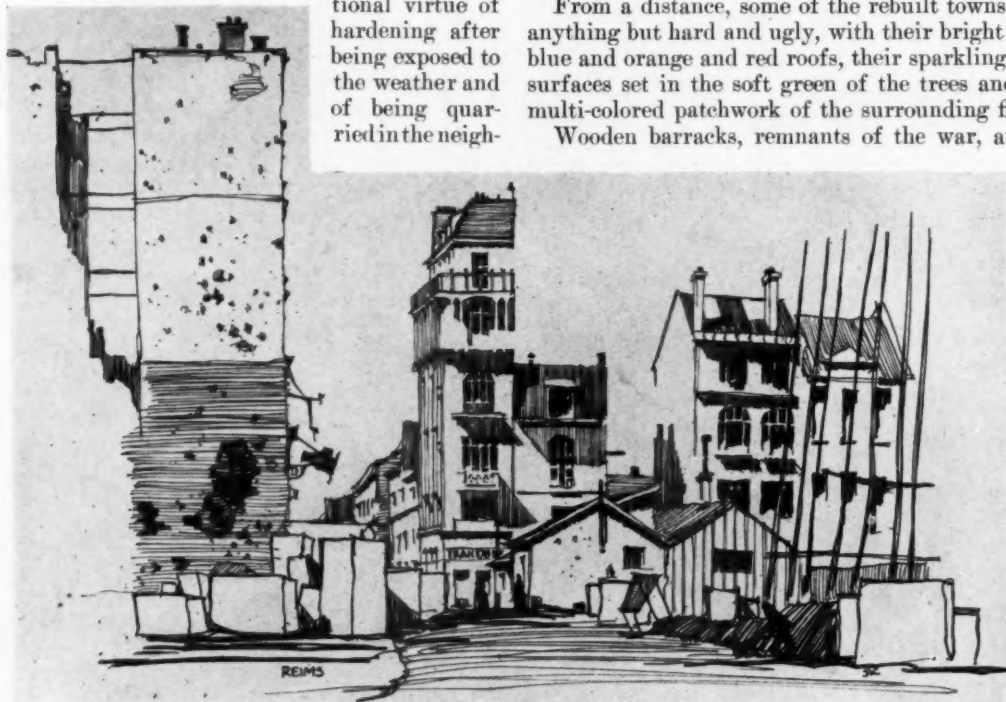
From a distance, some of the rebuilt towns look anything but hard and ugly, with their bright slate blue and orange and red roofs, their sparkling wall surfaces set in the soft green of the trees and the multi-colored patchwork of the surrounding fields.

Wooden barracks, remnants of the war, are of



In the Marne

An interesting house in the midst of the ruins caused by the second battle of the Marne. Stucco, timbers, brick, stone and concrete all have a fling here



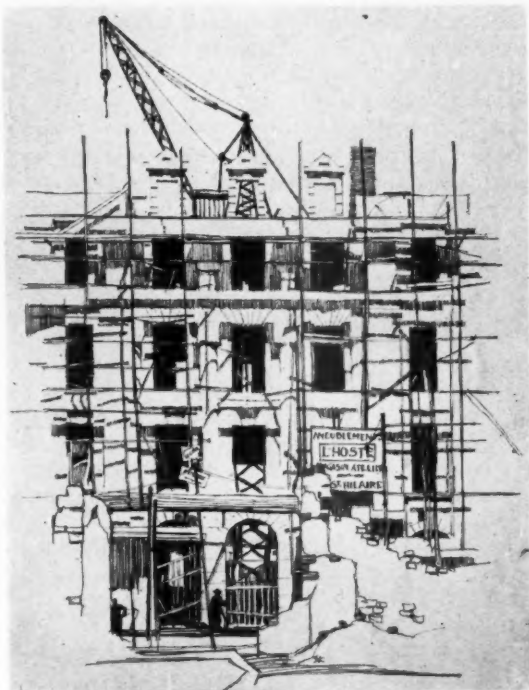
Reconstruction in full swing—Reims

A skyline quite as jagged as that of an American city results here, though not on the same multi-storied scale

course utilized everywhere as temporary homes and shops, even as churches or cinema palaces. The French have an apparently deep-set distrust of frame dwellings, and only in this emergency do they take to them, with a shrug of the shoulder,

invaded by flocks of curious tourists, these towns can hardly be very homelike places for the natives.

In Reims, however, one has the best view of the vast amount of work going on. Scaffolding of



Sunshine and Scaffolding on a new building in Reims

going back to something more substantial as soon as opportunity affords. The housing question in Soissons was so acute that something drastic and immediate had to be done, resulting in a whole new city of small dwellings on the outskirts. But 'drastic' would be a feeble expression with which to characterize these steep, angular, ugly little cement cubicles, cast like so much 'Jello,' and as yet, lacking the remotest trace of a homelike feeling. It is asking a good deal of a hearth-loving Frenchman to live in one of these, but naturally it is preferable to a rusty iron shack. Allow a few years and there will be vines over the place and neat flower beds on all sides, and it will look appealing despite its gruesome lines.

The larger towns naturally present problems of greater magnitude and complexity. The whole of Fismes, and practically all of Soissons, for example, are growing up anew, often on different foundations, due to the widened streets. Many a roof tree has been hoisted, with the consequent champagne for the workmen, but hardly a building is completely finished. Thronged with foreign laborers, saturated with fine white dust, daily



Farm building near Fismes

Quite decorative in itself, but far from lacking in utility as it is used for a tool shed on the ground floor, a hayloft above and a dovecot under the shining new roof

long poles, imbedded in mounds of concrete, shoots up everywhere; Italians are as thick as they are on Boston Common; heaps of sand, rails, lumber, bricks of a thousand colors, hollow tile, I-beams and what not fairly clog the streets. The laborers get twenty francs a day, spend most of their two hours at noon sleeping under a shady bit of wreckage, and their evenings singing hilariously in any one of a hundred dingy barrack cafes.

There is much of the old, laborious, hand-to-hand passing stuff here, a squad of Italians madly mixing concrete on the cobbled pavement, while another slowly moving chain of them passes a bucket along until it is finally poured into the mould. Rattling concrete mixers there are, though none too



Type of new house in the "Cite-Jardin"—Reims

Striking principally in that it resembles a thousand American dwellings of the same type

plentiful, but never a sight of the elevated chute so universal in America.

On the outskirts of Reims is a newly sprouted "Cite-Jardin," a suburban development that is



A new store building in Reims

A fair example of what is growing up in the midst of the wreckage. Wall surface a brilliant white stone, shop front of composition marble, and a faint attempt at polychrome decoration above the third story windows

startlingly like similar projects in the United States. Visions of Pelham Manor or Waban, Mass., come to mind immediately at the sight of these new stucco homes, with mottled tile roofs and numerous dormers, each house with its separate plot of ground. From the French point of view, it is most unusual in that the houses are not built flush with the street, and neither are they surrounded by the invariable stone wall or iron fence. A conversation with the contractor of the project, a burly, bewhiskered man who would make an excellent moving picture comedy "cop," revealed the fact that much study had been given the American achievements along similar lines before this "Garden City" was laid out.

The character of the new buildings in Reims, like that of the smaller structures, is usually simple and direct, with only rare attempts to be dressy. There are a few monstrosities, of course, these nearly always being bank buildings or department stores.

The public buildings in the city have not yet been touched, although work goes cautiously on in the cathedral. There remain vast, empty, wreckage-strewn acres to be built up. What has been accomplished is prodigious, but what remains to be done is fairly overwhelming. The Northern departments of France are unquestionably rising up anew, but the simile of the mushroom has no application here. It is decidedly a slow and painful growth.



On the Place de la Republique, Montoire

The ARCHITECT and HIS TRADITIONS

BY C. H. BLACKALL, F. A. I. A.

THERE is before me on my table a folder of a large New York Bond Corporation. The list of the directors is headed by the principal partner of a firm of architects whose reputation is world-wide and who easily rank among the very best. The list also includes the senior member of a firm of architects which through two generations has stood for the highest ideals and the most strict professional dealing. On the advisory staff there are in addition six very well known architects, and the president of the corporation named a dozen or more leading New York architects as being among his stockholders. All of these men enjoy a good and an honorable practice. Their names lend weight and dignity to the Board, and their presence in such an organization is admittedly indicative of their desire to share in the profits which the accumulation of capital can afford to aid in promotion of buildings in which they are interested.

In reading this circular, one cannot but recall the attitude of the profession towards promotion and banking only a very few years ago. Just before the war I was visited by a Chicago architect, a man of a great deal of native ability, who had also inherited quite a fortune from his ancestors and had very materially added to that income by a large and lucrative practice. He told me he was just erecting himself a building to be occupied entirely by himself, with a trust company which he would control in the first story, his offices for promotion, for management and care of real estate, etc., on the second story and his architectural and supervising department in a high third story. I well remember the architectural qualms with which I received this statement, so at variance with the rigid professional attitude that marked the profession up to a very short time ago, and when the tale was repeated to some of my fellow architects in Boston, they raised their eyebrows and shrugged their shoulders, deprecating the advent of business tactics into the profession of architecture, and yet today, barely ten years thereafter, I find our very best architects actively engaged in promotion of building operations, in management of same, and in quite extensive banking operations.

I received a visit a few days since from a British architect who is in this country to study our methods and to acquaint himself with the American point of view towards the architect and his responsibilities and opportunities. He had become somewhat familiar with the extent to which the architect is now a factor in the organization of building operations, and took occasion to lament the absence of a business sense among the English

architects, declaring that the professional attitude there is one of outspoken opposition to any attempt on the part of an architect to act as a business adviser or administrator, or to have any part in finances, or so-called practical details of the profession, with the consequence, he put it, that architecture in many cases becomes a mere case of frontispiece, or an academic plan, and the architect is supposed to know nothing about income, capitalization or carrying expenses. He was in this country with the distinct purpose of introducing American methods of financing and organization into the practice of the English architects.

Now, what is the answer? We seem to have thrown away the traditions of our fathers. To be sure, Bulfinch, than whom no one has been more honored in American architecture, was a very prominent man in politics, in administrations and apparently a skillful operator within the possibilities of the time in what we would call real estate operations, but he was somewhat of an exception, and up to within ten years ago the American Institute of Architects looked askance at anything that savored of commercialism in commerce, as if commerce were a disgrace, and as if the architect should deliberately shut his eyes to the fact that the business world has moved quite as much as the artistic. Has the profession gained or lost by opening the doors for such wide possibilities? Will the possibilities of our descendants be better or worse because of the latitude which we now allow ourselves, whether admitted or denied? I believe the fact is beyond question that speculative methods of organization and promotion are no longer associated with the unprofessional architect, or the man who has come in through the back way, or who has no idea of the art of architecture, but, as is shown by the circular above referred to, the conditions imposed upon the architect today requiring him to know the business side of his calling and to know how to help his clients to the best business solution of a problem, and how to help him even finance and operate his building, are duties and rights which are assumed and carried out by those whom we are glad to call our best architects. It is no longer thought desirable for an architect to immerse himself in the unapproachable attitude of what we used, with pride, to call a professional man, for today the architect has become an integral factor in nearly all of the large building promotion schemes. He is called in very often first, and it may be said incidentally it is a good deal better for the scheme if he is admitted on the ground floor. His advice is sought not only by builders,

but by bankers, trustees and real estate operators, and it is no longer an unusual thing for an architect to be a director of a bank and a force in the money lending circulation, so that the old tradition of the architect as merely an artistic adviser seems to have absolutely vanished from modern practice.

Boston is one of the few cities which has maintained a relatively low limit of height for its buildings. Ever since 1892 it has restricted all building constructions to a maximum of 125 feet, or $2\frac{1}{2}$ times the width of the street, and has allowed this only in the downtown sections, reserving the bulk of the city in area for restrictions varying from 70 feet to 100 feet as a maximum, but there have been, however, for 15 or 20 years many who have felt that such restriction has been a handicap to the city, that it has hampered growth, retarded progress and made profitable investments impossible. This last Spring the desire for greater possibility finally won out and the city now has a maximum height of 155 feet, which is held quite shocking to some of the old guard, but which is still quite modest as compared with what is allowed in most of our cities. But the striking fact in connection with the attempt to increase the height has been the attitude of so many of the architects towards the increase. One would naturally suppose, having in mind the extent to which architects have been called on to participate in modern affairs, that the profession would take a broad attitude and would urge that matters of height, which after all are chiefly business questions and not artistic, should be left to the natural laws of supply and demand rather than to be arbitrarily cramped to a limit about one-half of what is allowed in most of our other large cities. But, no, the profession in Boston was almost united in opposition to any change whatever and men whose judgment on artistic matters we cherish, did not hesitate to denounce every high building simply because it was high. Now no one can say that it is impossible to design a tall building which shall be artistic, monumental and architecturally desirable when we have in mind such achievements as the Woolworth Building, the Chicago Tribune, some of the later studies of men like Mr. Corbett, Mr. Goodhue and York & Sawyer, to mention only a few of the architects who have solved the problem of the high building, but the Boston attitude was an irreconcilable one. The city was being injured by allowing buildings to be carried up no matter how carefully relative light and air might be guarded. The appearance of the city would be ruined if one building dared to raise its height above the 125 foot level of mediocrity, and it was in the face of the opposition by those whom we call our best architects that this measure, which is so manifestly in their own interests, in the interests of the city as a whole, as the right of

the individual citizens and in its beneficent effect upon development of business, commerce and real estate that this measure was finally put through. The mere fact that some of the architects who were most outspoken against the measure have since its passage received commissions to carry up high buildings, does not in anywise explain their intransigent attitude before. The tradition that any building which is different from its ancestors should be looked at askance dies even more slowly and with more pain than the tradition that an architect shall be only an artistic adviser. But it is dying. During the height of the controversy over the increased limit in Boston a very prominent New York architect was invited to address the Boston Society, and it was rather expected that he would give points as to why the height limits should not be increased, inasmuch as he had had a prominent part in the zoning ordinance under which New York had developed splendidly. But rather to the surprise of some of his listeners, his arguments all pointed to a regulated and reasonable increase in height almost without any absolute maximum limit, and just as sure as this country continues to grow, continues to have surplus money to invest in buildings, continues to have discriminating clients and open-minded architects, just so surely will the tradition disappear from our profession that we must be bound by what has gone before.

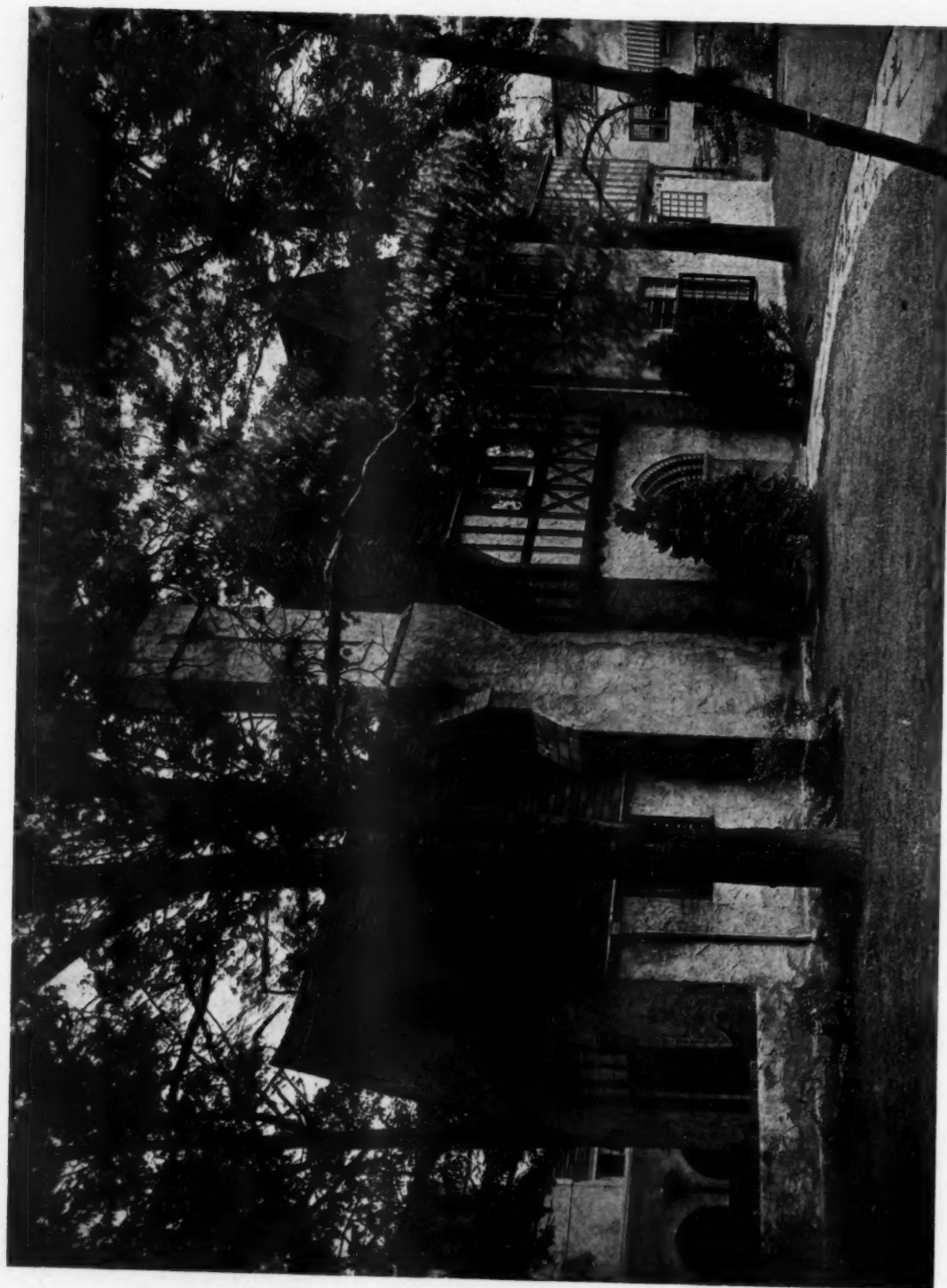
There is a third tradition in process of passing,—the tradition which stands for so much that is good as contrasted with what at times has to be expedient, and though it is passing, its passage is to be regretted. Anyone who has examined the sketchbooks of Michael Angelo, or any of the great Italian architect painters, must have been struck by the crudity of the drawings as well as by the wonderful grasp of the ideas. It was not many years ago that we heard the gospel preached very strongly that an architect was a creator and that, therefore, being a creator, he must create personally and individually everything he does, and that to pass over any part of his designing or planning to a subordinate is a derogation of his obligations to his client. At the time of the World's Fair in Chicago Mr. Burnham was cited by some of his lukewarm admirers as an example of a man who was not an architect himself, but a man who could make other architects work for him, and that brings us to the very nub of this individual tradition—that the architect must be a creator. The creation of a modern building, aside from a very limited number of monumental structures, and not always even excepting them, is an extremely complex act. It is not merely making drawings, it surely is not merely working out construction or practical details, but it is a combination of adaptations of materials and conditions to a definite need, and the working out of that solution in such

way that all of the functions of the building will work together towards a harmonious result; therefore the attitude of today towards this species of creation is not that the architect is the draftsman—not that he does the designing—not that he does any one part of a complicated building, but rather that he is the focus of an organization, the inspirer of a number of kindred, associated artists and engineers, all of whom are working with him to evolve a perfected structure; so that the tradition that an architect should be a good draftsman is absolutely denied by modern conditions. McKim was not remarkable as a draftsman but he was one of the greatest architects the world has seen. Only at rare intervals do we find any combination of remarkable draftsmanship and business or practical ability, and I would say emphatically that if an architect today has to choose between a one-sided artistic endowment, with its corresponding ability to draw and make interesting and sometimes deceptive pictures, or to have the endowment of a business head, a firm, organizing hand and an administrative ability, he will, if he is wise, choose the latter, for no man who did not have an innate appreciation of architecture and a desire to do architecture at its best would ever be drawn to our profession and the chance of his achieving success therein starting from the business end would seem to be greater than if he starts only from the other end. At any rate that is the actual fact in the profession today whether we admit it or not, and one has but to name architects who are doing the real work, making the real buildings, designing the great structures to see that with one or two exceptions their work is almost invariably carried out by subordinates who are in full sympathy with them and that the architects themselves do practically no drawing at all.

