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December 1944

The Architect and Public Housing

The South American Heritage

Service Is Our Commodity

The American Frontier

Blueprint for a University

China Needs American Technology

Post-War Capacity of the Building Industry

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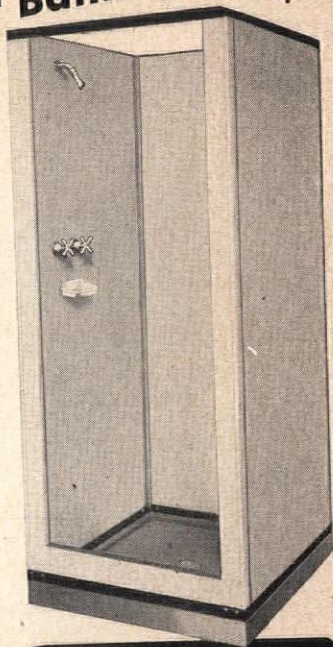
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The Architect and Public Housing

By *Charles Dana Loomis*

TECHNICAL DIRECTOR, HOUSING AUTHORITY OF BALTIMORE CITY

IT is only recently, a matter of about ten years, that the American architect has been able, at first hand, to achieve any real knowledge of public housing and its professional implications.

Large-scale housing developments have come late to the United States. Some forty-five years ago England led off in the theory, and to a small extent in the practice. Holland and Sweden enlarged on the basic ideas to incorporate them into their legal and social philosophy and to build under these philosophies a continuing and growing number of public housing developments. The rest of Europe has followed, more or less closely, to do more or less the same type of thing. Here in "the States" the pressure for such a thing did not become great until the depression of 1929 sobered us all up after the jag of false prosperity during our last "post-war" epoch.

Back in 1931 I was asked to talk to a citizens' group on hous-

ing and city planning. I had been doing a considerable amount of research in the literature of the subject, but preparation for this talk opened my eyes, and public interest surprised me.

There followed four years of almost total submergence in study and public discussion on the subject, and these activities developed many contacts which, at long last, resulted in my organizing the Associated Architects of Baltimore and obtaining a commission for a PWA Housing Division project. This very fortunately never got further than the working-drawing stage. The group learned a great many lessons with a minimum expense to the public, and without cumbering the earth with an unsuccessful and faulty development of the type so often the outcome of our first attempts in this country.

Soon thereafter I was asked to become the Technical Director of the Housing Authority of Balti-

more City, then about to be organized. This would probably not have happened if a public-spirited and progressive architect had not accepted appointment as the Chairman of the Commission then organizing.

Now, after nearly seven years of the closest and most intimate contact with public housing in a large American city, I have been asked to try to state publicly where-in the architects of the country can best concern themselves with the matter, both to their own, and the public's benefit.



It need not be labored that the field of large-scale housing, so far mostly by public agencies, is fascinating in its immediate appeal to the architectural mind. He can picture the great over-all organization, physical arrangement, and planning of a town, of a whole community, in all its parts. He sees the opportunities for good organization in all the steps of development to completion, of the physical plant. He can now bring his beloved order out of chaos. He looks forward to the time when he can walk through this populous place and watch the living community with a glow of real satis-

faction. But, and this is important, he is rarely prepared in the fields of economics and sociology to serve as a wise counsellor in programming and in setting up the true desiderata of the project. Too often he has to be content to leave all the important parts, the great financial and social organizations he is helping to create, to others whom he visualizes as experts in those fields, and must be satisfied with what, in effect, becomes a dictation exercise in building techniques.

Sometimes he has made a real and honest effort to play his part as an essential program maker, but almost as often he has found that necessary experience and training was lacking and that even the poorly qualified "experts" knew a little more than he about the factors of the problem.

This is not to criticize the architect for those things that are no fault of his. Nothing has led him to see the need of study and thought in these fields. Certainly, having to work for Uncle Sam through a muddled and top-heavy bureaucracy, less clear-headed than he himself, is not his fault but his handicap. Often enough he has been thwarted in attempts to bring sound sense into the picture by the

whims and the arbitrary formalities of public functionaries.

The principal functions in which the architect fails to be as useful as he should, are two. The first is to supply a working knowledge of the social habits, social needs and attitudes toward public and private responsibilities—what is known in the academic patter as “folkways” of his population. The future inhabitant is often to the architect as much of a wooden Indian as the people he draws in his renderings. It has always seemed to me that the architectural renderer should be a humorist if not a caricaturist. There is too much of “the light that never was on land or sea” about the architect’s fancy pictures which must reflect his mental attitude about the folks who are going to live with his buildings. The second function is somewhat like the first, but even more important. He usually lacks—and his training not his intention is at fault—the quality of detailed foresight as to the dollar and manpower problems of maintenance, repair and replacement. Here again the tendency to say “Here is what you wanted, my work is over” limits his usefulness. He is employed to foresee those days of reckoning when any fabric has to be renovated. He does not,

as a rule, sufficiently dramatize the poor maintenance man and operator in his struggle to keep the plant at least up to a sound economic condition.

The architect is likely to take into very careful account the effects of natural forces: heat and cold, rain, snow, sun and wind on the structure, but too often forgets the detailed, the minute, but cumulative effects of men’s, women’s, and particularly children’s day-and-night occupancy of the premises. He either thinks that the tenant will live like a pig anyway, and therefore designs in the grimmest utilitarianism, or, forgetting this assumption, begins to think how pleasant, handsome and delightful some added feature would be. He is so much more likely to be right in visualizing the living habits of “his own kind of people” than those of the kind he can expect in his new structures. What in his training and habits of mind can supply the cold-blooded understanding, from first-hand knowledge, of the tenant’s faults and virtues? Don’t forget that all this applies to mechanical installations, with their movable parts and varying pressures and actions, even more than to the static structure.

Another field in which this lack

of appreciation of the long-term implications of design occurs is in the great outdoors, where plans are marked "lawns," "planting," "shrubbery," "bank sodded," "grass gutter," etc. You will say that this is the province of the landscape architect. Being an architect, I believe that the implications of all these treatments are the direct concern of the over-all coordinator of design, and that he should have knowledge and control to assure the optimum financial results of such treatments. In my experience many architects have delegated entirely to the landscape architect all the design of grading and surface drainage. This makes for a division of responsibility that is not in the interest of the owner of the property.

There are, of course, two schools of thought about rental tenants: one best embodied in the "coal-in-the-bathtub" cliché, and the other in the equally romantic notion that people can move from surroundings of squalor to the "typical American home" without pain either to themselves or the landlord. Neither of these ideas is "on the beam." Architects have for so long produced for clients with champagne tastes regardless of their pocketbooks, that it requires a great

flexibility to realize now in materials the comforts of home for tastes developed on hog and hominy. To leave people in a hog-and-hominy environment is simply begging the question, but to plan for the rebirth of the customer is usually inviting trouble and disappointment.