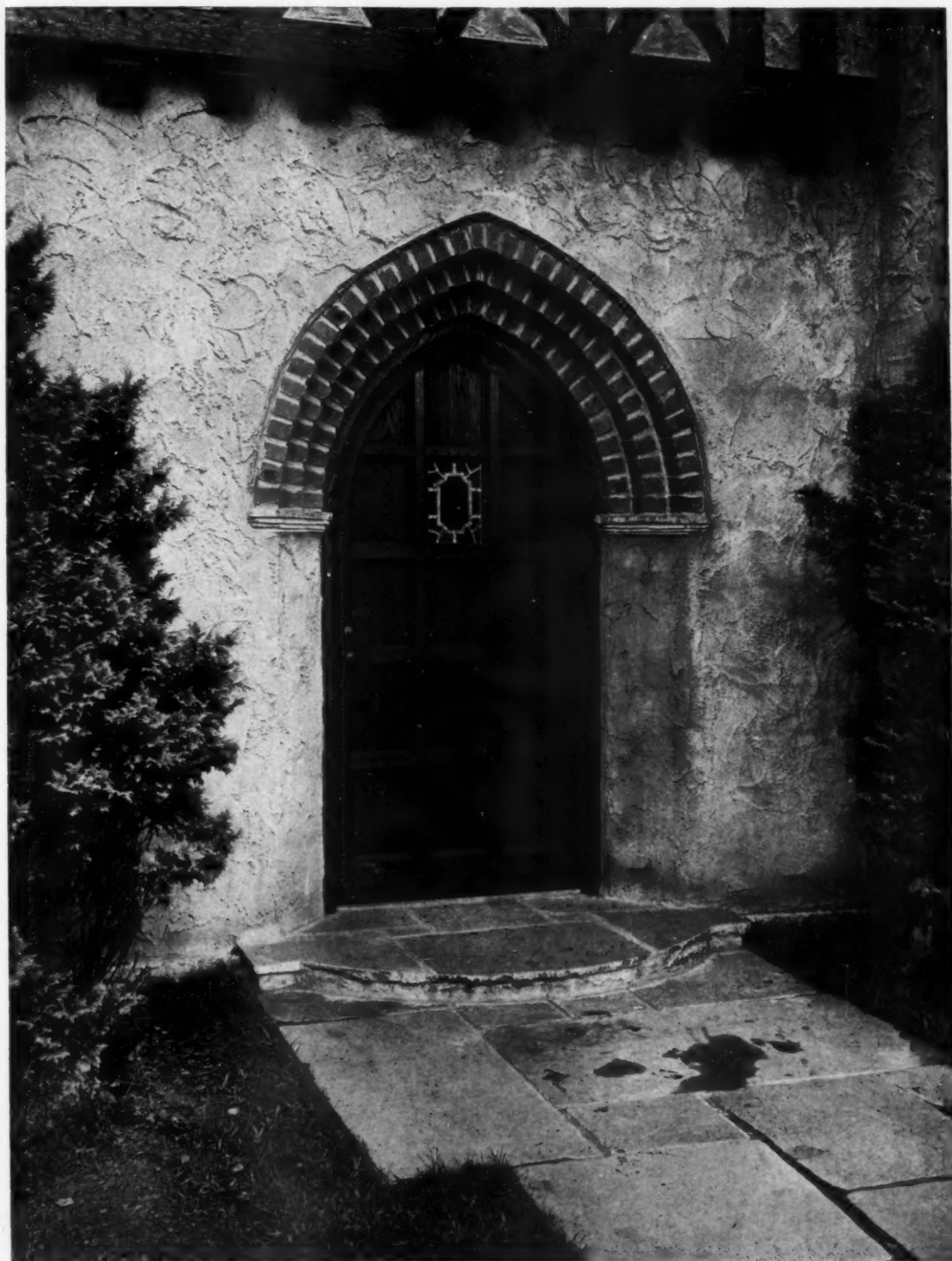
These are only three of the architectural tradi-

tions which have disappeared in the fierce competition of today—the survival of the fittest, the tradition that an architect cannot be a promoter, and a designer—the tradition that height is a crime and mere size an objection in architecture—and the tradition that an architect is not loyal to his clients unless he designs everything himself. There are a number of others which are passing, some we do not appreciate are on the way to Limbo, but just as surely as this country lives and our architecture is alive, we are coming into a period when we will call things by their right names, will face the consequences of our clear vision and will attain a freedom of development and administration such as our forefathers never dreamed of. And while it has modified the ethical position of the architect, it has not wrought any lessening of standards, or lowering of ideas. Rather the architect of today with his vastly increased horizon, his responsibility far beyond anything that was thought of in the past, and his obligations to his client more diversified and further reaching, is in a position to occupy an ethical ground which is in nowise incompatible with his being a thoroughly up-to-date business man and administrator. Rather the new freedom which has come to the profession means that the architect can now as never before be what he really should be—a leader of men; and the fact that there are still many perfectly sincere practitioners who look with disfavor upon the modern view, and who still adhere to the old conservative attitude, does not alter the fact that the change has come, that the architect is really coming into a position of which he can be proud and that he can yield a real influence for good in a triple capacity as financier, organizer and administrator, where in the very remote past he could be only a very modest self effacing designer.

Read The Practice of Architecture, reprinted on page 268, from the November 27, 1918, issue of THE AMERICAN ARCHITECT and the editorial on page 241 as in relation to Mr. Blackall's article.



HOUSE OF LEWIS BOWMAN, ARCHITECT, PELHAM, NEW YORK



DETAIL OF MAIN ENTRANCE

HOUSE OF LEWIS BOWMAN, ARCHITECT, PELHAM, NEW YORK



LIVING ROOM

HOUSE OF LEWIS BOWMAN, ARCHITECT, PELHAM, NEW YORK

LETTERS FROM *an* ARCHITECT to HIS SON ABOUT to BEGIN PRACTICE in a SMALL CITY—III

BY FRANK E. WALLIS, F. A. I. A.

My dear Dick:—

LET'S talk of factories for the moment. Suppose, for example, one was thrown at you for solution and execution, just how would you go about it as an architect? We know that a factory is nothing more nor less than an envelope built of reinforced concrete, of brick, stone or steel; built to enclose men and machines; and built subject to State factory laws, city ordinances and insurance regulations—that square foot and cubic foot determine the number of operators—or rather that the volume of business decides the number of men behind the output, and that this question determines the floor area, the width and number of stairways and fire escapes, the toilets and dressing rooms, as well as the final architectural effect, which is, of course, interwoven with these other basic necessities.

We cannot conclude generally in favor of this particular form or of that other method of building, until the actual problem is presented for solution and solved.

The owner, the manager and the architect will consult with each other on the number and alignment of machines, on the number and the sex of the operators, and on the ultimate cubic foot cost of construction. They must also, with much more care and consideration, study and investigate that phase of business operation which is modern and which has grown during our own time with such rapidity and force, that it may be considered the underlying principle of factory and business policy.

The new humanitarianism, which has grown forceful during our industrial evolution, has brought about the modern acceptance of trusteeship and of the fact that the master and the man alike, and the wives and children of these, have their direct and indirect influence on the efficient output of any factory.

The trustee is replacing the owner. Ownership of land, superior artistic and technical training, and a high order of intelligence are trusts. This trustee-sense is leading the modern manufacturer and business man through more profitable highways in finance, and toward a more sensible and pleasant valley of retired old age, than our fathers could ever have dreamed of.

In the last generation a factory was a factory, with only one purpose. That this was an uneconomical, selfish purpose is self-evident to the clearer vision of our own day. It has been proven

by the results of the practice of the new cult which was forced into existence by sensible business investigators. They found that men, women and children were inefficient and poor profit-creators when crowded into dangerous spaces, where toilets were extravagances, and where rest rooms and safety devices were considered as unnecessary and rather highbrow.

Our predecessors would have been shocked had they been requested to install a visiting nurse, or to plant shrubs and grass seed. They would never have believed that these policies were anything but foolish extravagances. Nor could they extend their line of vision beyond the walls of their unsafe and unsanitary factory buildings looking toward the homes and the lives of the human machines in their employ.

This short-sighted and selfish policy has not only proved itself the prime cause of sick and unhealthy communities, but it must also bear the burden of diseased politics, of increased civic and insurance taxation, and of crooked business methods, which in turn are responsible for sodden and inefficient operators, and dreary and unpatriotic citizens and voters.

• All of us have known the smelly and smoky, unsanitary and immoral factories of the Victorian Age, the dismal and dreary tenements, with battered sidewalks, the rusty tin cans, and the goats, the rubbish heaps, hoop skirts and discarded junk. Going from this environment toward the same type of home, men and women are compelled by conditions beyond their feeble control, to beat their husbands and their wives for recreation, and to beget derelicts and future citizens for the want of something better to do.

The new cult or the sense of trusteeship is rapidly changing these unprofitable and sordid conditions. The business man and the manufacturer is today a Trustee, "the God in the Machine." He is creating sane and decent situations for working people, for stockholders, and for his associates, and his neighbors. His motto is Service. Service rendered to the public at large, to his more intimate public, to his working people, and to himself.

These three points of trusteeship represent today the highest ideal in business efficiency; first, the making of profits within reason for stockholders; second, the proper consideration of office and factory associates, and third, the fostering of civic pride. This is not the expression of a dreamer. It has received the stamp of approval in

business, because of its economic value, if for no other reason.

But regeneration can never be complete until factory and home, home and factory, are considered as forming a whole. The factory man cannot stop at the shop, even though he may build under the best conditions, and here is where your general and specific knowledge is needed.

We are today passing through the throes of this new renaissance. This new cult is developing by the way of the intellectualism of modern times. This intellectualism of modern times has, very naturally, supplanted the blind faith of the Middle Ages and the stupidities of the Victorian Age. Throughout the entire history of this transition, manufacturing and trading have been the dominating forces and the principal factors. And today business or commercialism is still the force which is creating and developing this cult or rebirth of an old fundamental law of communal life, and doing it because of business necessity.

Under the old system, selfish interest drove its slaves without consideration and with no scientific knowledge of economics, leaving as fragments by the wayside, dead and disabled men and scrapped humanity, precisely as the mediæval overlord drove his vassals to petty wars during seed time and harvest. He expended his energies and theirs, his wealth of men and of power for a bauble, always to his own ultimate undoing.

Because of the normal struggle for life itself and for the comforts of life, men have already passed through many bloody revolutions. This change is evolutionary rather than revolutionary. It is as important to the chief or factory overlord as it is to the hired man. It is of much more importance to humanity as a whole than were those more ancient and bloody religious and political revolutions.

This evolution is an industrial evolution. It is the force which has created and which is creating that which we have already recognized as a new renaissance. It has not been, in any sense, devised or planned either by capital or by labor, but rather it has grown out of that indefinable thing which has existed since man became conscious of his individuality, and of his personal responsibility either to something higher than himself or outside of himself, to his family, to his neighbor, or to a god. Or it may be the acceptance of a higher or world nationality, or perhaps merely an understanding of a common sense solution of a life necessity.

Citizens of the universal nation of human scientists have forced upon us the fact that neither finance nor labor can perform its respective functions, and perform them successfully and economically, unless finance and labor work together for the good of both. Today, while labor still will play tricks on finance, and finance will despoil labor, if it can do so safely, there is a necessity which does compel the intelligence of finance and labor to recognize the basic law of the true economics of business.

Some of our manufacturers have already solved the question without force of law or of public opinion. And because of this understanding these men, with others, have built factories and workshops, and have been certain that they built not only with stone and steel, but with grass, with sunlight and with decency, to say nothing of old age pensions, service departments, safety appliances and profit sharing, and they have forecast that which every manufacturer must ponder over if he wishes to respect himself when he is sincerely alone with himself.

As we make history, we have no measure of its value or force, for we have no perspective. We might, as individuals, as commercial men, as state residents, or as federal citizens, fail to understand the final and wholesome effect on our class, on our state or country, of this or that legal interpretation of government control, but we are accepting this new law of business economics as belonging to ourselves.

Out of this upheaval or renaissance of community rights will come a real appreciation of the fine arts, of beautiful things in architecture, in literature, and in the plastic arts. So today, as a proof of the reality of this new condition, and as a check on its progress, we can recognize a revival of interest in the Fine Arts, and in the general appreciation of beauty.

You may no longer build factories as your predecessors did, nor may you provide morbid conditions and immoral tenements for the men and women who work in your factories. You may not do these things and expect profits for yourself as an architect and for your stockholder clients.

You know that the life of the operator spells home and factory, factory and home; you, the trustee of brains and of good taste—you, are the god of destiny.

(To be continued)

EDITORIAL COMMENT

FOR SOME YEARS, thoughtful observers have sensed a changing condition affecting every phase of human endeavor, as applicable to the practice of architecture as to any other occupation. Some attribute this evolution to the growth of industrialism and commercialism. These potent elements of American life undoubtedly affect architecture because the art of building must eventually reflect the lives of the people. It is difficult to differentiate the relative influence of industrialism and commercialism from that of increased general and scientific knowledge combined with wealth, leisure and culture. Decidedly clear indications of changing conditions were evident at least considerably more than a decade ago. Another important and unusual factor was the late war. Possibly we are prone to ascribe conditions to that great event which were from purely normal causes already in the making, a natural evolution.

The conditions that have now arrived and to which we as architects must conform, if success is to attend us, are set forth by Mr. C. H. Blackall on another page of this issue. His exposition of the situation and argument are both so clearly stated that they cannot fail to stimulate thought and action. Another phase of these changing conditions is explained in Mr. F. S. Marlow's article also appearing in this issue. It indicates how thoroughly and cautiously investment bankers appraise the plans and specifications for investment buildings.

In *THE AMERICAN ARCHITECT* of November 27, 1918, page 647, there were printed the five essential elements of architectural practice. This "Creed" was based on observation of and personal experiences with the practice of architecture and building contracting. It clearly foretold conditions as they exist today. It is reprinted on page 268 of this issue.

* * *

MR. HAROLD DONALDSON EBERLEIN in a recent magazine article takes exception to the loose use of the word "Colonial," as referring to certain periods of architecture in the United States. *The Architect* of London, commenting on this says, "He (Mr. Eberlein) seems to us hypersensitive on the point, for, whether we call a certain phase of architectural expression Colonial, or Georgian, its essential merits and characteristics remain unaltered."

While this is true as to the Georgian introduced into this country during Colonial days, it does not follow that all Colonial is Georgian. In fact, the Georgian Colonial is more confined perhaps in its

location than other Colonial architecture implanted in this country from countries other than England. We have the French Colonial very strongly emphasized along the St. Lawrence River and in Louisiana, the Dutch Colonial in New York and New Jersey, the Swedish Colonial in some parts of Delaware. Then in Florida the Spanish built many buildings during the Colonial period and as they worked Westward to the Pacific coast, carried their architectural style to the old missions of Southern California.

If we are to speak correctly, we must, in referring to our Colonial work, prefix the name of the country from which it drew its inspiration. The custom in this country to use the word "Colonial" when we mean "Georgian" or "English" is misleading and diverts attention from other styles of equal importance in our architectural history.

* * *

THE PEOPLE are heavily taxed for highways and it is their right to enjoy them. Sordid, personal interests should not be permitted to prevent this enjoyment. Just as soon as an important highway through some picturesque section becomes completed, along comes the billboard man to mar the scenic beauty and erect his always discordant obstructions.

Some months ago a movement started in Glens Falls, N. Y., seeking to protect the beauties of the Saratoga-Glens Falls-Lake George road, which for beauty is unsurpassed in the State. This movement was begun by a group of public-spirited women, and through their influence has spread, with interesting and astonishing rapidity, throughout the State of New York, and has now become national in scope. The National Federation of Women's Clubs at its last meeting, in Atlanta, Ga., and the American Federation of Art at St. Louis have both adopted the idea, endorsed by the Glens Falls program and are actively at work.

During the five months this Glens Falls committee has been at work, seventy-two billboards have been discontinued, twenty-nine taken down and more than a hundred boards planned have been abandoned. This is a fine record. It could be duplicated and even excelled by similar well conducted concerted effort in other localities. An appeal has been issued to women in all parts of the country to join in this work, and it is one that can properly be taken up and bring an immense amount of satisfaction to that constantly increasing number of women who seek public activity and an important part in constructive effort.

Much of the success of the Glens Falls effort was

due, it is said, to a direct appeal on the part of the committee to the advertisers. It was shown that billboard advertising, at least in that locality, created prejudice against the commodities advertised. A pledge on the part of the best element of communities to refrain from purchasing goods advertised on objectionable billboards had a very decided result.

* * *

TESTS ARE THE BASIS of exact information. The effect of fire on brick walls has been definitely established by means of a series of tests which have been made at the Bureau of Standards. The program included tests of clay bricks manufactured in various parts of the country, sand-lime and concrete bricks. The walls were built of different thicknesses and styles and tested under restrained or loaded and unrestrained conditions. The physical damage resulting from the fire and the rate of heat transmission through the walls were accurately measured and recorded. The program was carefully prepared and is very comprehensive. The information obtained is of value.

From many sources the Bureau of Standards has received requests for the results of the tests which later will be published officially in its *Technology Papers*. In order to secure immediate and wide distribution of this information, *THE AMERICAN ARCHITECT* has been selected by the Bureau of Standards to make the first publication of these data.

* * *

OF COURSE, the sentiment among English architects is unanimously in favor of conserving to the fullest extent the architectural traditions of London, and with these the fullest recognition of every historic location.

For many years, the "Old Lady of Threadneedle Street" as the Bank of England is called, has steadily outgrown its present historic structure. In providing an enlarged building to accommodate the enormous business of this institution, the question arises, states *The Builder*, of London, as to "how far it is possible to retain any original features in a new scheme, or whether they must be entirely superseded by new buildings." As to the contemplated new design, it is the opinion of *The Builder* that it conveys only the semblance of retaining Sir John Soane's façade. It is very truly claimed that when semblance is lost, the motive for preservation is lost. Concluding, *The Builder* states, in part, that if the requirements of authentic preservation are not met, an incubus is created.

This contention may or may not be true. There can be no discussion of the excellence of Sir John Soane's design, and it is logical to assume that the reconstructed building will be of equal artistic

merit. The profession in England will undoubtedly safeguard that.

The remodelling of the old Custom House on Wall Street to serve as a banking house for the National City Bank is the nearest parallel in this country to the Bank of England remodelling we can at the moment recall. That fine old building, under the skillful hands of McKim, Mead & White, was remodelled and enlarged so successfully that old New Yorkers find in the new structure all the architectural excellence of the old, and what has been added but seems to mark in a substantial and satisfactory manner the architectural growth of this country. The Bank of England building, with equal good care and professional skill, will undoubtedly reach a similar satisfactory state.

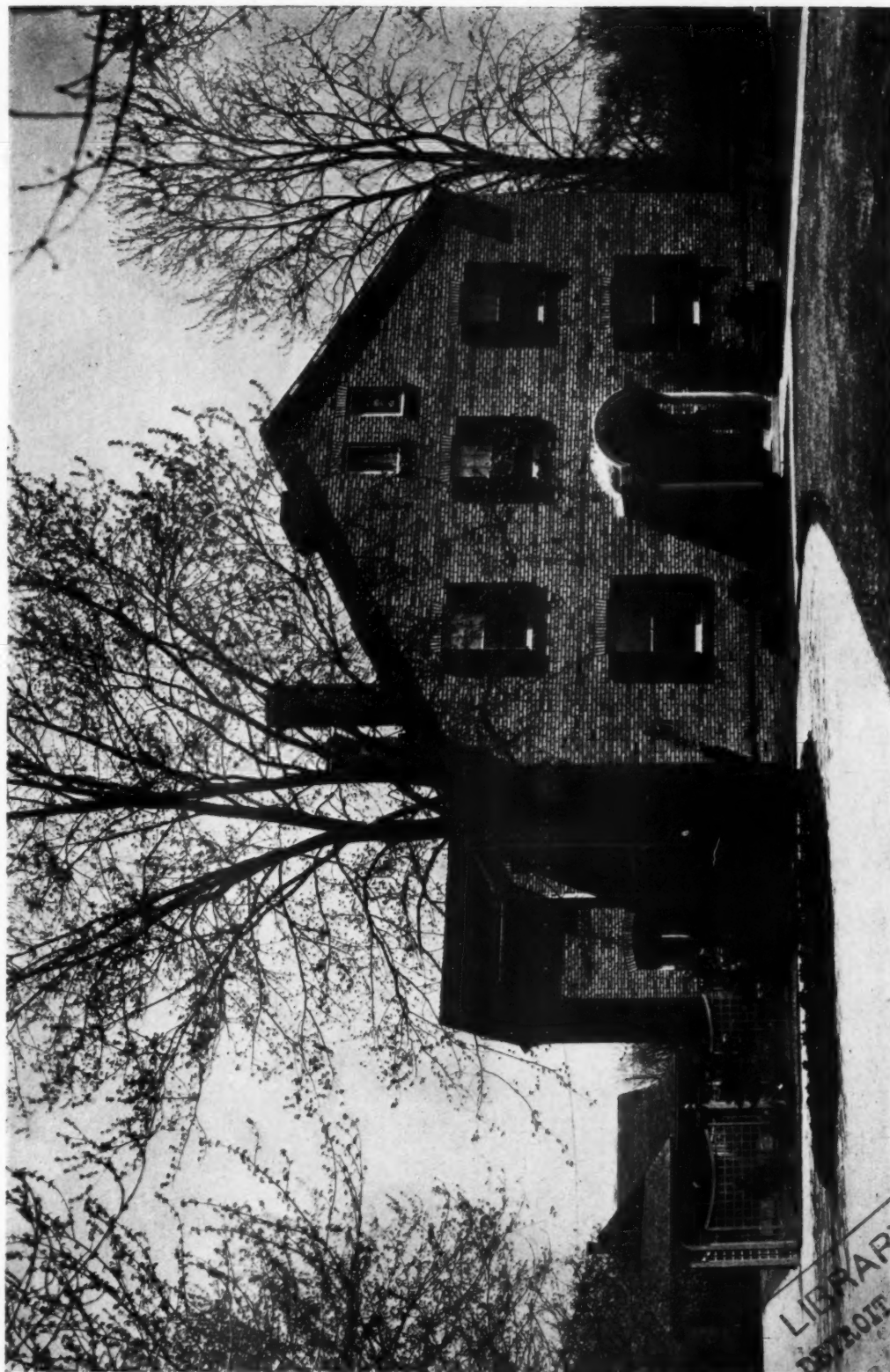
* * *

WE HAVE RECEIVED from the National Shawmut Bank of Boston an illustrated pamphlet of twenty-four pages, exploiting their enlarged banking house. With this is a letter, signed by the vice president of the bank, directing our attention to the high artistic value of the illustrations. The artistic reputation of the artist who drew them is emphasized. The hope is expressed that the pamphlet is of sufficient interest to be reviewed. It is.