No matter how well the architect visualizes the needs and the program, he will have to develop a great and sympathetic patience in his struggle with the never-ending contradictions between an over-tight budget and an optimistic program. This is pre-eminently his field, and he can be of the greatest help if he can forecast accurately the useful life of the structures under the foreseeable use; for on the life expectancy of the buildings and grounds depends the value of the scheme for its purpose and the whole complex of finance and operations.

None of this is intended as a criticism of the architect as he is now constituted. It is only a broad suggestion that the time has come for more modern approaches to modern problems, and a willingness to assume those added responsibilities that are inherent in these new operations.

One of the most glaring errors

in procedure that have occurred in the development of public housing is the arbitrary imposition on the architect of a time schedule for the development of the plans and specifications. War housing is not under discussion as, there, time is of the essence. If architects as a body would insist on their right to tell their employers how long a job should take, and not yield to pressure, but even refuse to serve if adequate time were not allowed them, a major source of difficulty would be eliminated. Public work must, under the law, be publicly bid for, and the contractor that gets the job is as often as not an expert in evading the intent of the contract documents.

Vagueness, conflicts and inadequacies in plans and specifications are the source of endless delays, money losses, unnecessary extras and ill feeling. No single item is more important than this one. But the poor architect so often will promise the impossible in the hope of a job. This is unfair both to the architect and the owner. But the architect who can plan his work so efficiently as to eliminate waste time without sacrifice of quality is ahead of his field. Contract documents on public work must be airtight, and only adequate

time can assure this protection to the owner.

We all, as architects, indulge from time to time in expressions of dismay that the architect is not recognized as the major contributor and guide in building operations. The dominant figure in any building operation, regardless of title, is the man who brings to bear the broadest and most understanding synthesis of human and financial factors. I have no fear that the architect in *this position* will not be recognized. However, I am sure that if he is a party to an operation in which he is exempt from service in many fields of effort, and can back away from problems not labeled architectural, he will be accorded the secondary position that he has asked for thereby.



Perhaps behind all this lies the answer to the riddle of "Modernism." Is it not possible that such a right program as public housing, with its insistent human demands in a cage of financial restrictions, will prove that true modernism is not the blind pursuit of ideologies, nor of personal ambition for the lime-light, nor of style vending, but only the honest reply to honest

human demands? For no matter how incoherent, the demand for spiritual satisfaction in buildings is just as real as the demand for physical comfort and economy of means. Perhaps "functionalism" is not a thing in itself at all, but just the accidental by-product of honesty, the concept of which is, after all, not modern.

Now having for so long been the owner's advocate, I can return to my true colors as an architect and insist that by mental habit, by knowledge and by ethical standards, the architect is more likely to become a major contributor to any large-scale housing effort than is any other instrument of society. This is because he is the only man who can visualize space relations in advance, who can arrange, adjust and juggle space into its most efficient and humanly desirable forms, and who can produce those qualities of psychological satisfaction that makes man's environment more than an undesirable lodging, to be early and gratefully quitted. He is the only man who can so use materials and installations that they are a comfort and a pleasure to have around, and not merely an uncouth "machine for living." All of which is to say that the architect

is the humanist who knows most about building processes.

At any rate, the architects of America, no matter how much we feel the need for growth and improvement, can now say with real pride that in the ten short years since public housing began here, we have by manful and tireless service given our country an astonishing series of great developments that stand as a challenge to us all for our future production, and that, starting from scratch, the accumulated ingenuity, good sense, knowledge and thoroughness have become a pretty fine starting point for the future development of large-scale dwelling operations.

To do himself and group housing the greatest service, he must go on and become the greatest humanist-technician combined, in the use and maintenance, the financing, and the social organization of dwelling areas.

When this comes about, the great field of consultation and service in property management will be open to him, and the whole public will look upon him with as much confidence and approval as they do on the family doctor, who not only gets human beings into this world but takes care of them after they get here.



Post-War Capacity of the Building Industry

Excerpts from Bulletin 779, U. S. Department of Labor, prepared in the Division of Construction and Public Employment by Alexander C. Findlay.

RAPID EXPANSION of construction activity is commonly expected to provide a major source of employment opportunity in the post-War period. By 1943 construction expenditures (adjusted for the 1940 cost level) had already dropped from the 1942 peak of almost \$11,500,000,000 to approximately \$5,900,000,000, as a result of the enforced curtailment of all nonessential construction as well as the completion of major war construction programs. Although the 1943 total was the lowest since 1938 and, until Germany is defeated, further reduction is expected, the total is not expected in any event to fall below \$3,000,000,000 at 1940 costs.

The accumulating demands for construction raise the question of the productive capacity of the construction industry in the post-War period. In the appraisal of the industry's post-War capacity given in this article it was assumed that Germany would be defeated before Japan and that reduced military

requirements during the Asiatic phase of the War would permit the extensive release of industrial plant and a corresponding reduction in the war use of materials. It was further assumed that the factors governing the selection of establishments for total or partial release would include (1) their importance in the civilian economy and (2) their importance in industrial preparation for the post-War period.

On the basis of these assumptions it appears that the productive capacity of the construction industry can expand rapidly and, within a year after the end of the war with Japan, can reach an annual rate of \$11,000,000,000 at the 1940 level of building costs. The characteristic flexibility in the organization and methods of operation of the construction industry permits a rapid expansion in the volume of work; members of the industry are accustomed to starting work on short notice and to expanding their operations rapidly.

Construction equipment is now sufficient for a rate of at least \$12,000,000,000 per year, and is likely to remain so. Its age and condition will present some difficulties during the early months after the War if no prior improvement is possible, but will not restrict volume. During the period when hostilities continue against Japan only, repair parts and replacement machines will probably be produced in considerable quantity for civilian buyers. Within a short time after the defeat of Japan, these will be available in any desired quantity. The construction-machinery industry expanded its operations for the War effort to a rate which, if maintained after military purchases cease, would replace the entire civilian inventory within approximately two years.

Productive capacity for all types of building materials, except plumbing fixtures and lumber, is sufficient for a construction rate of \$15,000,000,000 per year. In the lumber industry, the plant limitation is logging equipment, which is badly deteriorated but can be restored rapidly; sawmill capacity is sufficient. Capacity for plumbing fixtures is adequate for a construction program of \$12,000,000,000

per year, with likelihood of expansion before this rate is reached.

Reconversion is a problem only as regards metal products, and varies considerably in importance among them. If reconversion is started after War requirements are completely met, it should be finished within six months for all products except electric refrigerators; for many products reconversion should be well advanced, if not completed, within three months or less. If, as is more likely, reconversion is started soon after the defeat of Germany and extended progressively as cancellation and reduction of military orders permit, the reconversion process will extend over a much longer period but will be closer to completion at any specific date than if no start were to be made until the end of the War.

Inventories of many materials are virtually exhausted. With civilian production resumed at the end of the War, it would take six months to restore such commodities to basic working volume and variety, and another six months to approximate their pre-War level. The problem is the most serious for electrical supplies. Expansion of civilian production during the interim period after Germany's defeat will ease the inventory situa-

tion greatly, and for most materials will probably mean that inventories can reach at least a basic working level by the end of the War. The rate of inventory accumulation will, however, be governed more by current expectations regarding sales volume and price level than by considerations of capacity, particularly in the case of such materials as lumber, for which prices have increased sharply. . . .

On the whole, personnel will be sufficient for expanded manufacture of building materials and related products. Before demobilization of the armed forces, reduction or termination of War orders will release workers. Many of those released will have skills useful in the manufacture of building materials. Because of the specialization of factory work and the feasibility of brief training courses, other necessary jobs can be filled by workers with little or no experience.

For increased lumber production, however, additional skilled woodsmen are essential. These have been lost in great numbers, both for military service and for work in shipyards and airplane plants.

The personnel situation for construction proper is difficult to predict. It will be controlled to some degree by the demobilization pat-

tern of the armed services and War industry, in conjunction with the extent to which construction skills have been acquired in military service and in War employment. Available information indicates that, within a year after the end of the War, the number of construction workers will be sufficient for a construction rate of \$11,000,000,000 per year at 1940 costs.



Unbalanced prices of building materials can be a serious hindrance to production and the accumulation of inventories. Unduly low prices will discourage production. On the other hand, possibility of inventory losses on items for which price reductions seem likely will discourage the piling up of inventories. Competition among various materials and products would probably correct the price situation ultimately, but in the meantime the post-War construction program might be needlessly delayed.

Unless the situation is changed before the end of the War, the most serious obstacle to rapid expansion of the construction industry is likely to be lack of preparation on the part of owners, including private corporations and public agencies. The rate of expansion

will also be affected greatly by construction costs. . . .

It is apparent that, within a year after the end of the War, physical capacity can be sufficient for a construction volume about equal to the greatest peaks that have been attained in the past. It is equally apparent, however, that capacity at the end of this first post-War year can be cut down greatly by avoidable complications. The following measures would be valuable in preventing unnecessary delays and limitations:

1. Provision for removal or private use of Government-owned factory machinery which has replaced or is intermingled with privately owned machinery, as soon as no longer needed for war production. If policies for permanent disposition can not be formulated now, authorization of removal and temporary storage of those machines not suited to the plants' post-War operations, and of some form of lease for machines which they can use effectively, pending adoption of permanent policies.

2. Permission for reconversion of machines or plants as soon as it is known that they will not be needed for further War production.

3. Periodic review, from the standpoint of changed military requirements, of Governmental inventories and purchasing schedules of building materials, construction machinery, trucks, and related products, and prompt effectuation of any indicated reductions. Surpluses would be sold for civilian use, to the extent that these can be absorbed readily. Sale would be made to users through normal trade channels with the purpose of relieving shortages without bringing price disorganization, and with every reasonable precaution to prevent sale of scarce commodities to speculators.

In selecting establishments in which War orders are to be reduced or cancelled, the importance of their normal products to the peace-time economy would be among the criteria used.

4. (a) Permission—as soon as reduced military requirements give a margin of productive capacity and to the extent that the manpower and material situation allows—for increased production for civilian use of construction machinery, trucks, and building materials. (b) Temporary control of distribution of those articles for which the shortage is most serious. Thus, new machines for logging

(off-the-highway trucks, tractors, and certain units based on or operated by tractors) would be given priority, with logging operators given preference in the purchase of these items until their shortage is no longer a limitation on lumber production.

5. A detailed study of costs of production and distribution in comparison with ceiling prices for all major building materials, especially those for which prices have risen most sharply. This would be followed by revisions in ceiling prices to correct imbalance and thus remove potentially serious impediments to inventory accumulation and increased production in the post-War period.

6. All possible efforts to stimulate prompt revision of building codes with respect to permitted construction materials for various uses and the quantities of materials required. Development of new products, improvement of the strength or other characteristics of

older products, and improved control giving greater uniformity and reliability in products have occurred since many of the codes were adopted. Consequently many of them require use of materials which must be considered wasteful by newer standards. Inefficient use of materials and needless variations in local standards would be particularly detrimental during the period of inventory shortages.



The Building Code Correlating Committee of the American Standards Association, the membership of which includes representatives of numerous professional and trade associations in fields allied to construction, is working currently on this problem. Pending completion of its work, valuable correction can be brought about by the activity of local groups interested in construction, even though further revisions are likely to result from the Committee's recommendations.

“EXPERIENCE has shown that building booms, uncontrolled by a master plan and an effective zoning of land uses, leave trails of wreckage in their wake, adding layer upon layer of obsolescence, as a result of which the city's organism becomes incrustated and atrophied.”—*New York Chapter Committee on Civic Design and Development*

China Needs American Technology

By *K. V. Chen*

ASSISTANT CHIEF, FAR EASTERN DIVISION, U.N.R.A.

Excerpts from an address before the semi-annual meeting, A.S.M.E., Pittsburgh, June 21, 1944.

WE HAVE a gigantic task to perform. We need outside assistance. You will consciously or unconsciously, directly or indirectly, play important parts in the post-War reconstruction and industrialization of China in a more important role than you perhaps realize. You can offer your engineering experience, accomplishment, research facilities. You can furnish your best suitable and yet reasonable equipment to China. You can help to train our young engineers and technicians in your factories, drafting rooms, laboratories, and you can help to train them in China. Your forefathers found opportunities in the West and built up a beautiful and powerful country. Let us work together and build up another beautiful and powerful country in the Far East, writing another period of prosperity in Chinese history, and above all, maintain an everlasting peace for the whole world.

In China, we have a big job to do; engineers are the key men to

do it. In the first 10 years of Chinese industrialization our president, Chiang Kai-Shek, calls for 2,500,000 engineers and points out that in the past five years graduates from technical and vocational schools totaled only 500,000. In order to carry on our work, we need a total of 2,000,000 more engineers. However, the new graduates cannot shoulder the responsibility of the gigantic job of industrialization. The only possibility of carrying on this work is to invite to China engineers of achievement and of high experience who will design, install, operate, manage and develop our machineries of production.