Scanning this pamphlet, we learn from its leading article that the planning of this building is the best expression of principles that insure convenience of modern banking methods, and that its vaults have "the strength of a battleship." Its architecture "presents new elements of greater richness." It takes four pages to describe them. A long article on the origin and growth of the bank, enriched by many pen drawings, is followed by a brief history of banking in Boston.

It's a handsome building, an architectural landmark of distinction. We have a natural desire to give the creator of this fine building the recognition that is due him. Reading the pamphlet from cover to cover, we do not find the name of the architect on any page. The bank is so proud of its bust of a Shawmut chief that it illustrates it and gives the name of its sculptor. If its decoration included some masterpiece of painting, there is no doubt that the name of the artist painter would be loudly acclaimed. But, it publishes an expensive pamphlet of considerable size to impress the public with the fact that its building is a masterpiece of architecture and never once names the architect who created it.

Is it possible that large corporations who issue similar pamphlets, ignore the name of their architects, believing that it is the might of their dollars that created their buildings and that the architects who designed them are simply "accessories after the fact?"



HOUSE OF MRS. ALFRED CRANGER, LAKE FOREST, ILL.

ALFRED CRANGER, ARCHITECT

LIBRARY
THE DETROIT HADSON CO.
SEP 18 1923



HOUSE OF MRS. ALFRED GRANGER, LAKE FOREST, ILL.

ALFRED GRANGER, ARCHITECT



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ALFRED GRANGER, ARCHITECT



HOUSE OF MRS. ALFRED GRANGER, LAKE FOREST, ILL.
ALFRED GRANGER, ARCHITECT



HOUSE OF MRS. ALFRED GRANGER, LAKE FOREST, ILL.

ALFRED GRANGER, ARCHITECT



ROOSEVELT SAVINGS BANK, BROOKLYN, NEW YORK
CARL L. OTTO, ARCHITECT



ROOSEVELT SAVINGS BANK, BROOKLYN, NEW YORK

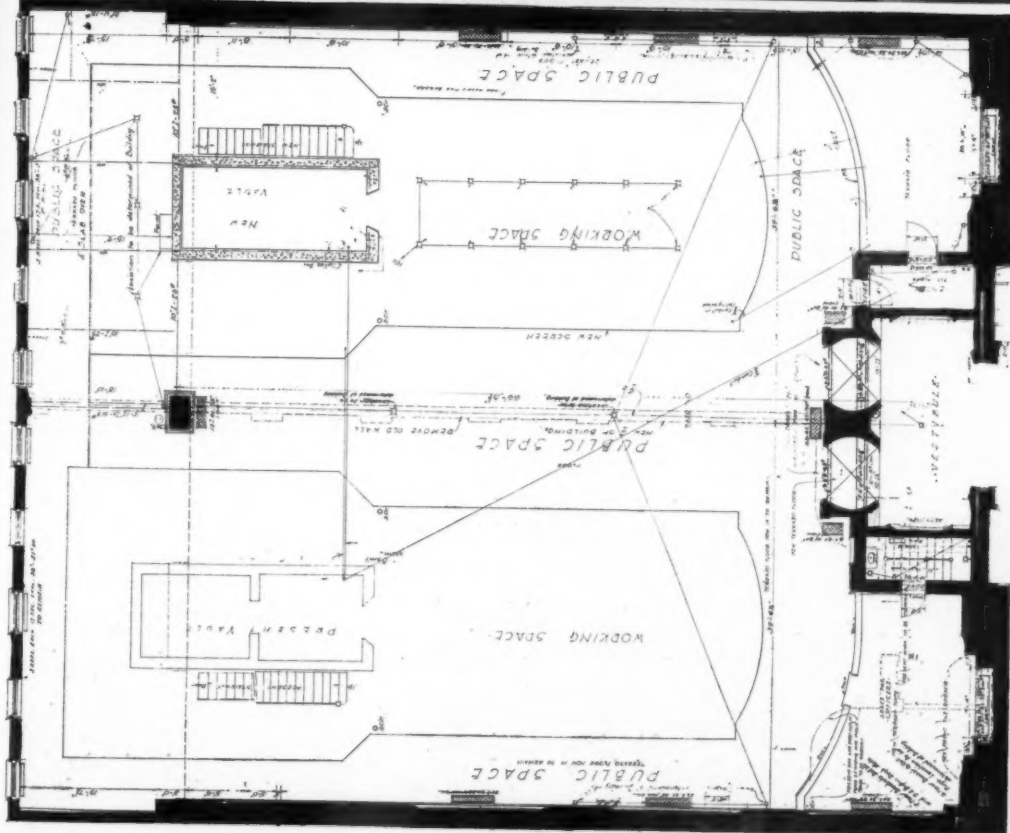
CARL L. OTTO, ARCHITECT



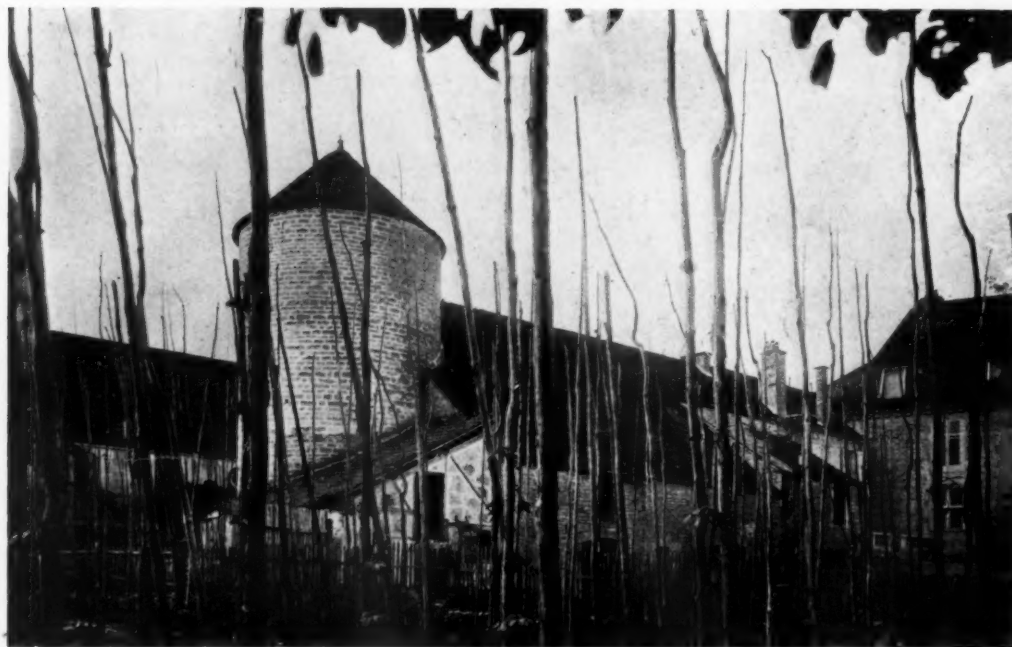
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Gife sur Seine, France
Long, coursed Rubble with heavy joint—Seventeenth Century

WALL TEXTURES

BY PERCY E. NOBBS, M. A.

WHEN, in the early eighties and nineties, William Morris set himself half-consciously to salvage some working hypotheses, practical precepts and rules of thumb from the storm clouds and thunderings of Ruskinian revelation, the gospel of naturalness precipitated an appreciation of country building. Thus, our masters—the older ones among us were then pupils—turned their attention to ancient farm houses, barns, the lesser manors and thatched villages. From regarding these things as beautiful in their places, they came (and modern aesthetic can explain the process) to regard them as beautiful in themselves, and worthy of imitation anywhere. Transportation gave facilities; that is how much trouble began.

The advocacy of "local styles" as being a harmony of Nature and the very law of God, encouraged Mr. Lutyens to pile up gigantic red roofs in Surrey, and Mr. Lorimer to trim gables with crowsteps in Ayrshire. Each was a perfectly logical use of local material and time-honored technique, resulting in nothing that could be called blots upon the landscape. Rather, the character of the countryside was enriched—everyone was pleased. "Local style" became a profitable shibboleth in the architectural world of England thirty years ago—that is much the same thing as a *selling*

slogan, in the language of the Babbits. Now, on ultimate analysis, when you have got rid of the literary associations, the pictorial associations, and the socialistic associations, there is not much left in this matter of country building after the manner of our great great grandfathers, except patination, which is not directly of human contrivance at all, and *texture* which is nothing if not natural.

Texture can be a very important element of effect in architecture, and only for brief periods has this been ignored, and to the peril of the art.

The reawakened interest may be traced through Morris and Ruskin to the earlier Gothic revivalists. But never before our time has attention to texture threatened a corruption of taste.

The Romans were sensitive to texture as the rusticated bridges of the Tiber bear witness to this day; the early palace builders of Florence were enamoured of the idea that each stone in a wall should show and serve to make a pattern of light and shade. It is doubtful, however, if aesthetic appreciation of wall texture where materials were humble, rather than heroic, ever existed till recently. Of course there was appreciation of well laid walling, or the rubble builders of all Christendom throughout the Middle Ages would not have been at such pains to maintain the character of a wall. But this result was largely the

visible aspect of good work, well done, with indifferent or at least erratic material, itself homogeneous in its idiosyncrasies. Texture was produced because walls were somewhat more labored over than rock gardens, but the character of the texture, whatever it was, was largely, if not entirely, incidental to the nature of the material.

Brickwork has always tended, like ashlar or marble, toward technically appropriate textured effects, but except in Northern Germany and Flanders it is doubtful whether walls of well laid brickwork were enjoyed by the builders or the users, in virtue of the good laying. Contrast of color was sought consciously, where brick and stone were used for diverse functions, as in so



Alatri, Italy
Etruscan Masonry—Pre-Roman

many Elizabethan houses in England, or where they are counter-changed regardless of function as in the case of a court at Fontainebleau. But the textured wall in brickwork, while it has occurred from time immemorial, has occurred naturally, and very often inadvertently through the weathering of the joints.

Yesterday, the textured brick wall had attained to the dignity of a cult in America. Today, it is the obsession of the vulgar. As in all vulgarization of the manners of the unacknowledged "betters," exaggeration results. Bricks were textured in the making; now they are made for the texture. Bricks were bedded in mortar to secure them and render them a part of the wall; now the beds are raked out to half the depth of the brick and more and the brick becomes a perilous ornament, where it was once integral within the fabric. The depth and thickness of joints and beds have been carried to an extreme, comparable to the tightness of the smart salesman's coat today, or the voluminous looseness of his trousers a short decade ago. Vulgarity and exaggeration go ever hand in hand.

America has led the way in brick face work, without vestige of bond, and dependent for its durability on the galvanizing of wire tags and the freshness of the batches of cement mortar, used in the setting. Such work has, after all, more merit than laborious Flemish bond with 100 per cent of the headers snapped. It may be an affectation, but it is not palpably fraudulent. The limitations of texture in brickwork are fairly obvious, and need not detain us.

Except for this tendency to exaggeration both in the range of the Mosaic color and in the width and emphasis of the joint, and an over-reliance on artificial substitutes for bond, American brick face work is generally extraordinarily good. In competent hands it is better than brickwork is anywhere else, or ever has been. Its best effects are "youlu," self-conscious, æsthetically intended, lovingly elaborated; the defects arise where artifice lapses into artificiality.

Nor need we say more than a word on the artificiality of those exaggerated Mosaic effects obtained, to the sorrow of whole districts, by the mixing of slates from six quarries, originating over a range of 1,000 miles, on one roof, or by dipping a set of shingles from one mill, to go on one Mansard, in five different stains. As Santayana has remarked "the crudity of the cottage garden shows the beginning, not the absence, of



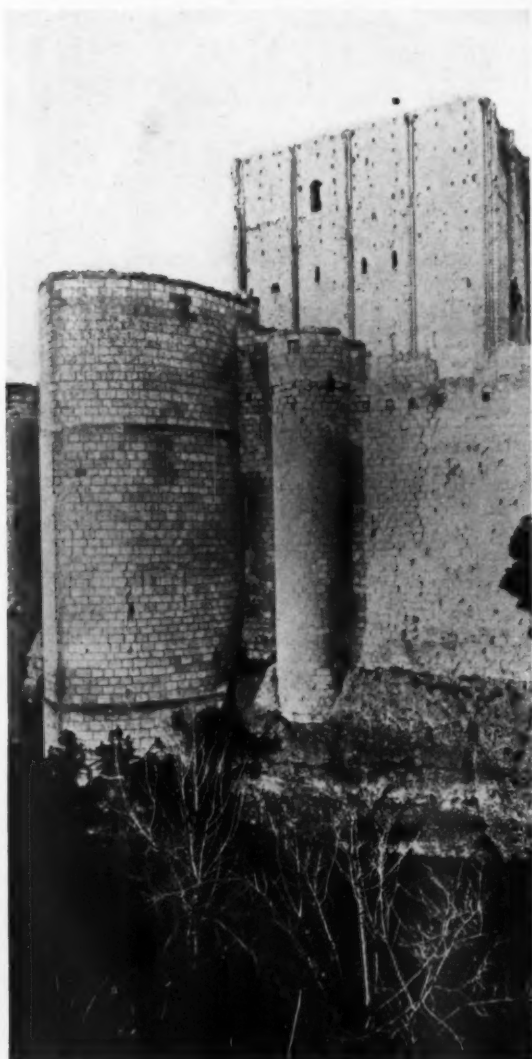
Gateway, Norwich, England
Snapped Flintwork and Ashlar—Fifteenth Century

taste," so let us exercise optimism as far as the fancy roofers are concerned.

But stone is too sacred a building material to trifle with, and something in the nature of a protest is due in view of the light-hearted lack of judgment and of craftsmanship we see so often combined in the conspiracy to achieve the picturesque.

Ashlar will always be ashlar—the finer cut and closer jointed the better, and delicacy of texture and moderation in color variations is of its nature. And so with hewn rustications; accuracy and mechanical perfection are inherent in the conception. But immediately below the standards of ashlar there are "natural" dressings and settings of great convenience and charm and economy

which no one seems to bother about because if a wall is to be rubble, the professional and popular conception today is an affair of very coarse homespun, so to speak, with lots of jute in it. Irregularity is sought in the surface, and size, and shape of the stone, with variety in the tone and the color, and then a joint is prescribed in contrast with the stone,—stained dark if the stone be light; white if



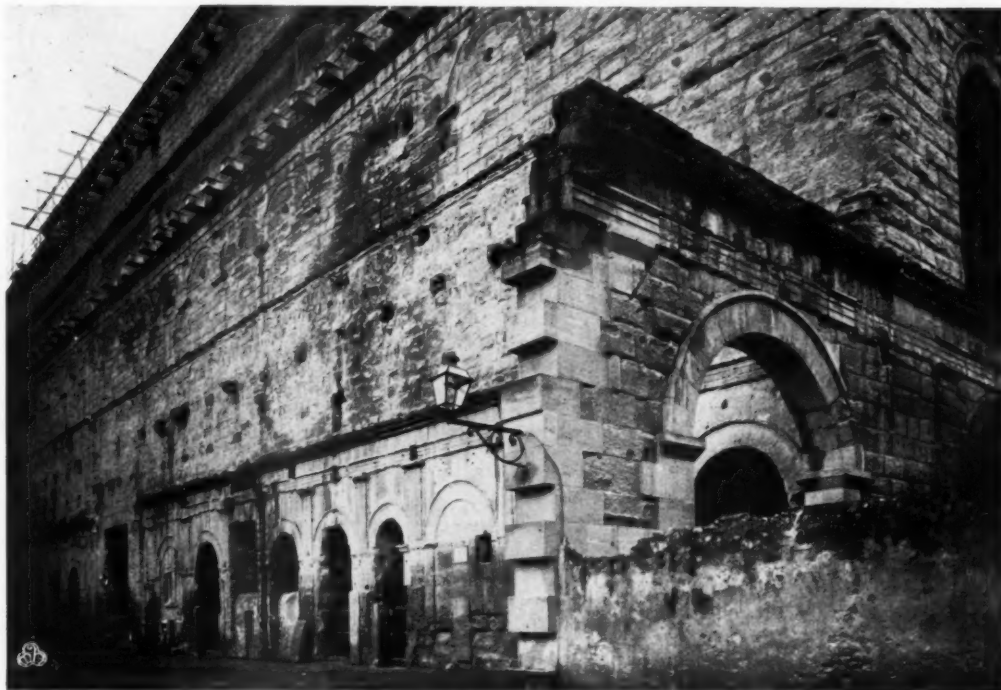
Loches, France
Coursed cubic Ashlar with heavy joint—Thirteenth Century



New Building, McGill University, Montreal, Canada
Squared gray limestone Rubble roughly dressed—Modern

it be dark; keyed in smooth if the stone be rough; rough and overflowing if the stone be smooth, and in any case tremendously thick. All which is apt to destroy those natural peculiarities and qualities of the material, the natural use of which creates the character and charm of the textured rubble wall.

For every natural stone has its characteristic cleavages and it takes generations of rubble masons to develop a perfected technique for each. The varieties of rubble available are infinite, and half a dozen kinds may be generated in one quarry from differences of bed or from differences of manipulation. Moreover, in the old world, most of the rubble building is "local," in the sense that such rough material is not transported far afield. For instance, the hardest trap rock and whinstone imaginable is found round Galashiels in Scotland, and the masons of that district are the most skilled in the world, I think. They snap the stuff with neolithic dexterity into approximate parallelepipeds and voussoirs and lay up their walls with



Roman Theatre, Orange, France
Half rockfaced Rustication—Second Century



Earl's Palace, Kirkwall, Scotland
Ashlar merged with Rubble of horizontal texture—Fifteenth Century

uncanny insight. The result is a texture of fine, but wavy jointing, and flickering surfaces, endowed with a color range from olive green to rust color, giving a subdued mottle of color, all in one tone. The scale is not much larger than in brickwork.

I recollect once seeing an immigrant gang of these "Braw braw lads o' Gala water" arrive at the station of Edmonton, Alberta. They were met by a friend, whose greeting was, "Ho'd awa' sou' lads, guid rubble wurk's no appreciated hereabouts." That was a brick country, where stone arrives in boxes cut and numbered from across the plains.

When we use rubble for building in America,

stones or raisins huddled together in one area, and all the currants bunched in one corner. There is no such thing as a standard specification for rubble, but what is called "Scotch work" in America, and "squared rubble with snapped courses" in Scotland, serves as a very convenient basis for adaptation to any class of rough material. For example, if the sizes the stuff runs in allow, one may prohibit more than three heads or admit four heads; one may specify limits of size as to depth, or add a refinement by varying the scale of the rubble at different parts of a wall; one may,—if the stuff breaks that way,—rule out all stone above a certain depth not at least one and a



Old Mill, Chateauguay, Province of Quebec, Canada
Rubble, with natural square cleavage (red and brown)—Early Eighteenth Century

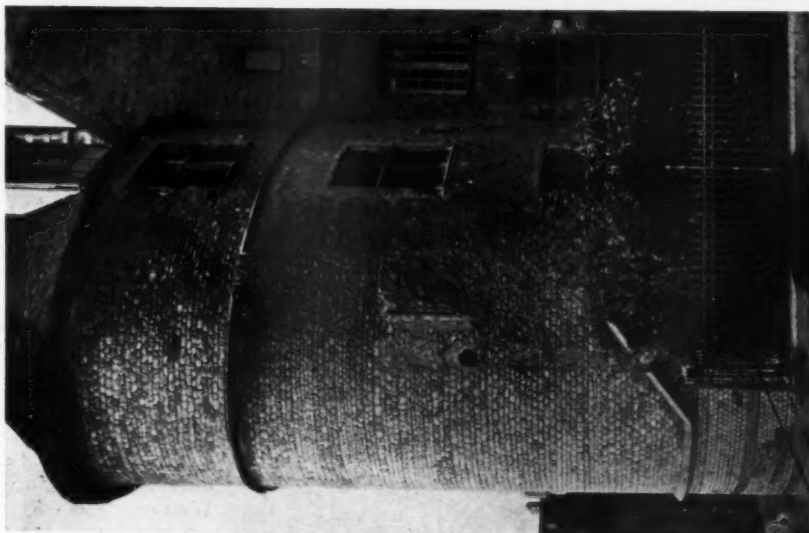
it is usually as a local product, but that claim to naturalism is sometimes sacrificed by a long haul, and as in the case of our bricks, we on occasion exercise preference for a rugged material regardless of economic law. But even when the material is local, the masons are rarely so. More often than not they learned their trade, or inherited it, in gray old Scotland or sunny Italy. This means that the American architect has often to study his material in the rough and think out a natural handling. If it is not natural it won't be maintained, and if it is not maintained the result will not be texture which is our subject, but an enlarged model of an ill-mixed plum pudding, a haphazard affair, with joints in all directions, big

half, twice or two and a half times as long as it is deep, but small stuff for closing must be allowed of all lengths.