Training of additional engineers by our guest engineers is one of the prerequisites of this gigantic program. Chinese engineers trained in this country and in Europe are now most influential, and many of them are holding important positions in various industries in China. Yet the number of available ones is very limited. Mass-production

programs of technical training will have to be devised and carried out.

About 100 years ago, in the 1840's, we were brought into closer contact with people of the western world. However, the monarchial government of the old regime was not able to recognize the situation and wasted about 60 years without doing anything worth mentioning. During these 60 years, our neighbor, Japan, was busy building up her industry. Now most of our railways, highways, deep water routes and industrial cities are occupied by the enemy. When the enemy is pushed back we are sure that they will demolish or destroy most of the important industries and utilities. So, rehabilitation of the existing industries and cities in China is one of the important problems to be solved immediately after hostilities cease.

Right after the war, most of the displaced populace will return to their homeland and find that their houses have been demolished or destroyed by the war. They must be sheltered. At first we plan to give them temporary sheds with three rooms each, built with wood posts, purlins, simple roof truss, mud walls and cement floor—the simplest and cheapest building of which you can think. We would

need 10,000,000 sheds. Each shed needs approximately 200 cu. ft. of wood and 20 lbs. of nails and other iron hardware. For this simple project alone, we would need 2,000,000,000 cu. ft. of wood and 100,000 tons of hardware. Later on, when living conditions return to normal, more decent and comfortable homes, more public and administrative buildings will be built. Cement factories, brick factories, stone quarries, lumber mills, furniture factories, hardware factories, glass factories, paint factories, etc., are bound to come in order to supply the demand. Household appliances such as refrigerators, vacuum cleaners, washing machines will also come in time. Public utilities, such as city transportation, sewerage, water, lighting and gas are industries to be developed parallel with housing. We also must have the all-important, basic heavy industries, such as coal, oil, steel, power, shipbuilding and basic machinery. China has plenty of coal. She has discovered oil in Free China. The steel industry is only in its embryonic stage. U. S. A. produces 100,000,000 tons of steel a year; Japan 6,000,000 tons; but China produces less than 100,000 tons. That is far from sufficient. For railways

alone we would need 500,000 tons of steel per year. China is so big and the industries to be developed are so many that the Central Planning Office will have to study and ascertain what kinds of industries are most suitable to certain localities. We will have to have raw materials, labor, capital and technical skill. We have an abundance of raw materials and manpower. What we are in need of and hope for from our friendly nations are capital and technical skill.

Your forefathers built your country by loans or capital investments from Europe. Your good work has paid up your debts

and has built up the richest and strongest nation of the world. China has enormous resources; if she has sufficient capital, she, too, can develop her industries. At the beginning of her industrialization, she will pay her loans by her usual export of raw materials such as tungsten, tin, antimony, silk, tea, tung oil, and some other farm products. She can also pay a part of her debts by exporting products of handicrafts such as embroideries, rugs, chinaware, lacquer goods, ivory articles, jewelry. Later on, when the finished products roll out, they will be exported to pay her debts.

Blueprint for a University

By Joseph Hudnut

DEAN, FACULTY OF DESIGN, HARVARD UNIVERSITY

Excerpts from an address before the faculty and guests of Wayne University, May 19, in Detroit.

I BELIEVE that our universities—or at any rate some of our universities—ought to participate in the evolution of a new social order in our cities. There should be such an evolution; and it should be a prescriptive task of the university not merely to record and to comment upon it, but to assume an ac-

tive and generous responsibility in its promotion.

It should be understood that I am not advocating socialism or communism. What I have in mind is some new grouping of men, some new relationships and responsibilities of institutions which may overcome the excessive standardization

which now obtains in human activity and thought. This standardization, in part the consequence and in part the cause of our immense industrial expansion, has so impoverished the civic spirit that, unless its effects are in some way mitigated, it will surely defeat the democratic process. I am advocating a scientific attitude towards the problems thus created and the enlistment of the intellectual forces in the effort to resolve them.

We are not concerned with a present pattern of community life. No such pattern exists, or has existed since the rise of mechanized industry shattered the placid, semi-rural order of the eighteenth century. Nowhere is that change more clearly exhibited than here in the Middle West, where our cities reached so rapidly their vast proportions, unembarrassed by the ancient autocracies. We know how the institutions, the habits of thought, the social orientations of the old world, were confounded in these cities with giant new machines and new ways of life; how uprooted and conflicting cultures, of long-established habits of conduct and of patterned thought, were jumbled together with new relationships and moralities. The

consequence was not a pattern but a conglomeration.

The mass-production system, invented in Detroit, completed this social disintegration. The great factories escape all social surveillance and yet shape the life of the city. They transform the city into one great machine for productive activity. The machine grows daily more automatic, its movements more coordinated, its elements more regimented. The beliefs, aims, and values of the city dweller become each day like the houses in which they live: so many uniform points in a fabric of monotony.

Nevertheless, living demands a pattern. We must have a boundary to our lives. There were communities as soon as there were men, and we know how every natural impulse of mind or of conduct had its origin and its form within a framework of social purpose. The movements of the human spirit are intolerably cramped without the communal environment and without the social loyalties confirmed by a million years of experience. Our new cities have conferred on man his deepest indignity by making him an automaton. You will not build a democracy with automata. Democracy implies a social system and the exercise of the so-

cial function. When the vast majority of city dwellers form, as they did in ancient Rome, an amorphous mass having neither structure nor status, they become the facile material for demagogues and tyrants.



I do not suggest that a social pattern can be created by an act of the individual will—still less that it may be discovered through the researches of scholars. It will not be invented. It will be the consequence of an evolutionary process, anonymous and unpredictable, contemptuous of our theory, no doubt, and manifested not in literary or graphic form but in political action. There is nevertheless an art, however obscure, in politics; and political action, even when violent, is often a translation merely of currents of thought which lie very far beneath the appearance they shape. Such currents are sometimes set in motion by discontent and the self-interest of classes but, being set in motion, they may be guided, restrained and given a rational end by intellectual forces. Such a guidance is, it seems to me, one of the responsibilities of science; and if of science, then surely of the university.

I do not, of course, propose that the university should neglect its ancient functions. The university should continue to be the guardian of funded knowledge and the discoverer of new knowledge. The university's role as a vocational training ground should be extended rather than abridged. Nevertheless, these do not comprise all of our responsibilities to the social order. . . .

First among the many solicitudes of this evolving university set in the framework of a city must be the making of citizens—I mean the development in the minds and hearts of students, whether young or adult, of such attitudes as will fit them for the collective life of the city. Citizens are not made through the advancement of science or through the spread of literacy, still less by precept or by laboratory experiment or by the development of the professional aptitudes. Citizens are made when men begin to feel a responsibility for the general welfare; when their interests include not vocational matters merely, or personal gains and adventure, but the destiny of that group to which their individual destiny is bound. Citizens are made by the experience of citizenship. . . .