A horizontal streak in the texture of rubble seems obviously appropriate, and makes for good bond. Then, as to beds, these may be natural, or cut, or even sawn, and the joints may be of similar or different character to the bed, but if sawn beds are to occur at all they should occur *throughout*, because one thing above all others holds a texture to its invisible pattern and that is the general evenness of thickness of the beds. Even character in the joints is far less important than in the beds, but if joints off the vertical are to occur they should be well distributed.



Wallingford, England
Roughly squared limestone Rubble with uneven
beds—Modern



Bourges, France
Cubic coursed Rubble—Fifteenth Century



Flying Buttresses, Notre Dame, Paris—
Thirteenth Century
Marked jointing gives emphasis to form

Then there is the surface dressing, "rock face" or "quarry bed on edge" at the one end of the scale (and some kinds of rubble stand forever off their natural bed, and other kinds do not) and that most demure of all stone dressings "picked face" at the other. Or a reasonable variety of range in dressing can be provided for in the neighborhood of any part of the scale.

And last there is color. Some stone varies when new, and fades, and other stone lights up with color as it ages. It is easy to overdo the variation in color. Diversity of actual color is to be distinguished from diversity of tone, or of shade. The more even the tone of the rubble the better, if a wide range of color is found.

A gray limestone quarry was opened in the Province of Quebec recently, where the tone is practically homogeneous and the color range, though very tender, runs from one end of the spectrum to the other. So exquisitely delicate a rubble as this requires very moderate and gentle treatment as to jointing; very light or dark jointing would take all the life out of the stone. With a gray joint the stuff will "sing" even in strong sunlight.

The difference between good and bad in rubble is largely a matter of size of joint. A given range of size in stone, with a given range of color, demands a joint which will enhance these values.

Overdoing the jointing, overdoing the range of size, surface, variation, tone and color in the stone, overdoing the "rusticity" (as when the horizontal emphasis is ignored), overdoing the ruggedness of the face, these are the all too common defects one deplores in the artificially instigated rubble of our time, but the crowning defect—the sign manual of the card compiled specification-maker in liaison

with the mechanical draftsman—is the abrupt contrast between rubble and dressings.

This is never very marked in the finest examples of natural masonry dating, of course, to a period when the architect and the contractor and the surveyor were more or less one and the same person and life was so ordered that the master could camp on his jobs and see them through, and at the end of a life count them on his fingers, albeit whole nations were "building mad" and moving more tons of stone into walls per head per annum than we move hundred weights. In these examples, French, Italian, Spanish, English and Scotch, the dressings of quoins and jambs, and sills and lintels, and piers and arches, and water tables, have a way of merging from the rubble. They are just better, bigger stones, with finer beds, when they are more or less of the same material geologically as the rubble, and only when the character is very essentially different, as in the case of a snapped flint wall with freestone dressings, do we find the inevitably strong contrast provoking its exploitation in the design. In the great age of rubble building in Western Europe, the effort was to avoid violent contrast with the dressings and the same thing is generally true of the rubble building of the Far East.

The examples which illustrate these remarks are selected over a period of two and a half milleniums, and a geographic range from Central Italy to Western Quebec. Because the natural principles governing the use of stone and mortar are the same in every case, the results vary in each example with the geological formation and the quarry tools used. Each texture illustrated has the somewhat obscure law of its being that makes for character and justifies æsthetic use.



Carolle, France
Broken Fieldstone Rubble—Twelfth Century

LEGAL DEPARTMENT

Conducted by

CLINTON H. BLAKE, Jr., of the New York Bar

AN INTERESTING situation arises where the client happens to be of the "know it all" type and insists that certain details of construction shall be carried out in accordance with his own ideas of what is necessary and desirable, rather than in accordance with the ideas and judgment of the architect. Such a situation may be of a kind calculated to cause irritation only. Again, it may be such as to be far more serious and to carry with it real danger of loss to the architect and to the client, as well. This is really but another angle of the problem considered in a recent issue, where the discussion had to do with the rights of the builder, rather than the respective rights and liabilities of the architect and client.

The client may desire ornamentation which is entirely unsuited to the building, but which does not in any way affect its safety or utility. In such a case, the architect, if he be willing to swallow his pride, can complete the job with no harm done, unless, of course, the fancy of the client has been so extreme or fantastic as to ruin the work and so bring discredit upon the craftsmanship of the architect.

If, on the other hand, the client undertakes to force changes which are essentially structural, rather than of design, a different issue is at once presented. Here, the architect cannot afford to waive his position or resort to compromise. To do so may, and in all probability will, involve him in serious difficulty. It may mean, at the best, a law suit to secure his fee from his client, and it may mean a serious claim against him for damages or even a charge of criminal negligence, if the building be one of a public or semi-public character. If the architect allows a type of construction to be followed in such a building, knowing that it is improper or unsafe, but deferring to the insistence of the client, and any member of the public is injured as a result of the method of construction followed, the architect may well be held responsible. No architect can afford to take any such chance or to compromise in any way, where actual structural elements are involved.

If the client insists that his own views be followed in changes involving structural work or the reputation of the architect as a competent designer, the architect should retire, if any danger to the public be involved and he should, in any event, notify the client, without fail, that, in view of the client's insistence in dictating certain details of the work, the architect will not be liable for any difficulties which result from the work being

done in the manner demanded by the client. The architect thus puts himself at once on record as to the proper method of construction, and makes it impossible for the client, at a later period, when the work perhaps has not been approved by the proper authorities or proves defective, to claim that the architect has been incompetent or negligent and, on this excuse, refuse to make payment to him of the fee which he has earned.

In a case in which I was recently consulted, an architect prepared plans and specifications for a business building in a large city and, in accordance with proper practice, provided for fireproof construction of partitions and the like, of a type which he knew would be proper and approved by the Building Department. The client, whose sole thought apparently was to save money, took the position that the construction of the architect was unnecessary and insisted on a different and non-fireproof form of construction. The architect protested, but to no avail. The client again insisted that he knew best, and that the work must be done in accordance with his decision. The architect then did exactly the right thing. He notified the client that he could not, and would not, be responsible for any of the work done other than in accordance with his directions. The client went ahead, regardless of the architect's advice and protest, and, as the architect had anticipated, the Building Department refused its approval. The architect asked for his compensation for the work which he had done, and the client claimed that, because the work had not been approved by the Department, no recovery had been had.

Under the circumstances, the client cannot possibly maintain this position. The architect had put him "on notice" and is entitled to recover the fee which the services rendered by him have earned. If, however, he had failed to notify the client, he might well have waived his rights by proceeding with the job, without protest or notice, and would certainly have placed himself in a far weaker position than that which, thanks to a little care and a few short letters, he now happily occupies.

At just what point the line is to be drawn between desires of the owner which the architect can afford to humor and those with respect to which he must take and maintain a definite stand, must be decided upon the facts and circumstances involved in each particular case. If the client cannot be satisfied without meeting his wishes, if he cannot be convinced of the correctness of the architect's position and of the incorrectness of his own, the architect must decide whether he can

safely make the changes demanded, without danger to his reputation or monetary loss or possible claims on the part of others.

So far as the injury to the reputation of the architect, by reason of changes in design alone is concerned, the architect can decide the question without legal advice. His only problem in such a case is whether, by meeting the wishes of his client, he will so change the appearance of layout of the building, as to make it imperfect or ridiculous architecturally, and so bring discredit upon his work. If he desires to compromise on this issue for the sake of the fee involved, he can do so with a fairly accurate understanding, based on his own experience, of the damage, if any, which may result from his action.

When, however, the matter is one of structure, involving either the safety of the building or the possibility that it may not comply with the requirements of local building departments or rules, no compromise, as we have seen, can safely be indulged in. The issue is clear-cut and unavoidable. The safe course is to notify the owner that the architect insists on the work being done in a manner which he prescribes, and that he will not be responsible for any work not done in accordance with the plans and specifications as he has prepared them. This position may be taken tactfully, but, tactfully or not, it must be taken and adhered to, unless the architect is prepared to "take a chance" and risk a more serious rupture with the client, in the future, and the probability of being called upon to defend other claims for damage. Far better a firm attitude in the beginning and the severance of professional relations, if necessary, than the incurring of responsibility for work which is unsafe or not in accordance with legal requirements or the recognized rules of sound practice.

LEGAL DECISIONS

WHERE an owner and an architect discussed the plans for a building in a general way, but without going into specific details as to the character of the materials and construction, and later an elevation floor plan and a typical plan were prepared and submitted by the architect, and explained by him to the owner, and the owner told him that they were acceptable, and instructed him to proceed with the work, it is not necessary that the architect should have provided for the very best material and construction unless it was understood between the parties that this should be done. It is necessary, however, that he act in good faith and provide for a substantial building.

Williar vs. Nagle, 113 Maryland, 614.

THE architect recommended the use for special purposes of material which had been largely and successfully used in other buildings for simi-

lar purposes. The material in the building in question was not effective.

HELD: That the architect was not liable for the failure of the material to prove successful.

Stewart vs. Boehme, 53 Illinois Appeals, 463.

THE contract was entered into between a City and engineers for the construction of a waterworks plant. The contract required the engineers to furnish plans and specifications, but gave to them entire control of the construction work.

HELD: The engineers were bound under these conditions to exercise reasonable care in employing a competent superintendent and competent labor and are liable to the City for the damage occasioned to it by their failure so to do.

O'Neil Engineering Co. vs. San Augustine, 171 Southwestern, 544.

WHERE the contract provides that the architect is to be paid a certain amount for preparing the plans and a certain amount for superintendence and the owner forbids the architect to superintend the work, the architect may consider the contract rescinded and sue for the value of his services in preparing his plans.

Marcotte vs. Beaufre, 15 Minnesota, 152.

THE architect's contract covered the supervision of the construction of the entire building, including various interior decorations. Before the work was completed the owner notified the architect to discontinue his work with respect to these decorations.

HELD: The owner's repudiation of the part of the contract relating to the decorations was a breach of the entire contract so far as the rights of the architect were concerned, but so far as the rights of the owner were concerned it was a repudiation of that part of the contract only, and consequently the architect might, at his option, treat the entire contract as broken, or, if he preferred, waive the breach as to the part of the contract not expressly repudiated and consider that part of the contract as still in force.

De Prose vs. Royal Etc., Co., 135 California, 408.

THE architect agreed to erect a house for the owner by the job. The owner refused to have the excavations in the soil properly prepared for the building. The building fell, practically in ruins.

HELD: That the architect would be liable in such a case for the ruin of the work in whole or in part where it resulted by reason of his improper materials or work, but that he would not be liable for the unfitness of the soil or for the refusal of the owner to have the proper excavations made.

Powell vs. Markham, 18 Louisiana, Ann., 581.

DEPARTMENT of ARCHITECTURAL DECORATION and FURNITURE

AS every student of the design of furniture in different periods of history is readily aware, there is a distinct and subtle relation

between the character of mobile objects, and the manners and habits of the people who produced them. One may easily trace the transition from the decadent court of the Louis' in France to the days of the First Empire, in the substitution of the straight square leg for the cabriole, and the distinct stiffening of detail which bespoke the stern and martial court of Napoleon the 1st.

It may seem at first hand that we, as a nation, have not developed a distinct decorative style (unless it be that of the overstuffed lounge chair), just as we have not developed a characteristic native architecture. This may be accounted for, in a large measure, by the vast expanse of the national territory, reaching cold as well as semi-tropical regions, by the varied and manifold pursuits of the people (it is manifestly impossible to design a style of furniture that is suitable at one and the same time to a peasant farmer in the Dakotas and a small estate in Florida), and the many different sources which go to make up our culture and people.

But though American art, if such it may be called, is made up of heterogeneous borrowings and compromises, one may note a constant undercurrent of change and stabilization in it, and the American country house, whether it be of French, Italian, or Tudor derivation, is gradually taking on characteristics which are national, and, like the American language, will some day become unlike anything in Europe.

Moreover it is well to note that in fields which are particularly our own, such as the design of

On Style in Modern Furniture Design By . . . Roi L. Morin

tall buildings, the American artist excels. In the Chicago Tribune competition, to wit, excepting for the moment, the highly meritorious design which

was awarded second prize, the majority of native designs submitted were, even to the most casual critic, far superior to those from abroad.

As a reaction from the Victorian period, which not only produced but little beauty, but actually despised and ridiculed it with all the venom of Puritan tradition,* we are now in a state

of acute self-consciousness in the arts, keenly interested, attempting and impatient to do fine things. There is probably more interest and enthusiasm in this country today than in Europe, perhaps for no other reason than that we are doing more work. A man who is building a house is likely to take more interest in the design of houses than one who is not.

This is a highly desirable and commendable state of being, but it is also dangerous.* A survey of the great number of decorative treatments and interiors that come into being each year reveals

that many, unless executed by architects and decorators who are thoroughly conversant with the work, have a tendency to become what is sometimes termed "arty." In other words they appear like deliberate attempts to produce an effect, instead of being simple, honest and unconsciously beautiful.

The unlearned attempts to copy old forms, the



Fig. 1. XVIIIth Century, American Chippendale Desk
(From the Metropolitan Museum of Art)

*"The most important change that has come over American literature in my time is . . . American satire which once aimed all of its shafts at the civilized minority, now aims most of them at the imbecile majority. If a satirist today undertook to poke fun at the paintings of Titian or the music of Richard Wagner, he would be dismissed as a clown . . . yet Mark Twain did both, and to great applause. . . . What amused Mark most profoundly was . . . sound art, good manners, the aristocratic ideal."—H. L. Mencken, in *The Smart Set*.

hectic production of "period" furniture, the bad example set by the theatre and the thoroughly bad work of so-called decorators, are largely responsible for these effects obtained. Nothing is quite as trivial, or vulgar, as a city apartment with attempts at deliberate trowelled plasterwork, jack-planed beams that support nothing and ornament



Fig. 2. Carved and gilded needlework armchair, designed by Robert Adam
(Formerly in the Henry Symons Collection)

less, and artificial stone mantels with fireplace opening completely out of scale, furnished in "period" from a department store.

One recalls a prominent and highly successful architect in one of our large cities who had a large reception room done in this fashion, with batten doors deliberately hacked with an axe, and studded with heavy nails, highly colored crude plaster, antiqued Jacobean furniture, "pash" hangings, and grotesquely wrought iron lamps. An apartment the like of which no Tudor castle ever knew. What is a quiet, sober and wealthy client who is accustomed to fine linen, chaste halls, and rooms furnished in the utmost of propriety and restraint to think when he is ushered into such an apartment, other than of emotion run wild?

On the other hand, there are a large number of men who are quietly and unconsciously building up a style, not a national style perhaps, though it may bear the stamp of American characteristics, but a style and manner that is appropriate to the people whom it is meant to adorn. One of the most prominent movements in this direction is the work of the Germantown, or ledgerstone architecture of Philadelphia. Here has been worked out, by such well known firms as Mellor, Meigs & Howe, Zantzinger, Borie & Medary, Day & Klauder, R. B. Okie, Carl A. Ziegler, and several others, a well formulated and excellently executed background for solid, conservative and restrained society, for which Philadelphia has always been renowned. There is a bit of the Quaker and Puritan still extant in the chaste white enamelled, panelled interiors, the whitewashed walls, and the scrupulous cleanliness of the whole.

Figs. 4, 6 and 7 show interiors of this type by R. B. Okie. The simplicity and perfect proportioning of the raised panelling, and delicacy of the dado rail in Fig. 4, together with the fine mantel lines, scalloped head of the bookcase, and frank Colonial hardware in Fig. 7, are in keeping with the white enamelled beauty of the walls. Mr. Okie is so keen on keeping the restraint and severity of treatment in his interiors, even in photographic



Fig. 3. American Chippendale armchair, late XVIIIth Century

(From the Metropolitan Museum of Art)



Fig. 4. Library in a Philadelphia House
R. B. Okie, Architect

reproductions, that he will move most of the furniture out of a room before allowing a photograph to be taken.

Figs. 1, 8 and 3 show different pieces of furniture of a type admirably suited to the interiors in Figs. 4, 6 and 7. The Chippendale armchair is an exceptionally fine antique, with its typical cabriole leg, and claw and ball feet. A large number of bookcases, china, and curio cabinets of similar design were sold at the galleries in New York during the past season, bringing prices that indicate a great popularity for this type of furniture. In fact the English furniture, Georgian, Chippendale, William and Mary and Sheraton seems to "belong" better in the average American country house than any other type.

Fig. 5 is an exceptionally fine piece of furniture, and Mr. Lindeberg, with his keen eye ever on the lookout for such beautiful things, was determined to get it long before the sale. Four other reproductions were made of this pair, and the set of six now graces a lovely dining room.

Fig. 6 is an interesting treatment which through the open doorway shows the characteristic ledge-stone work of the locality, the joints pointed up flush, and whitewashed. The wide boarded floor,



Fig. 5. A painted Georgian Chair (one of a pair) formerly in the Montague Flagg Collection and now owned by Harrie T. Lindeberg



Fig. 6. Hall in a Philadelphia House
R. B. Okie, Architect

with the low matched board wainscot, and the narrow strip which serves as a base, is also worthy of study. The furniture is frankly modern, of a simple and charming design.

It is no chance blundering upon a secret, or a clever working out of a formula that brings about such thorough propriety and tact in design, but a slow and deliberate process of building for a distinct social type. It would be impossible to foster, let us say, the Tyrolean peasant type of interior, or the early Spanish type, on a social body which is housed by the Philadelphia ledge-stone work, as beautiful as these styles are, because it would neither like nor accept them.

In other parts of the country colloquial forms and designs are being worked out, though not as bold or as sure as in Philadelphia. In Southern California and Florida architects and craftsmen are experimenting with T. C. blocks and stucco, hand made roofing tiles and faience. The results are not always successful, but are far more appro-

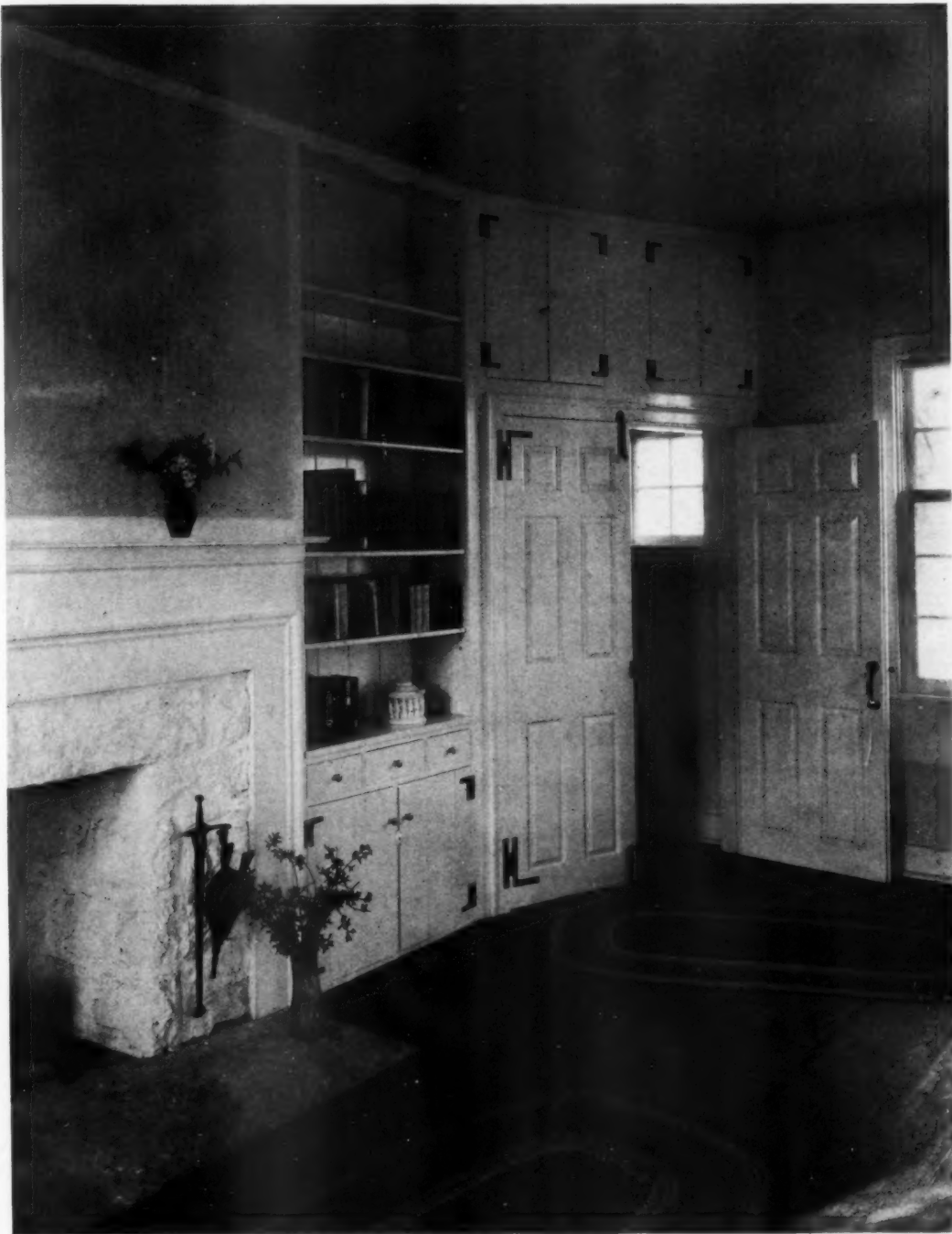


Fig. 7. Detail of a Living Room in a Philadelphia House

R. B. Okie, Architect

priate than the clapboarded frame structures of New England, and the slapstick redwood bungalows of the West coast.

Altogether American architecture is rapidly emancipating itself from the dull copy book imitation of European models, and, keenly alive, is working out its own salvation.

etc., as exemplified by the recent exhibition in Paris, are, in many cases, beautiful, and in all, interesting and original.

It is a significant fact that the steamship Paris, the crack liner of the French Line, when completed some two years ago, was treated, both in its architectural background and furnishings, in

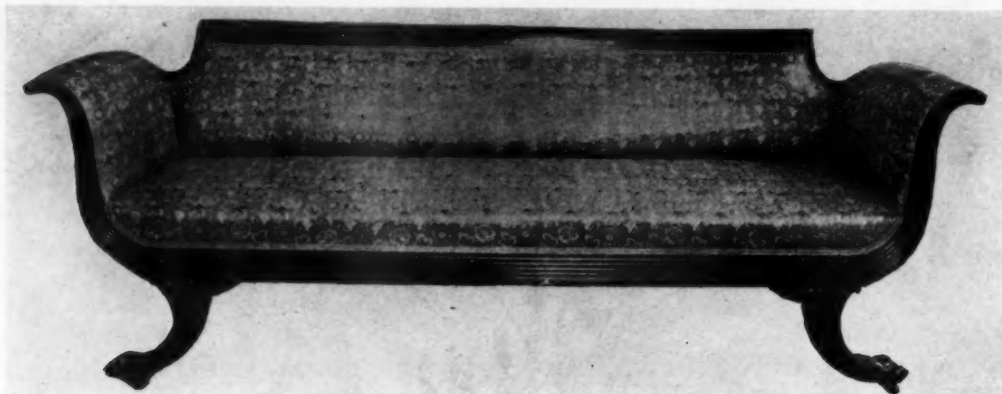


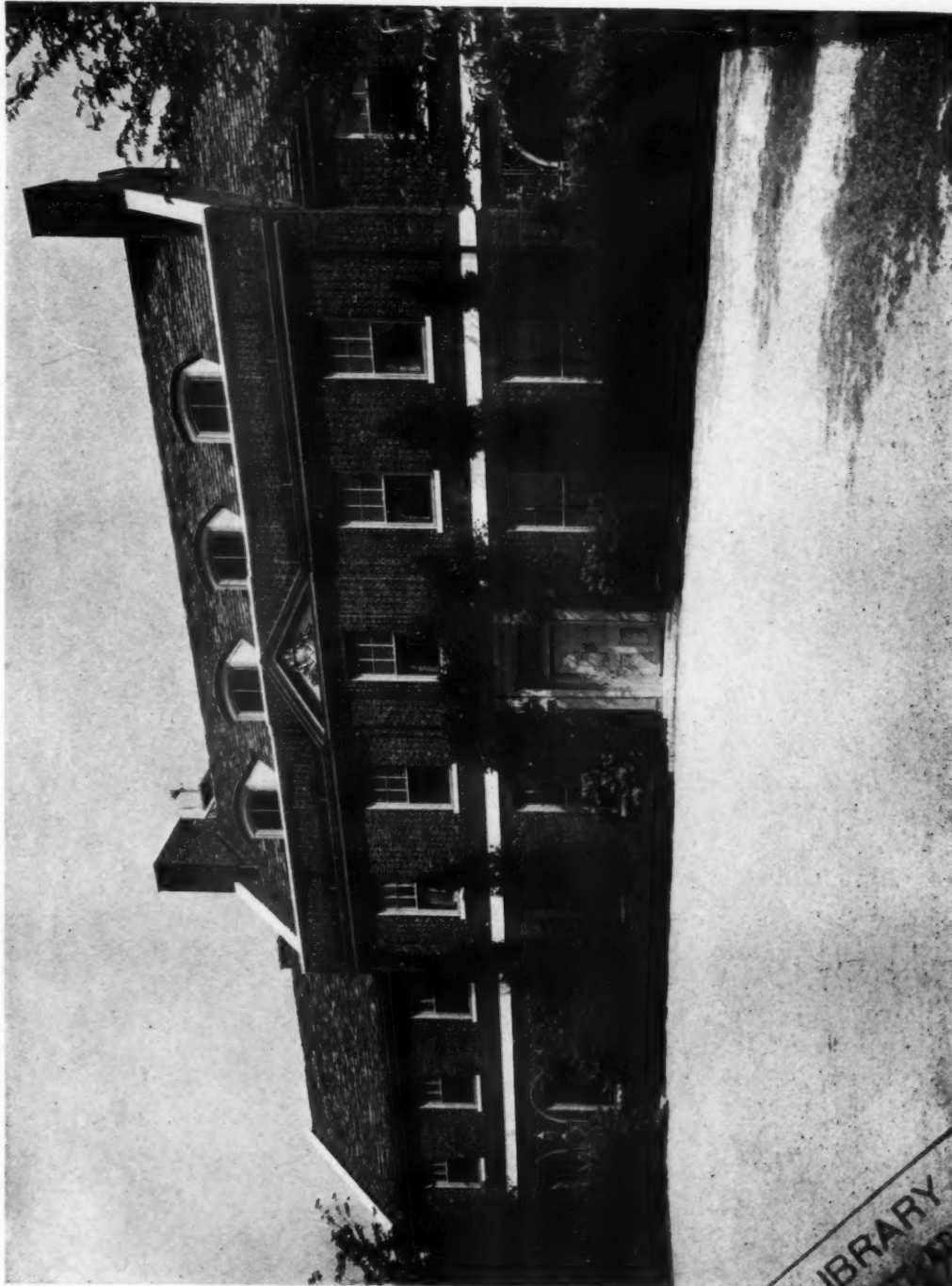
Fig. 8. An American Carved Mahogany Sofa, By Duncan Phyfe

It is a matter to be regretted, however, that no architects or craftsmen are making progress here along the lines suggested by the "Moderne" school of design abroad. There is something thoroughly smart, "shipshape" and "up-to-date" about this stuff that readily adapts itself to our progressive and vivacious civilization. The results produced in furniture, wall treatments, lighting fixtures,

the "Moderne" fashion, and very effectively, whereas the Leviathan, our own prized liner, is as dull and uninspired as a modern adaptation of an English Renaissance drawing room, furnished from a department store. This is in no wise meant as a criticism of the architects, who are very able men, and who probably were not able to do things to their liking.



A House at Wichita, Kansas
Lorentz Schmidt & Co., Architects



HOUSE OF ANDREW V. STOUT, RED BANK, N. J.
OFFICE OF JOHN RUSSELL POPE, ARCHITECTS

LIBRARY
THE DETROIT EDISON CO.
SEP 18 1923



DETAIL OF MAIN ENTRANCE

HOUSE OF ANDREW V. STOUT, RED BANK, N. J.

OFFICE OF JOHN RUSSELL POPE, ARCHITECTS



HOUSE OF ANDREW V. STOUT, RED BANK, N. J.

OFFICE OF JOHN RUSSELL POPE, ARCHITECTS



HOUSE OF ANDREW V. STOUT, RED BANK, N. J.
OFFICE OF JOHN RUSSELL POPE, ARCHITECTS



DINING ROOM

HOUSE OF ANDREW V. STOUT, RED BANK, N. J.
OFFICE OF JOHN RUSSELL POPE, ARCHITECTS



HOUSE OF DR. H. R. MIXSELL, EAST 64th STREET, NEW YORK

FRANK J. FORSTER, ARCHITECT



DETAIL OF LOWER STORIES

HOUSE OF DR. H. R. MIXSELL, EAST 64th STREET, NEW YORK

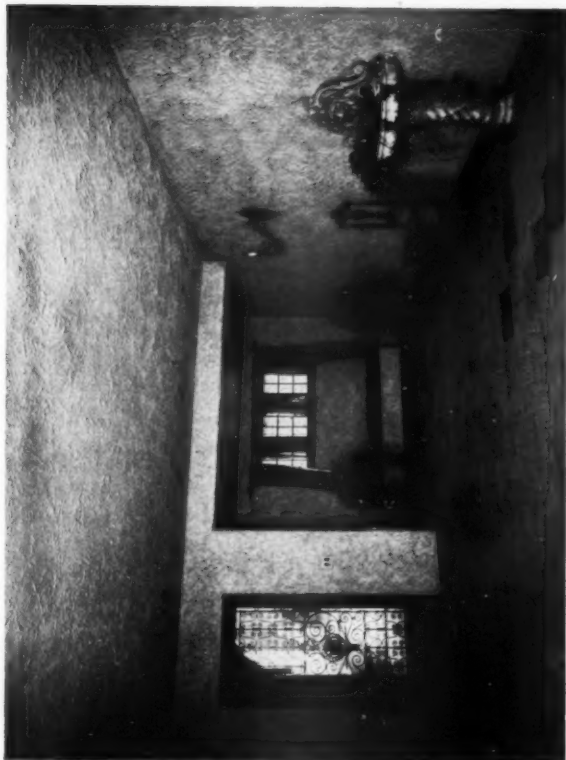
FRANK J. FORSTER, ARCHITECT



LIVING ROOM MANTEL

HOUSE OF DR. H. R. MIXSELL, EAST 64th STREET, NEW YORK

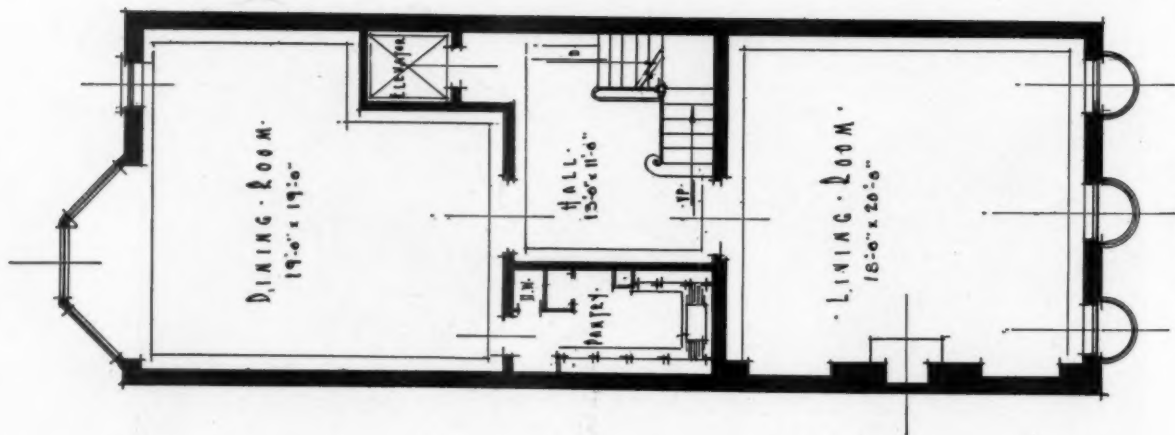
FRANK J. FORSTER, ARCHITECT



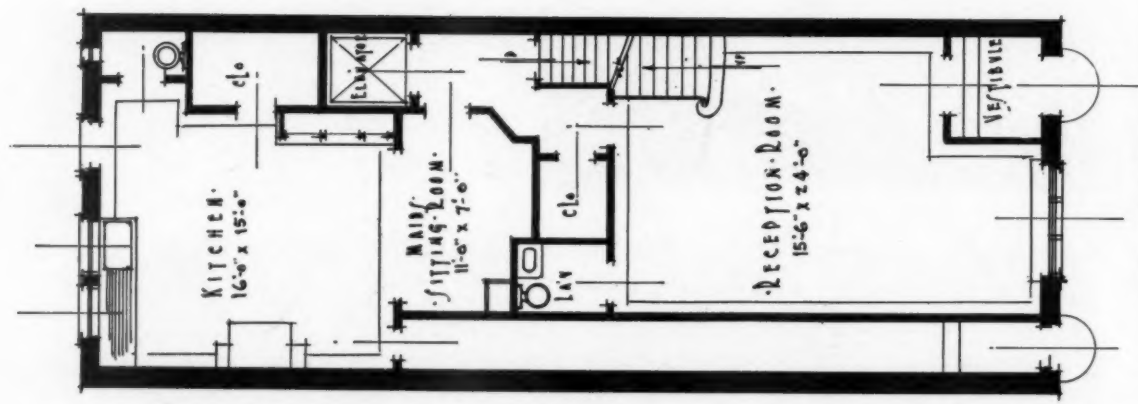
HOUSE OF DR. H. R. MIXSELL,
EAST 64th STREET, NEW YORK

FRANK J. FORSTER
ARCHITECT

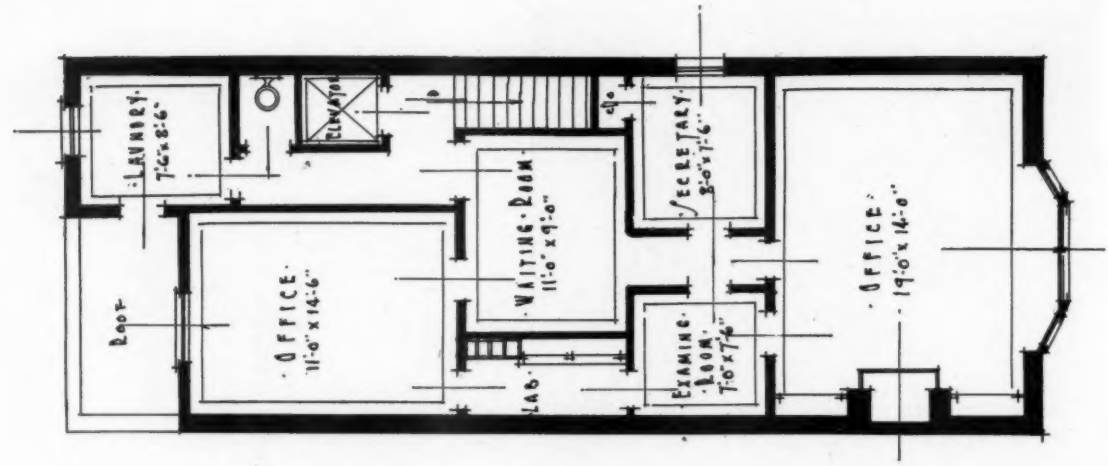




SECOND FLOOR

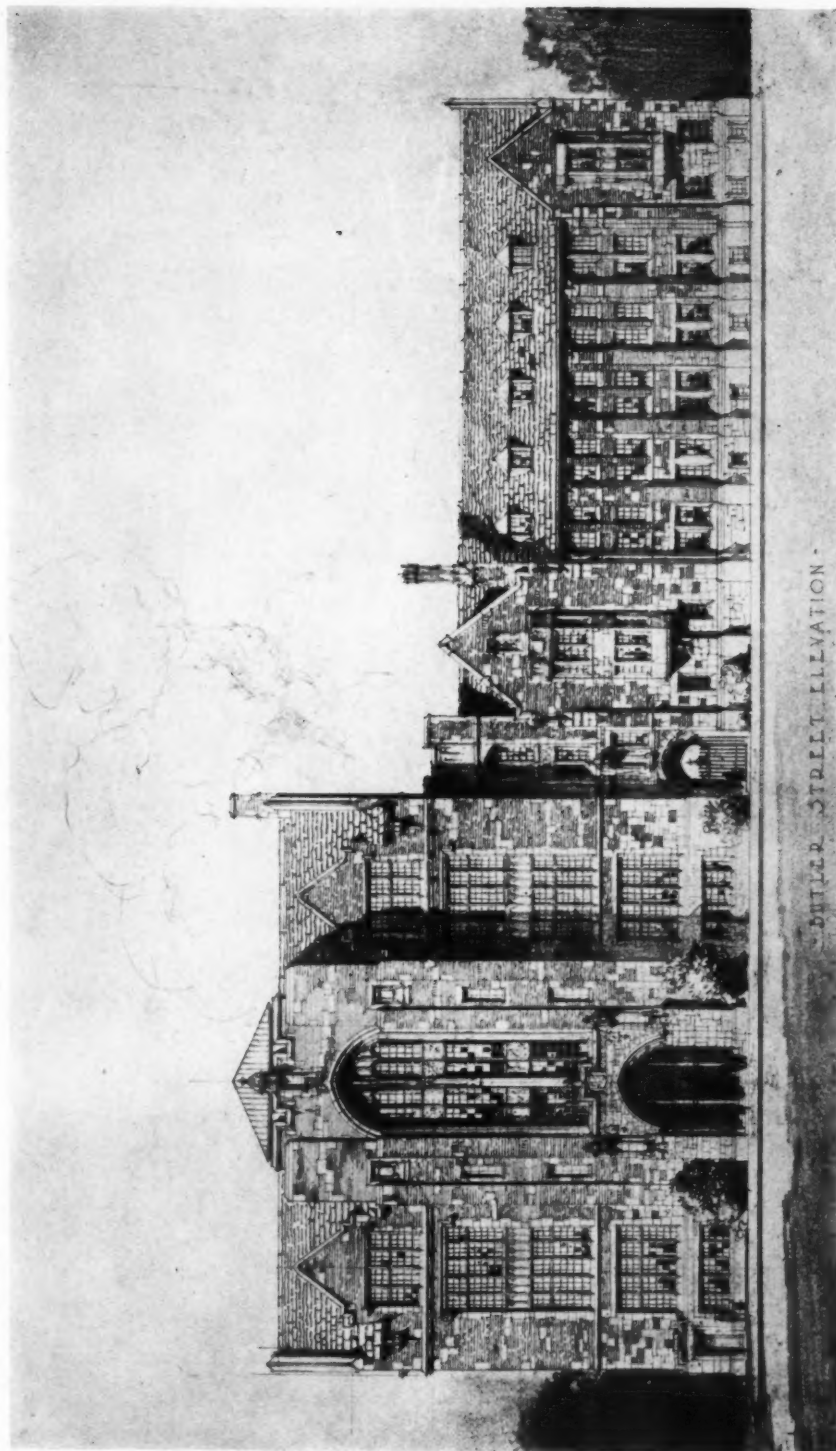


ENTRANCE FLOOR



FOURTH FLOOR

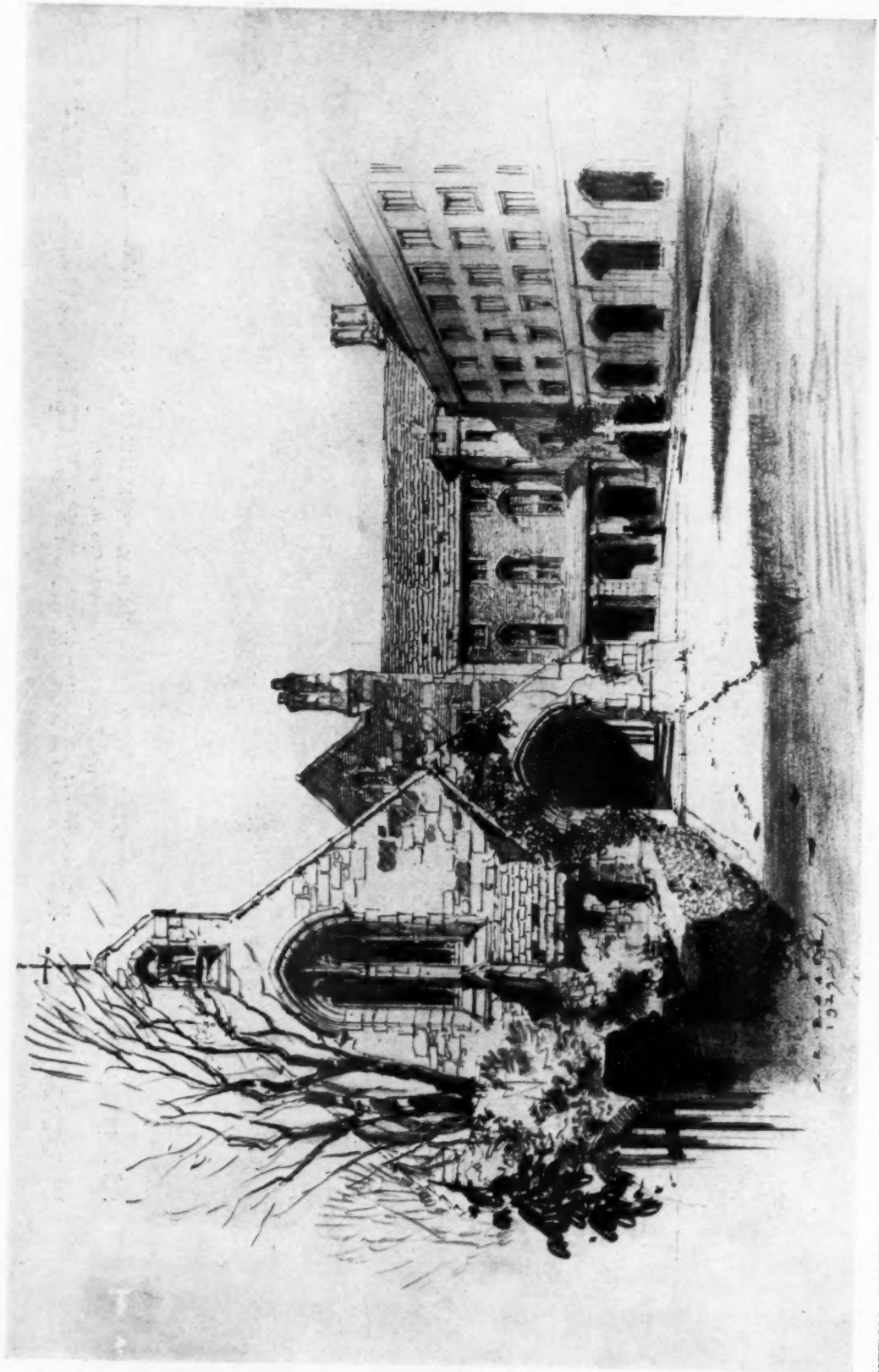
HOUSE OF DR. H. R. MIXSELL, EAST 64th STREET, NEW YORK



SKETCH FOR ST. FRANCIS' COLLEGE AND MONASTERY, BROOKLYN, N. Y., FROM THE OFFICE OF JOHN RUSSELL POPE, ARCHITECTS

(From the original drawing by Otto R. Eggers)

The architect for this building is J. Sarsfield Kennedy, Office of John Russell Pope, Architects, consulting. The purpose was to secure a building that could be adapted to college work and which would be of a different character from the Monastery. The general character as shown in the sketch satisfactorily meets these conditions



SKETCH, COURTYARD VIEW, ST. FRANCIS' COLLEGE AND MONASTERY, BROOKLYN, N. Y., FROM THE OFFICE OF JOHN RUSSELL POPE, ARCHITECTS
(From the original drawing by Otto R. Eggers)

DEPARTMENT of ARCHITECTURAL ENGINEERING

PLANNING INVESTMENT BUILDINGS*

A Combined Architectural and Business Problem

BY F. S. MARLOW, Architect, S. W. Straus & Co.