I should think it strange if a

university made in this way a function of progressive civilization and sustained by civic life should be indifferent to the physical aspect of the city. I dare not suggest that city planning—I mean the conscious and guided evolution of the outward aspects of cities—should be the principal concern of a university; and yet, it seems to me, the indifference of universities to this art, especially the indifference of a university addressed to the fuller life of a city, presents a curious contradiction. . . .

It is probable that our great industrial cities are about to undergo a process of decentralization. The factories move outward into the countryside, drawing with them the homes of the workers and their institutions. Satellite towns spring up all around the nucleus of the old city, inviting new loyalties and relationships in the community life. These satellite towns will have in time local colorations and local structures; the great industrial city will expand into a mosaic of smaller communities separated, it is hoped, by wide belts of greenery and tied together by swift, well-organized avenues of traffic. Already one can see in Detroit the shaping of that new pattern.

A city is not merely a collection

of buildings or an aggregation of people; a city is made by the form and content of society. That form and content must be expressed in the institutions which are the functions of society.

I think of the urban university as the first among such institutions. That life which the cathedral gave to the medieval city, that beauty which the palace gave to the city of the Renaissance, the university will give to the American city of tomorrow. It will form, with museums of science and art, libraries, concert halls, theaters and schools, a great cultural heart out of which will flow the currents which inform the life of the city with dignity and meaning. A training school for the civic vocations, its unclioistered halls shall be crowded with citizens.



I cannot think of such a university built at the edge of a city; it should preside at the center, affirming by that relationship its leadership and serviceability. It should be conscious of its high place in the scheme of the city; conscious not of its relation to street and traffic merely, to the homes of faculty and students, to coordinated institutions and facilities, but more ur-

gently conscious of those less immediate and less visible factors of city life, unobserved by the practical-minded, which create its usefulness as a civic force. It will build itself into the city. It will be a part of the city plan.

My university should be a city in itself. Like the medieval University of Paris, it should be a city within a city; and it should be a planned city. The order and unity which it promotes in the pattern around it should be exhibited also in its individual pattern. That, also, should teach not by precept merely, but by example.



Our buildings and avenues and open spaces must be so organized as to make evident their participation in the totality of the university.

They must remind us of that participation not only by a uniform architecture but by their attitudes and arrangements. They must confront the city as a unity, not as a collection of fragments. A formless aggregation of anecdotal styles such as we have at Harvard may attain some romantic unity through history and long association—there is a spirit there which reconciles many monstrous discordances—but you may be sure that such an expres-

sion cannot be deliberately arrived at. In our new universities, which have yet to crystallize into indissoluble shape, architecture offers you her inestimable, eloquent companionship. Your buildings and the communal pattern which they may form will, if you will admit them to your service, facilitate in a thousand subtle ways the fulfillment of your heroic mission.

Most university buildings obstruct both operation and growth. Haphazard aggregations show clearly the lack of foresight and firm guidance; things happened to them and they await more happenings. Because universities had no policy, they became encumbered by sentiment and medieval mummeries: not in the detail of their buildings merely, but in the organization and relationship of these. As a consequence most universities are, in their outward aspects, without dignity.

We are not sufficiently conscious of our present opportunity and its greatness. If we knew the commanding place which a university might occupy in our industrial cities, if we were truly aware of the city's anxiety and hunger, of its need for direction and guardianship, we should be more anxious to fit our universities to the ac-

tualities of time and circumstance. We should not think of the university then as the curator of ancient cultures merely or as an experimenter in the sciences—still less as a fortuitous collection of vocational schools—but as that light which is to rekindle the collective soul. We should then understand the necessity of affirming

in the persistent and eloquent language of architecture our unity in that purpose. We should then yield ourselves to the city, identifying our destiny with the city's destiny, our health with the city's health, our form with the city's form; and we should affirm that wholeness by making our plan an inseparable, necessary part of the city's pattern.

Our Unused Natural Resource

By Lawrence A. Benenson

LIEUTENANT (J. G.) UNITED STATES COAST GUARD RESERVE

The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Coast Guard or the Naval Service at large.

THE METAMORPHOSIS of an architect is a wonderful thing. One day he is plodding along without any official status in the world distinguishing him, and then—presto! He takes an examination and becomes a full-fledged architect. Despite his education, experience and ability in construction, until he takes that fateful exam given by five men chosen by the Governor, he exists in limbo. He cannot even call himself "architectural associate," or designer," in most states, or any name having to do with architecture, without being accused of passing himself

off as a registered architect. Despite any technicality of the law which acts to prevent him from taking the exam (and requirements vary widely between the states) he must go unrecognized—until he becomes so old, and has accomplished so much work (albeit surreptitiously) that they just cannot refuse him the distinction of registration.

The registration laws were passed primarily with the intention of protecting the public from the unscrupulous practitioner who would design plans and write specifications with no responsibility for

structural safety, much less convenience or cost. This form of legislation helped also to protect the more reputable architects from competing brethren who would not assume the ethics of a great profession. When a client hires an architect now, he may be fairly certain that he is paying for the services of a man who has satisfied high professional standards. For large jobs, where the architect's fee is readily justified in the cost of construction, he is willing to pay for this caliber of professional man. However, when the job is small, the registered architect has to charge a fee which looms disproportionately large in comparison to construction cost. Our client then turns to his next best choice, who may be a draftsman without responsibility of license, or to his builder who makes no charge (so he says) for architectural services. If the magnitude and the nature of the job is such as to require the signature of a registered architect, one sometimes is found who will consent to the use of his name, for a small consideration. The law is not very clear on this point.

Isn't there a means by which the services of qualified, non-registered men in the profession may be util-

ized, in jobs too small for the average registered architect? Neither the best interests of the public, nor its youth, nor of the profession itself, are being served by the present non-recognition of younger men. Are we neglecting a great service that could be performed, in deference to all three?



Young men working in architectural offices acquire valuable experience in some branch of the field of architecture. However, it is difficult for them to learn all the various elements of building construction without a very wide experience, hence they cannot become fully registered until considerably late in life. Let us acknowledge that fact, and issue a form of "licensing" which would be applicable for a definite line of work, and allow the young man to design jobs limited to his specialty. One such classification might be "Small Houses," another, "Store Fronts and Commercial Design." "Remodeling and Repairs" might be suggested, among many others. In his own field, then, such a licensed man would have the status of a registered architect, with the limitation, of course, that the work done by such men not be allowed

to exceed a certain amount. This amount could be somewhat higher than the legal minimum requiring drawings by registered men, which is in effect in certain states now. Most small jobs fall into definite categories, any of which could be handled by proficient licensees.