AS Mr. Marlow further explains the relationship of income to plan, its importance becomes more evident. It is shown that the plan can be analyzed as definitely and scientifically as the chemist determines the elements of a compound or the engineer measures the unseen strains in a framed structure. There remains no doubt but that architects must take cognizance of this relationship and give it the most intense study. A need for rational planning now exists and it will be supplied by the competent.

In the following article, the influence of the extent of the enclosing wall on cost and revenue is explained. It is but one of the important elements of a building which, in part, control revenue. In passing, an important factor in the cost of construction is the adequacy of the plan and specification as a clear and definite direction for executing the work. The increased cost which always attends poorly prepared plans and specifications, proportionately reduces the income for all time.

As stated in the foreword of the preceding article, buildings planned for investment need not be wanting in architectural excellence. Perhaps a recasting of some methods of designing will be found necessary but there is no doubt but that the quality of architectural composition will be maintained and probably improved.

THE EDITORS.

THE essence of efficient architectural service in connection with investment projects is the ability to develop a superior product yielding maximum income at minimum cost. To accomplish this, a keen appreciation of the factors controlling building costs and income is most essential. In a previous article it was pointed out that inefficiency in the planning and construction of investment projects will not, in this market, produce a satisfactory ratio of income to cost, and in order to realize the greatest benefits from architectural assistance, the investor must choose his architect carefully, understand his duties and responsibilities and provide ample time and remuneration for the service demanded. The proper and economic planning, building and equipping of an investment building to suit the character, location and estimated income is a big business problem. When an architect assumes a commission for a project of this kind his success is measured in practical business terms and chiefly by those of cost and income. Cost, as controlled by the architect, is affected directly by his knowledge of planning and designing for the particular type of building and shape of plot under consideration; by his ability in selecting materials and equipment

and his efficiency in supervising the actual construction of the project. Income is affected primarily by his plan but also, and in no small measure, by the quality of the design, the finish and the mechanical equipment. The plans of the most successful architects in this field invariably show a thorough understanding of their control over costs and income and an ability to create successful investment projects, notwithstanding the requirements and limitations of the owner, the local building laws, the plot and the minimum ratio of income to cost.

Inasmuch as the development of the plan has more to do with this ratio than any other part of an architect's service, let us consider a few of the most important elements of cost and income controlled by the plan. Briefly, it will establish the income by the quantity and character of the rentable area provided and will affect cost by its determination of the amount of labor and material required. A good layout providing maximum rentable area might easily produce a lower ratio than is anticipated if the elements controlling costs and maximum rents have not been appreciated. If they have, the completed plans should provide for a building whose rentable area and estimated cost are properly balanced with the value of land, location, design, finish, equipment, exposure and natural lighting.

The most essential factor to consider in planning is the plot solution. It is the first test of the architect's ability to diagnose the problem correctly and to allot to many of the controlling elements their relative values. Here are a few of the questions to be decided. In so far as the plan controls,—will it produce maximum income for minimum cost? If for an apartment, will the solution allow the development of the maximum number of units desired and provide the room sizes, exposures, arrangements and traffic conditions required with the minimum of waste space? Assuming the renting unit to be the square foot, will the net obtained be subnormal and will the value of the rentable space over 25 ft. from natural lighting justify building from this layout? Will the results obtained warrant the amount of necessary enclosing wall, framing plan and mechanical equipment? May not the wrong plot

*The first article of this series appeared in THE AMERICAN ARCHITECT of June 20, 1923.

solution develop a plan greatly increasing the cost and at the same time reduce the rentable area or income?

A simple way to figure wall excess and obtain percentages which will help one to realize the value of the enclosing wall is to use the perimeter of a square as the minimum and calculate what per cent in excess of the perimeter the plan shows over this minimum. For instance, a square plan enclosing 20,000 sq. ft. will require approximately 566 lin. ft., and if the curtain wall above grade rises to a height of 100 ft., 56,600 sq. ft. of wall will be required. The following table shows solutions of wall excess on a corner, steel frame, fireproof apartment building having an estimated value of \$1,200,000. The solutions cover the same area and height and assume the curtain walls to be 4 in. of brick with 8 in. of terra cotta backing worth \$1.25 per sq. ft. in place.

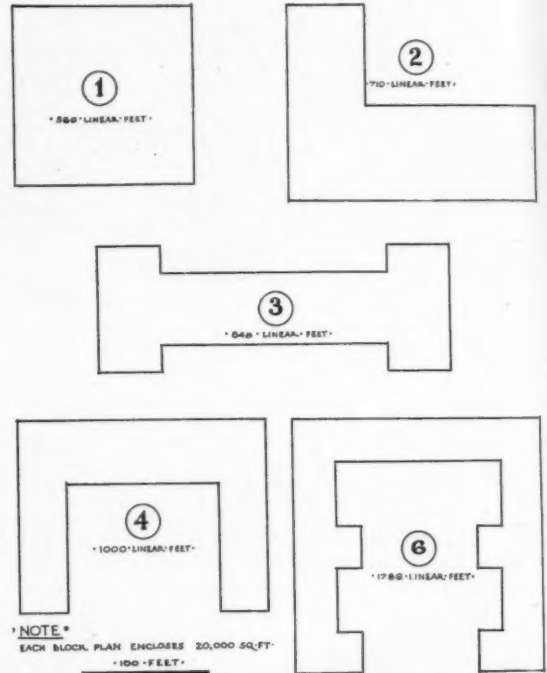
No.	Linear Ft.	Wall Excess	Excess Wall Cost	Per Cent Increase in Total Bldg. Cost
1	566	0.0%		
2	708	25.0%	\$ 17,750	1.5%
3	850	50.0%	35,500	3.0%
4	1,000	76.7%	54,250	4.5%
5	1,132	100.0%	70,750	6.0%
6	1,286	127.2%	90,000	7.5%
7	1,415	150.0%	106,125	9.0%

Note: It should be borne in mind that while the total cost of semi-fireproof construction is less than fireproof, the percentage of increase occasioned by wall excess in both types of construction is much greater in semi-fireproof than in the fireproof owing to the fact that its brick bearing walls are much more costly than curtain walls.

The figures under No. 4 and No. 6 are from the original and revised plans for a typical fireproof corner apartment. Only the height was changed so as to conform to the plans for other buildings of 10 story height and of approximately 2,000,000 cu. ft. contents. The original plan (No. 6) requiring 1,286 lin. ft. of enclosing wall was in the form of two letter E's, legs facing each other and top legs joined. This plan had the largest dimension of the principal rooms parallel to exterior walls so that the enclosed area was long and shallow. The revised plan (No. 4) requiring 1,000 lin. ft. of wall was in the form of the letter V with the largest dimension of the principal rooms running at right angles to the exterior wall so that the enclosed area was shorter but deeper. The typical floor area remained the same, 20,000 sq. ft.; also the number of rooms, but the gains were:—286 lin. ft. of wall saved, framing simplified, less waste floor area, rooms slightly enlarged, more closets, and full exterior views for all rooms,—all of which tend to increase the income. The net cost was reduced approximately 5% or \$60,000 and of this amount approximately

\$36,000 was accounted for by the saving of 28.6% or 286 lin. ft. of exterior enclosing wall. If this sum was used in constructing additional space it would provide approximately 60,000 cu. ft. or 19 extra rooms which, at \$480 per annum, would produce an additional income of over \$9,000.

In addition to increasing the cost, plans requiring excessive enclosing walls very often reduce the income. Particularly is this true of apartments where complex plot solutions with excessive enclosing walls seldom produce as many rooms or as



The Amount of Wall Required to Enclose Equal Areas of Different Shapes

well arranged suites for the same cubic foot contents as do the more simple plans. Almost invariably, the simple solution will develop maximum rentable space at minimum cost. Unless exceptional conditions warrant additional wall surface, a typical floor for an economically planned office or loft building should not require more than a 25% wall excess above the minimum; city fireproof hotels and apartments not more than 50% excess and semi-fireproof suburban apartments not in excess of 100%.

Frequently, we find an investor unwilling to lose one or two rooms or a few square feet of rentable space on each floor in order to simplify the layout because he cannot visualize the estimated saving in cost against the known loss in revenue. As an example of this, note the following table of comparisons in the plans for a six story semi-fireproof

apartment in the suburbs where the value of the land did not require maximum plot coverage nor did the value of exposure and shape of plot call for a complicated or unusual layout. However, owing to the owner's demand for a certain number of rooms, the original plans were developed by him notwithstanding the fact that the revised studies furnished a superior analysis. Due to complexity of design, the original solution of the typical floor plan calls for a wall excess and waste of material out of proportion to the extra rentable space provided. The 12 rooms gained by the plan cost \$52,000—or over \$4,300 per room—which is nearly three times what rooms in this class of apartment are worth. This net saving of \$52,000 representing approximately 14% of the total cost, is accounted for by about \$40,000 saving in cost of enclosing wall plus \$35,000 saving in cubic foot contents less approximately \$23,000 additional cost due to increased density of material within the reduced cubic foot contents. Bearing in mind we are only discussing for the moment the effect of wall excess on cost, it is interesting to note that the \$40,000 estimated saving in this case amounts to over 10% of the total net estimated cost.

	Original	Revised
Number of Rooms	234	222
Number of Rooms each typical floor	40	38
Area typical floor	12,000	10,830
Cubic foot contents	840,000	758,100
Linear feet of enclosing wall	1,034	750
Average sq. ft. per rentable room	300	284
Average cu. ft. per rentable room	3,590	3,415
Per cent wall excess	135%	80%
Estimated cost (net)	\$378,000	\$326,000
Average room cost	\$1,642	\$1,502
Income @ \$300 per room (gross)	\$70,200	\$66,600
Ratio of gross income to net cost	18.6%	20.4%

Space does not permit further examples showing the control of efficient planning over cost. In general, it determines practically the entire cost of a project in so far as quantity of material and labor are concerned, and leaves only the quality factor to design, materials, finish and equipment. It is obvious that a plan developing more rooms of approximately the same size in a given area will produce a lower square foot average per room than one containing less rooms and therefore will produce more rentable area with less waste space and an increased density of materials. This will proportionately increase the cubic foot cost but will reduce the average room cost and increase the ratio of income to cost. Such a condition not only materially affects the cost but the income as well and, considering the wide variance in these averages for different buildings analyzed, it is worthy of further study.

The analyses of many plans show that some of the more important types of investment buildings should, under present New York market conditions, normally average as follows. The following table assumes all buildings to be ten stories and

basement, containing 1,000,000 cu. ft. and covering approximately 9,000 sq. ft. of area.

	Office	Loft
Net square feet rentable area	63,000	72,000
Per cent rentable of gross area	70%	80%
No. cubic feet to produce each square foot rentable area	16	14
Average net cost per net square foot rentable	\$8.75	\$5.75
Per cent net within 25 ft. of natural light	80%	70%
Per cent gross income @ \$3 per ft. of net cost	34%	—
Per cent gross income @ \$2 per ft. of net cost	—	34%

Apartments should be analyzed in terms of rentable rooms. A partial analysis follows of two average types of high class fireproof apartments in New York City, both assumed to be the same size as indicated above:

	Average for River-Park Ave.	Average for side Dr.
	AA	A
Size of average living room	20 x 30	14 x 20
Average square foot per rentable room	350	280
Average cubic foot per rentable room	3,900	3,200
Number rooms typical floor	26	32
Total No. rooms	252	312
Average net cost per rentable room	\$2,700	\$1,920
Per cent of gross income @ \$720 per room of net cost	27.0%	—
Per cent of gross income @ \$480 per room of net cost	—	25.0%

Note: The all important figures in the above tables are those showing number of cubic feet to produce each square foot of net rentable area, and the number of square feet and cubic feet to produce each rentable room.

When it is realized that plans for office buildings often vary in efficiency to the extent of requiring from 15 to 20 cu. ft. to produce one net rentable square foot of space, it is easy to see why some provide successful operations and others fair ones, while still others are never developed, or if they are, result in failure. See what these extremes will produce in an office building of the size specified above:

	15 ft. Plan	20 ft. Plan
Net square feet rentable area	66,600	50,000
Per cent rentable of gross area	74%	56%
Average net cost per square foot rentable	\$8.25	\$11.00
Per cent gross income @ \$3.00 per foot of net cost	36%	27%

To carry the thought further, suppose two buildings are erected in the same locality from these extreme plans, and they are not unusual; one would have to yield an average of \$4.00 per foot in order to equal a gross income from the other building rented at an average of \$3.00 per square foot. Other conditions being equal, one could always under-rent its competitor by approximately 25%. At \$3.00 per square foot rental the gross income from the 15 foot plan would be 36%

of the net building (\$550,000) cost while the 20 foot plan would produce only 27%, a loss of \$49,900 or 25% in gross income.

In planning the average office building, it is also essential to obtain the maximum amount of rentable area within 25 ft. of direct natural lighting. An office or bay 18 x 25 containing 450 sq. ft. with all its rentable space within the 25 ft. lighting zone will usually develop as much income as an unwieldy office or bay 15 x 35 containing 525 sq. ft., poorly laid out for efficient usage, with approximately 30% of its space outside the 25 ft. zone. Suppose our typical building containing 1,000,000 cu. ft. and 63,000 sq. ft. of rentable area had only 70% of this space (44,000 sq. ft.) within the 25 ft. zone. In the majority of locations this condition would warrant a revised plan producing this 44,000 sq. ft. with little, if any, excess beyond the 25 ft. zone which would normally result in a building containing less than 800,000 cu. ft. and represent a saving of over 200,000 cu. ft. or about 20% (\$110,000) in cost, with no loss in gross income. This would raise the ratio of income against cost to 43%, or 9 points above the average of 34% noted previously.

In the case of apartments, the tell tale figures are those showing number of square and cubic feet allotted the average room. Different locations with their income bearing properties demand different sized rooms but in general the efficient plans for the two average type fireproof New York apartments develop the figures previously noted. The living room size given is normal and furnishes a guide for other room sizes. Table No. 1 develops normal sizes and percentages for a five room apartment in an A type building. Table No. 2 gives a fair indication of how a variance from the normal efficient layout will effect the ratio of cost to income, other conditions remaining equal. The table is worked out on a modern corner fireproof apartment containing approximately 1,000,000 cu. ft. with ten apartment floors of about 9,000 sq. ft. area each. The estimated cost covers only labor and materials, as of New York, June, 1923. Income is gross and figured at \$480 per annum per room.

Suppose an investor has determined to improve a certain piece of property with an A type apartment and has advised the architect that he must obtain at least 262 rentable rooms divided into three, four and five room apartments, the net cost of the building (labor and materials only) not to exceed \$600,000. The location warrants figuring on minimum rental of \$480 per room with rooms averaging in size as per Table No. 1. Now suppose the architect has obtained the 262 rooms at an estimated cost of \$570,000, has he done his full duty? In view of the fact that a cubic contents of one million feet, all conditions being normal, will produce 312 rooms at a net cost, in this mar-

ket, of approximately \$600,000, and that under certain conditions plans developing 332 rooms of these sizes have been obtained within the ten floors and one million cubic feet, it is but just to say that he has not performed his duty. A study of the extremes in plans No. 1 and No. 8 of Table No. 2 will show an increase of 70 rooms with no change in cubic contents but an estimated increase in cost of \$42,000. These extra rooms therefore are added for approximately \$600 per room or about 34% of the average room cost. For a 71½% increase in net cost the owner obtains a 27% increase in gross income.

TABLE NO. 1—ROOM SIZES
MINIMUM ROOM SIZES FOR AVERAGE FIREPROOF
APARTMENT

Living Room	(14 x 20)	— 280 sq. ft.	— 20.0%
Dining Room	(14 x 15)	— 210 " "	— 15.0%
Kitchen	(7½ x 12)	— 96 " "	— 6.5%
Pantry	(4 x 8)	— 32 " "	— 2.3%
Master's Bedroom	(11 x 16)	— 176 " "	— 12.6%
Bedroom	(10 x 13)	— 130 " "	— 9.3%
Bathroom	(5 x 8)	— 40 " "	— 2.9%
Closets	6 (2 x 4)	— 48 " "	— 3.4%
Halls, Foyers	—	— 112 " "	— 8.0%
Total Apartment Floor Space		—1120 sq. ft.	or 80.0%
Total Public Corridors, Walls, Partitions, etc.		— 280 " "	— 20.0%
Five Room (Average 280 sq. ft.)		—1400 sq. ft.	—100.0%

Often, and especially in modern suburban apartments, it is a very easy matter to increase income by trading public corridor for rooms and by providing additional entrances and mechanical equipment. Generally the additional income will more than warrant the slight expense and the additional operating cost. Incidentally the elimination of central corridors in suburban apartments, while usually increasing slightly the enclosing wall, will provide much better apartment layouts, exposures and ventilation.

Then again, knowing when to trade height for area covered presents opportunities frequently overlooked. For example, a four story and basement suburban walk-up, semi-fireproof apartment was designed for a plot 150 x 300 feet. The plan covered 60% of the entire plot and was not only high in wall excess but the layout was complicated. The high value of land did not warrant a 40% waste for the advantages gained. A revised plan was made for a six story push button elevator building of the same type of construction but covering 75% of one-half of the original plot. All the attractions of the original layout were maintained, including size of rooms plus the advantage gained in raising the type to an elevator apartment, beside which, one-half of the original plot, or, 22,500 sq. ft. of land valued at \$40,000 was saved and made available for future development. An analysis of the two plans shows the following:

	Original	Revised
1 Area of Plot	45,000 sq. ft.	22,500 sq. ft.
2 Area ground floor	27,000 "	17,875 "
3 Height in stories	4	6
4 Cubic foot contents	1,350,000	1,252,000
5 Net unit cost per square foot	42c	45c
6 Net cost	\$560,000	\$565,000
7 Average room cost	\$1,506	\$1,520
8 Number rooms	375	370
9 Average square feet per room	287	288
10 Average cubic feet per room	3,600	3,400
11 Income per room per annum	\$300	\$330
12 Gross income	\$112,500	\$122,100
13 Per cent gross income of net cost	20.1%	21.6%

Whatever else these tables reveal, they plainly tell the investor to demand of his architect a service which not only develops a superior product architecturally, but a maximum income at a minimum

cost. A knowledge of the principal factors controlling building costs and income is absolutely necessary for the efficient architect in the field today. Because the plot solution and subsequent plan play the most important part in the ratio of cost to income, these should receive first consideration in developing the composition. Before leaving the sketch period, the architect should be convinced that the future result will, in so far as the plan is concerned, properly balance all the controlling factors for a successful project. Simple analysis of the plan along the lines suggested and a comparison of results obtained with tables indicating the average efficient results necessary for a particular type will tend to insure a future successful investment and so far as the architect is concerned the client will have little, if any, difficulty in financing his project in a most satisfactory and expeditious manner.

TABLE NO. 2—PER CENT GROSS INCOME OF NET COST

TYPICAL TEN STORY FIREPROOF APARTMENT

TYPICAL FLOOR—9,000 Sq. Ft.

CUBE CONTENTS—1,000,000.

Plan	Total Number Rooms	Rooms Per Floor	Approx. Average Sq. Ft. Per Room	Approx. Average Cu. Ft. Per Room	Net Estimated Cost	Gross Income	Per cent Gross Income Net Cost	Average Room Cost
1	262	27	530	3700	\$570,000	\$125,760	22.0	\$2,180
2	272	28	320	3600	576,000	130,560	22.7	2,120
3	282	29	310	3500	582,000	135,360	23.3	2,070
4	292	30	300	3400	588,000	140,160	23.8	2,010
5	302	31	290	3300	594,000	144,960	24.4	1,965
6	312	32	280	3200	600,000	149,760	25.0	1,920
7	322	33	270	3100	606,000	154,560	25.5	1,880
8	332	34	260	3000	612,000	159,360	26.0	1,810

Investigations Concerning Wood

OF the eighty-eight projects under way at the Forest Products Laboratory, Madison, Wisconsin, under the management of Mr. Carlisle P. Winslow, Director, ten of them are of interest to architects and engineers. A detailed description of these investigations for 1923-24 is included in the Program of Work, recently printed. Many of these investigations have been under way for some time and it will require a few years, in some cases, to complete them. However, the Forest Products Laboratory has been and is always ready to give such progress information as is available and suitable for use.

The ten projects that will be of interest and value to architects and engineers are: Tests of wooden columns in structural sizes; the influence of moisture on the mechanical properties of wood; grading rules and working stresses for hardwood and softwood structural timbers; protection of piling from marine borers; study of the finishing of wood with coating materials; development of waterproof glues; sizing of glued joints and its

effect upon the strength; study of moisture resisting coatings; standardization of sizes, grades and nomenclature of lumber, and an investigation of conditions in buildings which promote the decay of timbers used in their construction.

The Forest Products Laboratory, recognizing the important position that wood holds in building construction, has always been ready to render all possible assistance to architects and engineers in solving those problems that develop in their work. A close relationship between these professional men, individually and through their technical organizations and the laboratory is in every way a desirable thing.

Rudolph P. Miller

RUDOLPH P. MILLER, consulting engineer of New York City, the representative of American Engineering Council on the National Board for Jurisdictional Awards in the Building Industry, was elected Chairman of that Board at its recent meeting in Atlantic City, succeeding in that position E. J. Russell, F. A. I. A., resigned.

The PRACTICE of ARCHITECTURE

Reprinted from THE AMERICAN ARCHITECT, November 27, 1918

MANY things give indications of changes in the making. Through conversation, correspondence or reading these signs are constantly recurring testimonials, and a tabulation is unconsciously made of them until the ideas become insistent in their presence. To verify the general impression, a systematic collation of all the evidence is in order.

In arriving at a conclusion by this mental process, it will be found that among the diverse problems demanding attention at this time, one of manifest importance is that of the attitude of the public toward the architect and of the architect in his relations to himself and others.

The practice of architecture is probably today, more than ever before, a matter of barter and trade. The monies invested in building structures demand a return service which represents full value. This value is measured in the adaptability of the structure to its use, its durability and its appearance. These three factors are the fundamentals of correct planning and to render adequate service it appears to be essential that the architect should fully qualify himself to meet these basic requirements.

An analysis has been made of a great amount of data pertaining to this subject and the majority opinion has been condensed into the following five

paragraphs which embrace the most common of the points developed. This brief concensus of opinion is not intended to cover the multitude of conditions that exist in such relations, but it is thought that possibly it comprises the basic factors.

1. The business of architecture is inseparable from the profession of architecture. Together they comprehend the originating, promoting, designing, planning, directing and controlling the construction of buildings and their appurtenances.

2. To develop a general demand for architectural service—without which only limited opportunities for practice will be presented—the architect must, as an individual and collectively, employ proper and effective means to create a universal appreciation of its intrinsic value.

3. To perform his function fully, the architect must organize, equip and operate his business so as to render complete service in the production of plans and specifications for everything embraced in the construction, equipment and furnishing of buildings.

4. He must furnish complete and detailed supervision of construction and be closely identified with it. He must be responsible financially, as well as morally, for all of his acts, including the correctness of design, the completeness and accuracy of plans, specifications and details, and the construction of the building in accordance therewith; his responsibility to be contingent only on his being accorded freedom in deciding all matters of structural design, mechanical equipment and the selection of materials and workmen.

5. He must control and regulate the business affairs of the building operation so as to safeguard all interests. He must be just and impartial in deciding all controversies within his jurisdiction, but where his own interests are involved he must submit the controversy to arbitration.

FORTY YEARS AGO

EXCERPTS FROM THE AMERICAN ARCHITECT,
SEPTEMBER 1-8-15, 1883

A CURIOUS illustration of the high-handed manner in which the New York Trade Unions carry on their affairs at present is furnished by several occurrences which took place recently at new buildings in that city. A coalition of all the unions concerned with the building trades has recently been formed, under the name of the Allied Building Trades Union, and the managers of this association have undertaken to put in practice for purposes of their own the tactics employed before them by the Plasterers' Union, by employing like the plasterers, inspectors to visit all new structures, and enforce, by the summary process of calling off their men such demands as they see fit to lay on the contractors.

* * *

The Seventeenth Annual Convention of the American Institute of Architects was a very harmonious and successful one. The amount of business transacted was not large but the measures

adopted were of considerable importance to the future of the Institute. About forty members were in attendance, including several from Ohio, one from Chicago, one from Indiana and one from Georgia, besides many from New York and Boston. The by-laws were amended to abolish the limiting of the number of Fellows; putting upon the chapters the responsibility of supporting the petitions of candidates for Fellowship; that any group of architects including one Fellow can organize a Chapter subject to the Board of Trustees.

* * *

Illustrations: Design for All Saints Cathedral, Albany, N. Y., H. H. Richardson, Architect, Brookline, Mass.; Water Tower for the Hackensack Water Company, Weehawken, N. J., Frederick C. Withers, Architect, New York; Competitive design for the New York Produce Exchange Building, R. M. Upjohn, Architect, New York; Store for R. H. White & Co., Bedford Street, Boston, Peabody & Stearns, Architects, Boston, Mass.; House for H. L. Slosson, Esq., Geneva, N. Y., J. G. Cutler, Architect, Rochester, N. Y.; House for T. T. Haydock, Esq., Walnut Hills, Ohio, J. W. McLaughlen, Architect, Cincinnati, Ohio.

BEAUX-ARTS INSTITUTE of DESIGN

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ARCHITECTURE, RAYMOND M. HOOD, DIRECTOR—SCULPTURE, JOHN GREGORY, DIRECTOR

INTERIOR DECORATION—ERNEST F. TYLER, DIRECTOR

MURAL PAINTING—ERNEST C. PEIXOTTO, DIRECTOR

Special Notice to Students

BY special arrangement with the Society of Beaux-Arts Architects, there appears in each issue of THE AMERICAN ARCHITECT an average of five pages devoted to the presentation of drawings selected from the Beaux-Arts Institute of Design exhibitions, and also the listing of awards and the promulgation of all notices to students. These matters will be exclusively presented to students of the Beaux-Arts Institute of Design through the pages of THE AMERICAN ARCHITECT. By arrangement with the publishers of THE AMERICAN ARCHITECT, a special student subscription rate of \$5.00 per annum has been secured. Further particulars with reference to this service to Beaux-Arts students may be obtained by addressing THE AMERICAN ARCHITECT, 243 West 39th Street, New York City.

OFFICIAL NOTIFICATION OF AWARDS

JUDGMENT OF JUNE 5, 1923

CLASS "B"—V ANALYTIQUE

"A BALDACCHINO"

Over the high altar in a Roman Catholic Church it is proposed to erect a Baldacchino of permanent and rich materials, which will serve to embellish the sanctuary and to heighten the effect of the ceremonial.

The composition which may be either free standing or built against the end wall, will consist of a sort of hood or canopy supported on columns. Directly under the canopy is the altar, elevated on a platform and richly decorated. A balustrade will be erected in such a manner as to prevent the public from encroaching on that portion of the sanctuary reserved for the officiating priests.

The space occupied by the supports shall not exceed 20' in any dimension, and the Baldacchino, including steps and crowning ornaments, shall not exceed 45'-0" in height.

The attention of the student is called to the great variety of manners in which this program may be treated. The number and the arrangement of the columns offers a wide range of possibility. The hood, too, suggests an infinite number of designs ranging from severe architectural forms to the freer and more ornate motives of Baroque art.

JURY OF AWARDS:—P. A. Cusachs, B. W. Morris, W. Warren, H. R. Sedgwick, E. S. Hewitt, H. W. Corbett, F. S. Hirons, F. C. Hitchens, S. Stevens, A. E. Flanagan, and F. C. Disque.

NUMBER OF DRAWINGS SUBMITTED:—151.

AWARDS:—

FIRST MENTION PLACED:—R. J. Kredel, R. H. Cutting and L. Swiger, Carnegie Institute of Tech., Pitts.; R. M. Hovanetz and Edith C. Fisher, Cleveland Sch. of Art, Cleveland; W. B. Tubby, Jr. and Betty Barber, Columbia Univ., N. Y. C.; L. C. Mechling, Jr., Atelier Penn State-Penna. State College, State College; R. O. Isenbarger, Univ. of Illinois, Urbana; L. W. Pidgeon, Univ. of Southern California, Los Angeles.

FIRST MENTION:—H. W. Damon, Jr., E. G. Wheeler and Livonia L. Osborn, Carnegie Inst. of Tech., Pitts.; Marie Brandt, Beatrice Boerum, W. H. Deitrick, Jr., P. V. Obninsky, L. Highton, Sara Leenhouts and J. Krendel, Columbia Univ., N. Y. C.; S. Ackerman and

M. C. Basen, Atelier Corbett-Koyl, N. Y. C.; M. Peele and L. S. Keefauver, George Washington Univ., Wash., D. C.; B. Krinsky, John Huntington Poly. Inst., Cleveland; G. W. Rustay, Atelier Penn State-Penna. State College, State College; F. E. Schumann, "T" Square Club, Phila.

SECOND MENTION:—E. Hodges, Atelier Adams, Kansas City; S. A. Dow, Atelier Barber-McMurry, Knoxville; H. R. Murray, C. O. Garland, D. K. Morrison, T. B. Garman and G. J. Popiden, Carnegie Inst. of Tech., Pitts.; M. A. Tellotson and E. M. Watson, Cleveland Sch. of Art, Cleveland; W. Sambur, J. Rivlin, P. Youiz, N. H. Gotthoffer, C. M. Cowan, H. S. Konold, C. F. Hart, A. V. Kane and M. Grodinsky, Columbia Univ., N. Y. C.; T. H. Locraft and B. Vorsanger, Jr., Catholic Univ., Wash., D. C.; F. J. Ryan, Atelier Corbett-Koyl, N. Y. C.; A. Jack and J. G. Meem, Atelier Denver, Denver; R. Gittelman, F. H. McCrary, P. F. DuLaney, Margaret Weeks, T. S. McClelland, D. Sutton, E. A. Dacey, P. H. Williams and C. A. Hough, George Washington Univ., Wash., D. C.; H. A. Simpson, Atelier Hirons, N. Y. C.; C. A. Schirling, W. B. Durand, R. Smith, E. Cain, R. B. Aley and R. B. Johns, John Huntington Poly. Inst., Cleveland; H. K. Urffer, D. E. Kennedy, E. G. von Storeh and C. R. Schlicher, Atelier Penn State-Penna. State College, State College; H. Langley, F. Kruger, K. E. Ponsford and E. K. McNinch, San Francisco Archtl. Club, San Francisco; J. C. Ehrlich, Atelier Sibley, Palisade; C. Ward, Jr., W. A. Thom, W. F. Ziegler, S. Berger, F. J. Duane and R. F. Fletcher, "T" Square Club, Phila.; A. Wupper, R. H. Kloppenburg, C. K. Armholt, Mary T. Worthen, K. C. Helms, W. B. Parks, H. J. McKee, H. Sobel, J. W. Gregg, L. C. Hedrick and E. J. Cole, Univ. of Illinois, Urbana; E. E. Morehead, C. Norris, R. A. Duell and J. M. Savage, Univ. of Southern California, Los Angeles; C. C. Simmons, W. Kleine, J. F. Buenz, H. Steinbomer, S. E. Terrell, H. W. Willms, and A. H. Evans, Univ. of Texas, Austin; J. L. Mattson, G. M. Shigaki and N. Graham, Univ. of Washington, Seattle; R. Jenks, Univ. of Kansas, Lawrence; F. M. Duncan and D. H. Holden, Yale University, New Haven.

H. C.:—W. K. Webb, Univ. of Southern California, Los Angeles.

CLASS "A" AND "B" ARCHÆOLOGY—VI

MEASURED DRAWINGS

JURY OF AWARDS:—P. A. Cusachs, B. W. Morris, E. S. Hewitt, H. W. Corbett and A. E. Flanagan.

NUMBER OF DRAWINGS SUBMITTED:—4.

SUBJECT:—The Portico of the New York City Hall.

AWARD:—SECOND MEDAL:—J. L. Knipper, Atelier Corbett-Koyl, N. Y. C.

SUBJECT:—Old House on Beach Street, Syracuse, N. Y.

AWARD:—SECOND MEDAL:—J. S. Palmer, Syracuse Univ., Syracuse.

SUBJECT:—Doorway of Kepler Home, Fayetteville, N. Y.

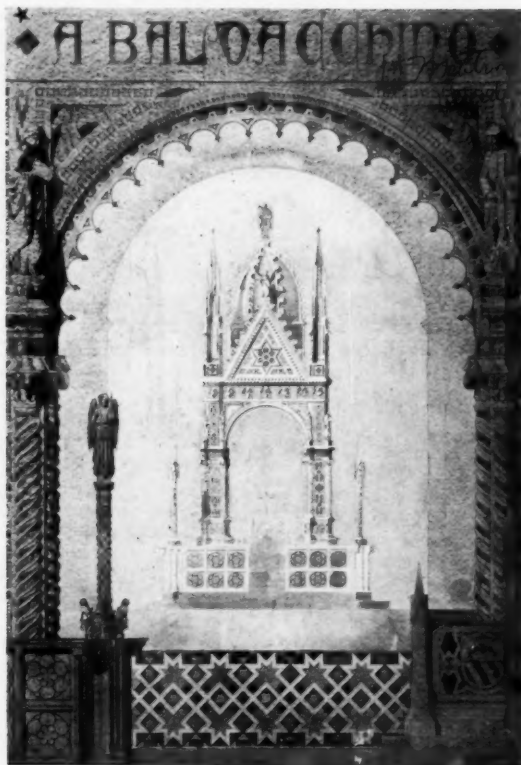
AWARD:—SECOND MEDAL:—D. H. Wright, Syracuse Univ., Syracuse.

SUBJECT:—Pulpit of St. Peter's Church, Philadelphia, Pa.

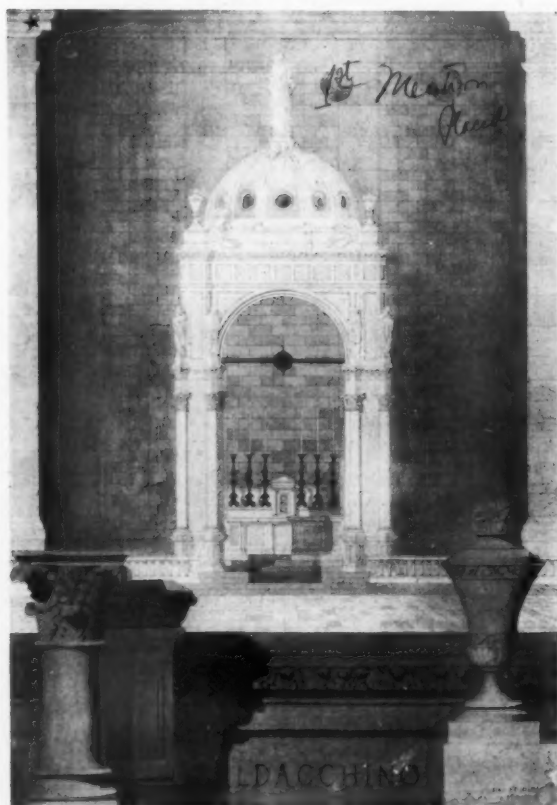
AWARD:—SECOND MEDAL:—S. K. Lichty, Univ. of Pennsylvania, Phila.



L. W. PIDGEON UNIV. OF SO. CAL.
FIRST MENTION PLACED



L. C. MECHLING, JR. ATELIER PENN STATE
FIRST MENTION PLACED



R. M. HOVANETZ CLEVELAND SCHOOL OF ART
FIRST MENTION PLACED

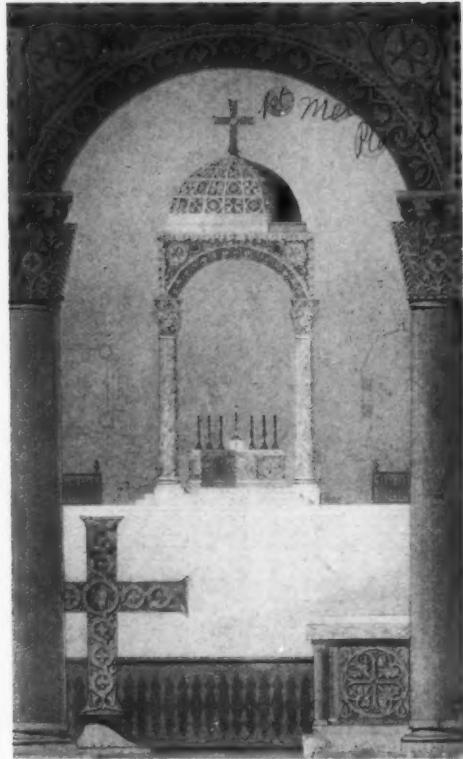


W. B. TUBBY, JR. COLUMBIA UNIV.
FIRST MENTION PLACED

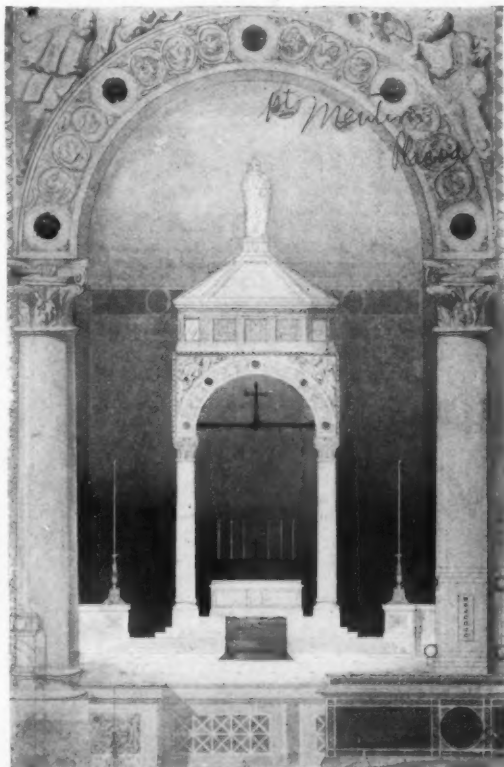
CLASS "B"—V ANALYTIQUE—A BALDACCHINO
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



R. O. ISENBARGER UNIV. OF ILL.
FIRST MENTION PLACED



R. J. KREDEL CARNEGIE INST.
FIRST MENTION PLACED



R. H. CUTTING CARNEGIE INST.
FIRST MENTION PLACED



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CLASS "B"—V ANALYTIQUE—A BALDACCHINO
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B. BARBER

COLUMBIA UNIV.

FIRST MENTION PLACED
A BALDACCHINO



L. SWIGER

CARNEGIE INST.