The engineering professions have long been aware of the great diversity of fields which they cover, and have made appropriate sub-divisions for convenience. Why could not the same principle be applied to the ever-widening sphere of the architect? Just as it would be ridiculous to expect any man to be a civil, electrical and mechanical engineer all at once, so we should not expect a man to learn every phase of architecture before he can practice. If young men could have their abilities established and recognized, they could fill the gap between contractor's propositions and architectural design.

How could this recognition be secured? Undoubtedly the best way would be for a national society to define standards and examinations which would be uniform throughout the country. It might then recommend the acceptance by the various states of the status of these men to do certain classes of work. Or, if it were

controlled by the states themselves, the licensing could easily take the form of other types of licenses now issued, and the men practicing be responsible to a state agency. Whatever the means selected, there would not be very much difficulty in establishing the abilities and limitations of a great many men now qualified, who might be of considerable aid to their country when she most needs construction advice. *Furthermore, by broadening the base of the profession, we would indeed be giving it a firmer foundation. It would serve to familiarize the public to a much greater degree with the need for architectural services; the average citizen would be given an opportunity to see for himself the possibilities in professional advice.



It is notoriously true that few practicing registered architects can exist solely by the design and supervision of medium-priced small houses, much less low-priced ones. With certain exceptions, architects have hardly even tried to cultivate this field, knowing too well that the fee rarely justifies the expense. Similarly, the public has never ceased to believe that it must look to speculative builders for this type

of construction. Minor alterations, auxiliary small buildings, additions, repair advice, in fact almost any small job which should be handled by a professional man, most often has to be given to a layman for solution. There is a tremendous field of small jobs which the registered architect cannot touch if he has an active practice and high overhead. Why not give this sort of work to young men who would both fulfill a deep-seated need and earn a living thereby? By modifying our present laws, we could make a vast wealth of young talent available.

The architectural profession has repeatedly stated that it wishes to help the men who were chosen from its ranks to serve in the Armed Forces. By backing a move toward recognition of the younger man, it would help a great deal to further the readjustment of its servicemen toward their peacetime occupation. Many men who are now in the Army, Navy, Marine Corps, and Coast Guard would have become registered architects if they were not in uniform. Their years of war duty postpone their ultimate registration for an indeterminate period, since most states have a specific requirement concerning years of architectural

experience, which these men certainly are not fulfilling. Moreover, they are not acquiring the same knowledge which they might have gleaned by working for architects, and their education was truncated at the time of induction.



No one has yet come forth with the suggestion that these men be automatically registered architects because they fought for our country, and, indeed, no one should. Unless they can pass examinations sufficient to establish their abilities definitely, they would merely jeopardize the standards which the profession so far has maintained, and impair their own chances for success. However, it is grossly unfair that these men be prevented from establishing *any* degree of professional responsibility merely because they were doing their patriotic duty. With the prospect of vast post-War construction, it behooves the profession to make every effort to secure for servicemen the sort of recognition which may mean a livelihood for them. For its public, for its younger and able men, and for itself, the profession should consider a system of licensing preliminary to registration as its first united post-War objective.

The South American Heritage

By *Leopold Arnaud*

DEAN OF ARCHITECTURE, COLUMBIA UNIVERSITY

HOWEVER important contemporary life in South America and the prospect of prodigious developments in the near future may be to us, the colonial and pre-Colombian periods should not be forgotten. They are fascinating to the historian, to the architect and to the tourist, and they give invaluable clues to present backgrounds and traditions, while opening new horizons, particularly in the field of decorative design.

The early monuments, both Indian and Spanish, are naturally found in those centers which had flourishing civilizations before the arrival of the Conquistadores: namely, Mexico and Peru. Few of us here, I venture to say, realize the degree and refinement of the Aztec and Inca civilizations.

Furthermore, recent excavations in Peru and Bolivia have uncovered pre-Inca remains, dating from the early centuries of our era, which provide convincing evidence of a truly great refinement, and the architectural remains are proof not only of ability in planning, but also of a magnificent sense of design and decoration. Capable of

engineering feats such as artificial irrigation and the construction of retaining walls and roads, these early peoples knew also the science of agriculture, crop rotation, and cattle raising.

Today, the land of the Incas constitutes a source of incredibly rich and colorful archeological material of special interest to the architect. He will be astonished by the planning, building, and decoration of the pre-Colombians. He will be fascinated by the peculiar evolution of forms which resulted from the adaptation and amalgamation of influences, both European and Asiatic, introduced in a country where a highly developed, indigenous art and culture already existed.



The pre-Inca and Inca planners thought in terms of size in much the same way as did the ancient Mediterranean peoples. Their great fortresses and palaces remind one of Minoan structures: huge masses built of enormous megaliths laid up without mortar in polygonal construction. It is truly

brehtaking to see the retaining walls, irrigation canals and terraces that composed the great gardens connected with the palaces; astounding feats of engineering in a country of fantastically high and rugged mountains.

Upper Bolivia is composed of an enormous plain, eighty miles wide and five hundred miles long, lying at an altitude of 13,500 feet and extending between the two great sierras of the Andes. Lake Titicaca, with an area of over 3,000 square miles, is contained in this plain. Near the lake is Tihuanacu, a pre-Inca sanctuary estimated to date from about 500 or 600 A.D. and reported to have been looted and destroyed by the Incas before the arrival of the Spaniards. Tihuanacu consists of two holy places: the Temple of the Sun, and the Temple of the Moon, situated about a mile or two apart.

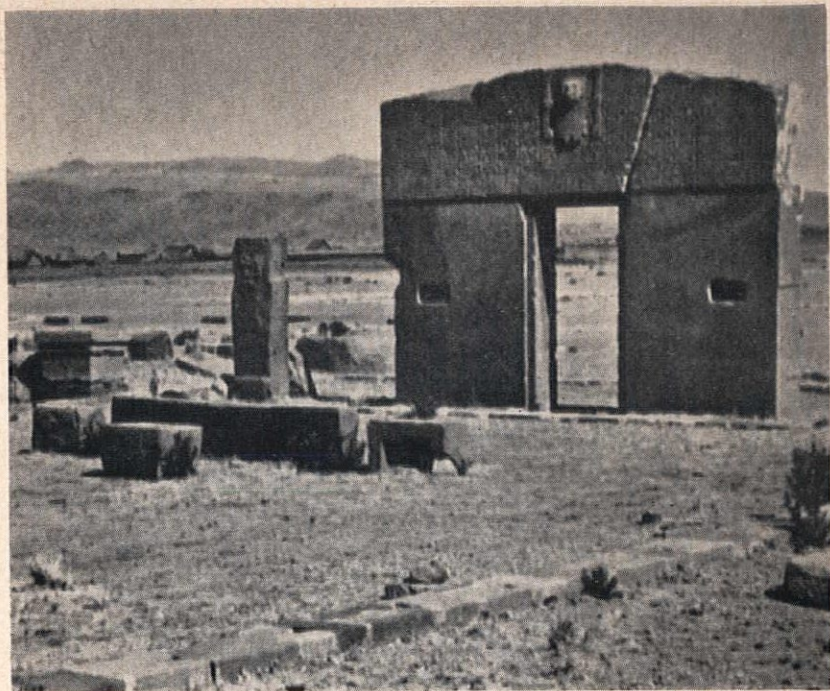
The Temple of the Sun, by far the larger of the two, is a symmetrically planned composition of three courts on different levels, connected by monumental stairways about thirty feet wide. The courts were originally surrounded by walls about eight feet high, made of great stone slabs placed on end. These slabs were about four feet wide, and may now be