FIRST MENTION PLACED
A BALDACCHINO



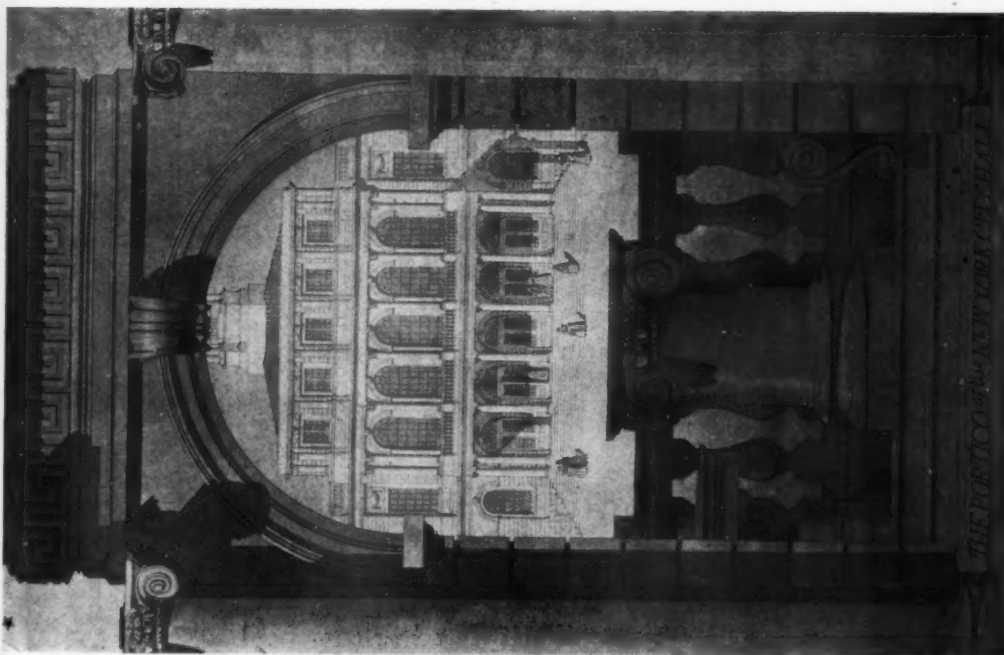
J. S. PALMER

SYRACUSE UNIV.

SECOND MEDAL

OLD HOUSE IN SYRACUSE
CLASS "A" AND "B" ARCHÆOLOGY-VI

STUDENT WORK
BEAUX-ARTS INSTITUTE
OF DESIGN



J. L. KNIPPER

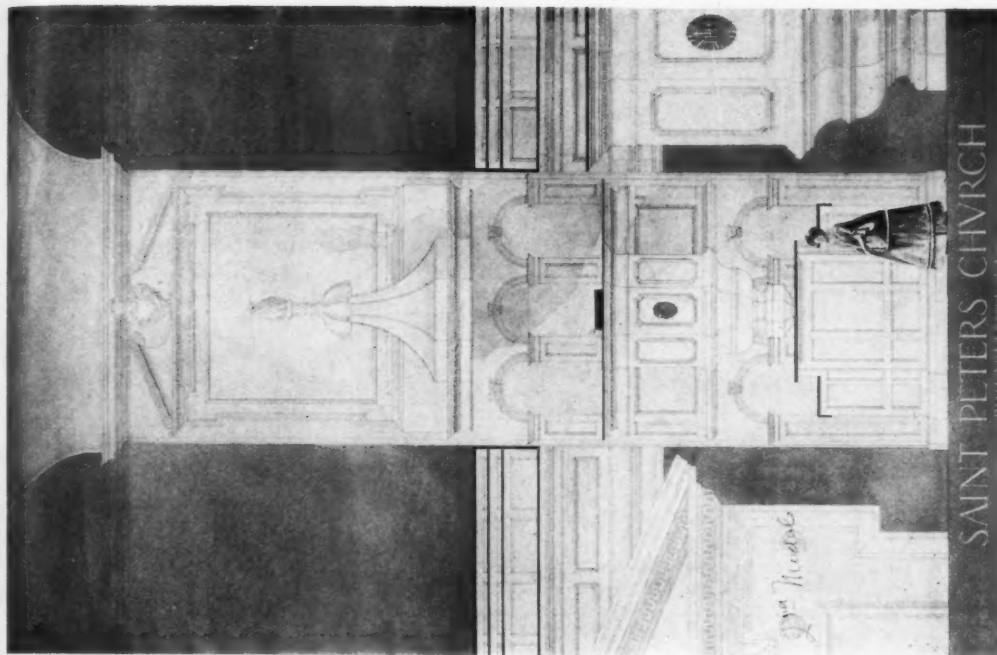
SECOND MEDAL

ATELIER CORBETT-KOYL

THE PORTICO OF THE NEW YORK CITY HALL

CLASS "A" AND "B" ARCHÆOLOGY-VI—MEASURED DRAWINGS

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

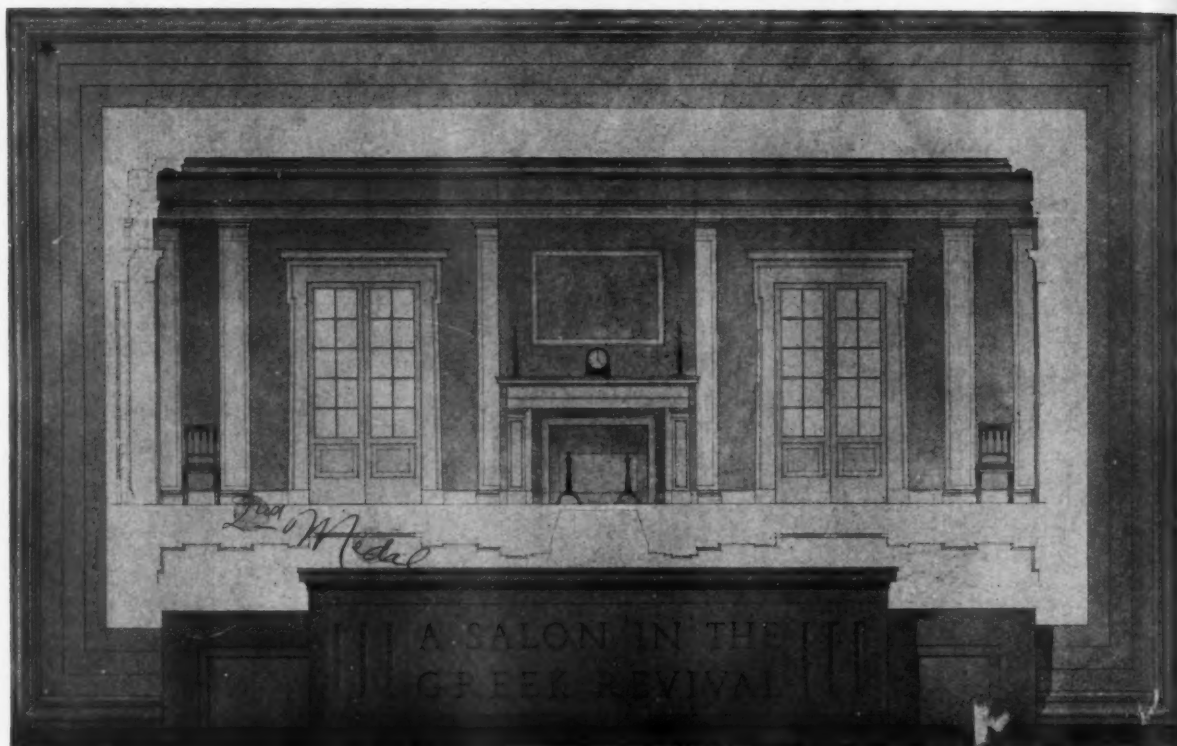


S. K. LICHTY

SECOND MEDAL

UNIV. OF PA.

PULPIT OF ST. PETER'S CHURCH, PHILADELPHIA



E. V. GAUGER

SECOND MEDAL

UNIVERSITY OF ILLINOIS



S. R. MOORE

SECOND MEDAL

COLUMBIA UNIVERSITY

A SALON IN THE STYLE OF THE GREEK REVIVAL
CLASS "A" AND "B" ARCHÆOLOGY-VI PROJET
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN
(For Program and List of Awards see preceding issue, August 29, 1923)



The University Club, Bridgeport, Conn.



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DEPARTMENT of SPECIFICATIONS*

GENERAL SPECIFICATIONS

THE four grades and the general character of each grade are as follows: Select (S2) grade is especially adapted to heavy construction, such as railway bridge and mill work. Standard (S3) grade is primarily suitable for general building use and common mill construction. Common (S4) grade is especially recommended for small house construction where stiffness is a controlling factor and where strength requirements are not so critical. These grades will furnish by far the greater portion of the structural timbers used. The Extra Select (S1) grade is an exceptional grade intended to meet the most exacting strength requirements for construction purposes.

LIGHT WEIGHT MATERIAL: All exceptionally light weight pieces in any species shall be lowered one grade.

DENSE MATERIAL: Southern yellow pine and Douglas fir which will classify as dense under the rules of the American Society for Testing Materials for these species take the stress of the next higher grade.

KNOTS AND KNOT HOLES: The measurement of knots or knot holes is made on the section appearing on the surface in question. The diameter of a knot on the narrow or horizontal face shall be taken as the width of the knot between lines parallel to the edges of the timber. On the wide or vertical face the smallest dimension of a knot shall be taken. Knots on the edge of wide faces are limited to the same size as on the adjacent portion of the narrow faces. Cluster knots on any face in any part of a beam shall cause its rejection except when specifically permitted. The diameter of cluster knots shall be measured between lines enclosing the cluster. Unsound or decayed knots in which the decay does not exceed the diameter of the knots are limited as are sound knots.

CHECKS, SHAKES, AND SPLITS: Checks, or combination of checks with shakes, which would reduce the strength to a greater extent than the allowable round shake shall not be permitted. Restrictions on shakes are given in each grade. The width of shakes shall be taken as the distance between lines parallel to the vertical edges of a timber. Splits shall be graded as checks or shakes.

DECAY: All grades shall contain only sound wood unless decay is specifically permitted.

SAPWOOD: Unless otherwise specified any amount of sapwood is permitted in all grades.

HOLES: Dog, picaroon, bird, insect, and rafting pin holes shall be limited for each grade in the same manner as knot holes.

OTHER DEFECTS: Defects other than knots, knot holes, decay, shakes, checks, splits, and cross grain are omitted from these rules, as they are limited ordinarily by considerations other than strength and should be restricted when necessity requires by application of standard yard lumber rules to faces.

METHOD OF MEASURING DEFECTS: The accompanying drawing illustrates the method of measuring the various kinds of knots on the horizontal and vertical faces, and the method of measuring shakes on the ends. The gradual increase in size of the allowable knots from the center one-third of length to end and from edge to center of the wide face is also illustrated. The table accompanying the figure gives in condensed form the defect limitations of all grades.

DIFFERENCE OF GRADE BETWEEN NARROW FACES: Beams, girders, and joists usually have one cross-sectional dimension larger than the other and are set on edge. Knots on the upper edge or face are not so injurious to the strength as those on the lower faces. Because of the likelihood of either side of a beam being placed up, however, it is usually necessary to limit defects on both narrow faces in the same manner. A beam which shows on the two edges a difference of one or more grades may safely take the stress of a grade one higher than the grade of the poorer edge, provided the beam is placed with the better edge down.

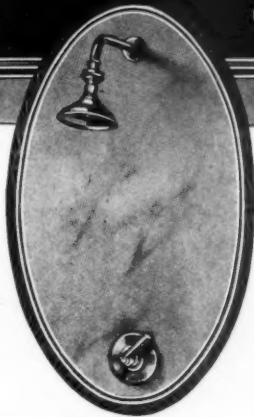
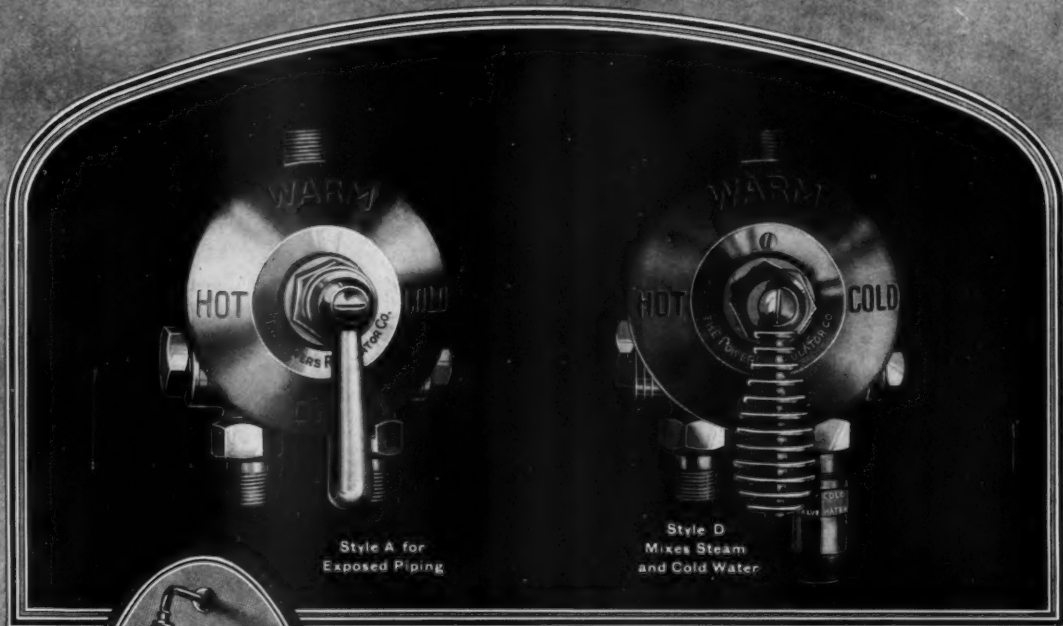
STANDARD (S3) GRADE

(For general building use)

KNOTS: General—The sum of the diameters of all knots within the center half of the length of a beam shall not exceed one and one-half times the width of the face on which they occur. *Narrow or Horizontal Faces*—A knot hole or sound knot on the narrow or horizontal faces and in the center third of the length of a beam shall not exceed in diameter three-eighths of the width of the face (maximum knot $2\frac{1}{4}$ inches). Outside the center one-third of the length, the size of a knot may increase gradually towards the end to three-fourths the width of the face (maximum knot $4\frac{1}{2}$ inches). *Wide or Vertical Faces*—Knot holes or sound knots on the edge of the wide face shall be limited to the same size as on the adjacent portion of the narrow face, but the knot may increase gradually in size towards the center of height to three-eighths the width of the face (maximum knot $4\frac{1}{2}$ inches).

SHAKES: Round or ring shakes showing on the end of a timber shall not measure more than three-eighths the width in green material, nor more

*Continued from THE AMERICAN ARCHITECT, August 29, 1923.



The Powers Shower Mixer

—a great improvement!

MAKES the shower bath safe and enjoyable by completely eliminating those unexpected "shots" of cold and hot water common to the shower bath equipped with the ordinary mixer.

How It Works

Sudden "shots" of hot or cold water in the shower bath are caused by pressure changes in hot and cold water lines when adjoining showers or other plumbing fixtures are used. In a Powers Shower Mixer there is a simple all-metal pressure balancing valve which instantly equalizes the pressure of hot and cold water before they enter the mixing chamber, so that regardless of pressure changes, a Powers Mixer always holds the temperature of the water where you want it.

Made of brass with nickel plated dial and handle in four styles for exposed and concealed piping. Send for Bulletin No. 154, which gives detailed information.

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THE AMERICAN ARCHITECT—THE ARCHITECTURAL REVIEW

than four-ninths the width in seasoned material.

CROSS GRAIN: Within the center half of a beam the slope in grain shall not exceed 1 in 11.

COMMON (S4) GRADE

(For small house construction)

DECAY: A beam may contain heart rot not to exceed one-tenth the area of the cross section of the piece.

KNOTS: *General*—The sum of the diameters of all knots within the center half of the length of a beam shall not exceed twice the width of the face on which they occur. Unsound or decayed knots to one-half the size of the sound knots are permitted in this grade. Cluster knots of the same diameter as sound knots are permitted in this grade. *Narrow or Horizontal Faces*—A knot hole or sound knot on the narrow or horizontal

faces and in the center third of the length of a beam shall not exceed in diameter one-half the width of the face. The size of knots may increase gradually towards the end where it may be equal to the width of the face (maximum knot 6 inches). *Wide or Vertical Faces*—Knot holes or sound knots on the edges of the wide faces shall be limited to the same size as on the adjacent portion of the narrow face, but the knot may increase gradually in size towards the center of the height to one-half the width of the face (maximum knot 6 inches).

SHAKES: Round or ring shakes showing on the end of a timber shall not measure more than one-half of the width in green material, nor more than five-ninths the width in seasoned material.

CROSS GRAIN: Within the center half of a beam the slope in grain shall not exceed 1 in 8.

The AMERICAN SPECIFICATION INSTITUTE

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OUTLINE OF FIRST DRAFT OF TENTATIVE SPECIFICATIONS FOR AIR FILTER

(The form of this Bulletin conforms to the arrangement of Elements of a Specification as given in Bulletin No. 5, ANALYSIS OF A SPECIFICATION.)

I. CONTRACT AND LEGAL

1. Parties:
2. Drawings:
3. Agreement:
4. Terms of Payments:
5. General Conditions:
6. Regulations and Codes:
7. Standards:
8. Patents:

II. ECONOMIC

SCOPE OF CONTRACT:

9. Work Included:
10. Work Not Included:

METHODS OF ANALYSIS AND COMPARISON OF BIDS:

11. Methods:
12. Basis:
13. Detailed Information:
14. Conditional Payments:

III. GENERAL DESCRIPTION

CHARACTERISTICS:

15. Location:
16. Railroad Siding:
17. Visiting Site:
18. Working Facilities:
19. Capacity:
20. Performance:
21. Charging:

IV. PRELIMINARY PREPARATIONS

22. Field Measurements:
23. Shop Drawings:
24. Samples:
25. Models:

V. MATERIALS

26. Properties, Chemical and Physical:
27. Sizes:
28. Quantities:
29. Frames:
30. Filter Drain Trough:
31. Filter Cells:
32. Extra Filter Cells:
33. Wash Tanks:
34. Charging Liquid:



Main Entrance, Brownstein-Louis Company's Factory Building, Los Angeles, California, John Parkinson, Architect: Executed in dark standard buff Terra Cotta with white mottling. Columns above entrance also Terra Cotta.

BEAUTIFY IT!

FOR the modern industrial building Terra Cotta offers splendid possibilities for achieving this result at a cost well within the limits of sound economy.

Distinctive treatment carrying the utmost in advertising value is readily attained and violates no precedent or necessary canon of good design for this class of building.

Consider the possibilities in this direction of color enrichment alone. No other material presents such an extensive and varied palette.

Literature pertaining to Terra Cotta and its resources for chromatic design will be sent on request. Address **National Terra Cotta Society**, 19 West 44th Street, New York City.

TERRA COTTA

Permanent

Beautiful

Profitable

VI. DESIGN AND CONSTRUCTION

- 35. Shop Work:
- 36. Field Work:
- 37. Finish:
- 38. Protection of Work:

VII. SCHEDULES

- 39. Shop Production:

- 40. Field Operations:
- 41. Shipment and Delivery:

VIII. RESULTS

- 42. Inspection and Performance:
- 43. Guarantees:
- 44. Tests:
- 45. Rejection:
- 46. Replacement:

State Bureau of Housing and Regional Planning for New York

A STATE Bureau of Housing and Regional Planning within the Department of Architecture of New York State has been created by the legislature of 1923 and \$10,000 appropriated for its expenses. The bureau will be in charge of a commission of eight members, consisting of the state architect, the state highway commissioner and the state industrial commissioner, ex-officio, and five lay members appointed by the state architect. No salaries will be paid but the members will receive traveling expenses. Besides being required to make a special report on the present housing shortage and a yearly general report the duties of the new bureau are:

1. Study housing needs and conditions in the State and prepare plans adapted to meet such needs and conditions.
2. Collect and distribute information relating to housing and community planning and study means of lowering rents on dwellings by securing economy in the construction and the arrangement of the buildings.
3. Assist in the preparation of legislation and regulations in relation to housing, zoning and planning throughout the State.
4. Co-operate with local housing boards or similar bodies in cities and localities and with State and Federal authorities.

Museum of the City of New York

FROM recent press announcements it is learned that the historic Gracie house in Carl Schurz Park, near Eighty-eighth Street, is soon to become the Museum of the City of New York.

Cornerstone of Paris University City Laid

BEFORE an assembly representing governmental and intellectual life of France, the cornerstone of the Paris University City was recently laid by Senator Deutsch de la Meurthe.

The unique settlement, when completed, is destined to house "little fortunate" students of the University of Paris. It owes its conception and materialization to the dedicatory, who not only created a foundation for the first group of buildings, but persuaded the Government to give as a site part of the fortifications facing the Park Mont Houris.

The Deutsch de la Meurthe buildings, when completed in June, 1925, will care for 305 students. Buildings will be erected in the near future by Canada, Italy, Argentina, Brazil, Portugal and Japan, while invitations have been issued by the University of Paris to the United States and other allies to add buildings to house their student nationals studying at the university here.

When the allied buildings are completed it is the plan of the university officials to arrange for the interchange of French and foreign students, to give the latter a chance to become better acquainted with their language and customs.

300 Churches to 700 Houses

WITH 300 churches to 700 dwelling houses and some 4,000 inhabitants, the Isle of Patmos, off the coast of Asia Minor, is said to hold the record in the number of places of worship concentrated on fifteen square miles. Most of the churches, some of which are in ruins, were built by pilgrims visiting the place where John is reputed to have written the Book of Revelations. The inhabitants are Greek sponge fishers.



STONE PLATFORM FOR FETES, GARDEN OF LOS DELICIAS, SEVILLE, SPAIN

(From the photograph by Francis Howard)

THE AMERICAN ARCHITECT