seen in the nearby village, where they have been used in the walls of most of the houses. At distances of about twenty or thirty feet along the enclosing wall there are larger stones still standing (perhaps being too difficult for the villagers to move), which are almost square in section (about three feet) and slightly higher than the wall. They are cut at the base to form a ledge or seat, which might well have been a base for an image placed against the pilaster-like projection at regular intervals along the wall.

But the most interesting part of the Temple of the Sun is the rear gateway. This consists of one great stone which stands erect—an enormous slab about four feet thick, eighteen feet wide, and about fourteen feet high, not counting the portion sunk below ground. This slab is pierced by a simple rectangular opening about five by eight feet—the doorway. The rest of the slab constitutes a decorative frame.

The outer face of the stone has been carved with a projecting entablature and two niches, one on either side of the opening, which originally held images.

The upper portion of the interior face is completely covered with



REAR GATEWAY
TEMPLE OF THE SUN, TIAHUANACU, BOLIVIA
(See detail overleaf)

Photograph by Herbert Kirchoff

From "Bolivia", published 1942 by Guillermo Kraft, Ltda., Buenos Aires



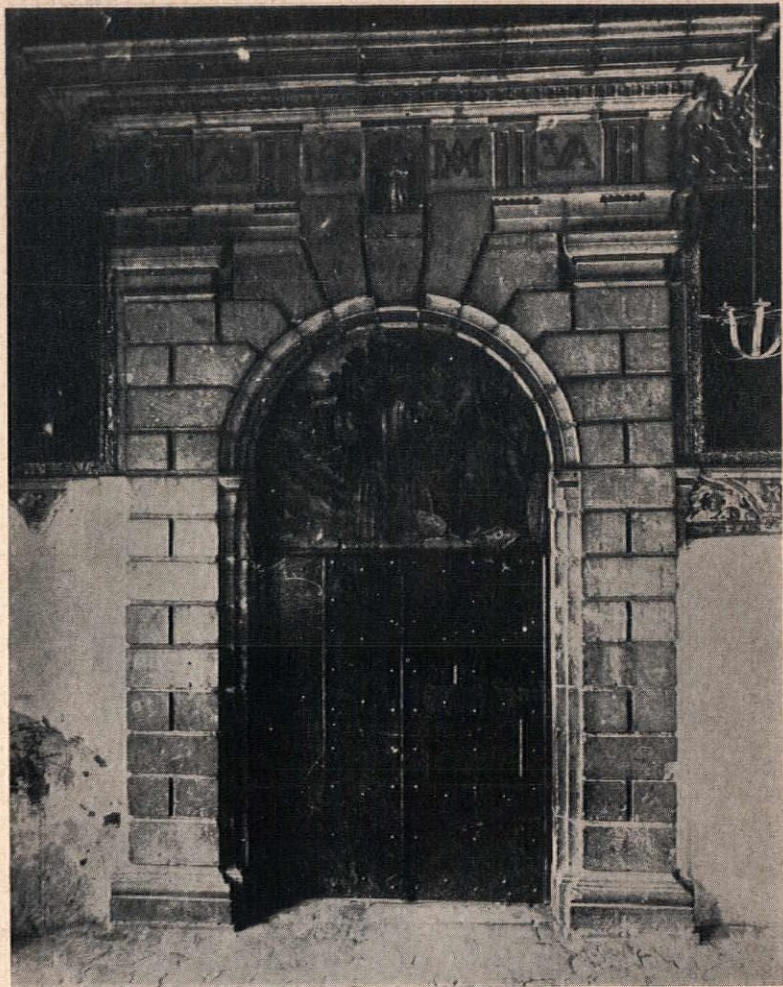
DETAIL OF REAR GATEWAY

Dark gray stone, the background of the carving originally filled with gold plate

TEMPLE OF THE SUN, TIAHUANACU, BOLIVIA

Photograph by Herbert Kirchoff

From "Bolivia", published 1942 by Guillermo Kraft, Ltda., Buenos Aires



FRANCISCAN MONASTERY, QUITO, ECUADOR
Entrance doorway—an amalgamation of two cultures,
with strips of gold in the recessed joints of the rustication



Do you know this building?

Photograph by Richard Koch, F.A.I.A.

LOUISIANA STATE BANK (1820)
NEW ORLEANS, LA.
BENJAMIN HENRY LATROBE, ARCHITECT

row upon row of exquisitely carved figures of little deities in a squatting position, wearing great elaborate feather head-dresses. They project about $1/8''$ or $3/16''$ from a background which was originally filled with gold, so that the broad frieze over the gateway was a plane surface, showing the figures in dark gray—almost black—stone on a gold field. Design and finish of the carving are exquisite, proving that the people were artists as well as engineers.

Using gold plate (it is not mere gold leaf) on stone seems to have been fairly current among the Incas, and was later used by the Spaniards in many of their buildings.

The physical difficulties of constructing Tihuanacu are astounding, for the enormous stones described above were transported from a quarry situated about five miles away and over a "hill," more than 1,000 feet high.



When the Spaniards settled in the country they began to build immediately, and were soon engaged in such major structures as large churches and monasteries. At first, the basic forms were purely European, dictated by Spanish de-

signers schooled in the then contemporary Renaissance style. The Indian workmen however, had never seen these imported forms, but were skilled in their own traditional forms. The involuntary compromise in the work of both designer and craftsman produces unexpected and splendid results. Moreover, the Europeans could not ignore the magnificence of the native sense of decoration, and so they adapted it to their problems.

An example of this amalgamation of two cultures may be seen in the entrance of the Franciscan Monastery at Quito, where the simple rustications around the main entrance are brought out by placing strips of gold in the recessed joints around the stones.

After a generation or two of Spanish rule, it is evident that many buildings were designed by Indians trained by the religious. In many instances their names are known to us. Some traveled to Spain to finish their studies, but many worked in the European style without having seen original examples. Although they tried to be correct in their use of Renaissance detail, they often lapsed in the most curious variations. Finally, by the end of the seventeenth and early eighteenth centuries, the native

architects had formed a school of their own, freely using a mixture of European and Inca forms which produced a definite local expression.

Parallel to this trend, and also crossing it, was the influence brought to South America by the Far-Eastern missionaries returning to Spain from India, China and Japan. These men, deeply impressed by the art forms and decorative splendor they had seen in Asia, tried to reproduce them in the New World. Their attempts to recreate Eastern art brought about still another expression, which eventually found its way to the Old World and can still be seen in the very elaborate, over-decorated forms which appear in Spain in the early eighteenth century and have erroneously been called "Churriguesque."



Attempts to obtain new effects often result in new methods. Experiments of this kind were prompted by the desire to reproduce the effect of the Chinese lacquers so much admired by the missionaries.

It had been noted by historians and archeologists that the written

specifications for statues often stipulated that they should be finished in the Chinese manner, but no convincing explanation was offered until a few years ago, when Jose Gabriel Navarro found two statues in a church in Quito which were unquestionably described in a text he knew, and were stipulated to be of "Chinese" finish. These statues, as many others of American manufacture, still have an iridescent, metallic luster somewhat similar to lacquer. Upon examination it was discovered that this effect was obtained by completely covering the wooden statue with sheets of polished silver, then painting over the silver with a thin coat of color which allowed the metallic luster to shine through. This was simply a new way of using the old Inca craft of applying solid sheets of gold and silver.

Another method of employing precious metal for large-scale decoration is found in the construction of altars, which often include elaborate baldachinos in solid sheets of gold, with relief patterns in silver and electrum.

The richness of these interiors is difficult to describe, as words are liable to convey an impression of gaudiness. Actually, the effect is one of exuberance and magnifi-

cence, but not to the point of impropriety.

Obviously, South America is not just another newly settled continent. It is a land of superb scenery, of rich tradition, of modern

productivity, of distinctive culture. As North Americans we have much to see, to learn, and to admire; also we have much to offer and to teach. A mutual exchange of knowledge and understanding can only be of mutual benefit.

Service Is Our Commodity

By George H. Miehls

VICE PRESIDENT, ALBERT KAHN ASSOCIATED ARCHITECTS AND ENGINEERS, INC.

ARCHITECTURE has been defined as "The Art of so building as to apply both beauty and utility. The end of Architecture is to arrange the plan, masses and enrichments of a structure in such a way as to impart to it interest, beauty, grandeur, unity and power without sacrificing convenience."

Architecture is a proud and ancient profession, but it has also become an exacting business. Successful and consistent accomplishment in the field must combine not only a deep-rooted knowledge of architectural history and application of the precepts of the profession, but a high plane of business knowledge and the application of business principles as well. Many a fine and promising architectural career has been wrecked

on the rocks of ignorance of the fundamentals of business relationships. These failures to accept and to cope with the manifold complications of the business side of the art are an indictment of the profession.

The founder of this organization, Albert Kahn, has on many occasions expressed his belief and his conviction that Architecture is 90% business and 10% art. That formula is literally true. The successful architect must combine with his art the principles of salesmanship, accounting, estimating and knowledge of costs, all phases of engineering, a thorough knowledge of contract relations, of building methods; and he must weld these together in a coordinated unit which will provide for his client

the maximum of service. The architect, in the final analysis, has but one commodity to sell to his client, and that commodity is service. And the architect who combines within himself and the organization which he heads the qualities which will give to his client the maximum of service will, like the man who invents a better mousetrap, have a path beaten to his door. This path will be worn by new clients and by old. A satisfied client is the architect's best salesman; a well-planned and well-designed building is an architect's best advertisement.



No single individual can be presumed to possess within himself the qualifications expressed above as the minimum required for a successful career in the business of architecture. But an organization can be built which does embody them all to a high degree. The tempo of the pre-War era demonstrated that the organization comprising within itself all the specialized divisions required for complete architectural and engineering services enabled its clients to produce more economically, in greater volume and more expeditiously. The tempo of war production was enhanced

to a vast degree because there existed in this nation organizations which could be thrown immediately into the solution of architectural and engineering problems, enabling industry in America to produce more economically, in greater volume and more expeditiously than our enemies had hoped. That is the bright page in the history of building design, and the profession can well be proud of it.

What of the post-War era? There is every reason to suppose that architecture will play an important part if the architectural profession is ready to grasp it. We shall not return to the status quo of the years immediately preceding the war. Neither shall we enter a Utopia such as has been painted by many a zealous prophet. There will be a middle ground which will combine the good of the pre-War years with the accelerated education of the War years and, with proper economic leadership, America will have advanced further than normally. War is not entirely destructive; it teaches us many things and, by sheer necessity, a people is jolted from a self-sufficient lethargy and made to progress more rapidly in spite of itself. But war years are also productive of dreamers—dreamers who see in post-

War development a leap from the prosaic of 1939 to the Utopia of 194X. Dreamers are necessary. They have been a factor in the development of this nation from its inception. But let us be practical dreamers, and, in the development of industry and commerce, of housing, of social adjustment, the architects and the organizations which are geared to the practical dreams of the future will play an important part.

Every architect and architectural organization should ask the question now: How can I best serve? To be ready to answer that question, he should give cognizance to several points: Is my organization geared to the tempo of the post-War era? Do I have within my organization all the elements that will give my clients and my country the service to which they are entitled? Have I kept pace with the developments during the War years so that my clients will be given the benefit of applications of new materials and new applications of old materials? Have I studied the trend of personnel relations so that I am in a position so to plan facilities for my client that dividends will be paid to management and labor in good relationship between these two essen-

tial elements, instead of strife and disaffection? If the architect can answer these questions in the affirmative, he is well on his way to a most successful career.

What type of organization does this imply? It implies that within the organization are combined all the elements of highly trained men and women educated and experienced in the arts and finances connected with building and building problems; all the mechanical applications that perform the functions of utility and enhance the comfort of the personnel that is housed within the structure; and the power services that provide the motive force to run the machinery of production. It implies the ability to plan in a coordinated manner all these functions and express them in clear and concise plans and specifications, so that the contractor and builder can carry out the intent of the project in the briefest time commensurate with quality.



Quality of workmanship should be stressed. It should be insisted upon. High quality costs little, if any, more initially, but maintenance costs continue for the life of the building. Your organization

must be an integral part of the organization of your client. Your client's problems are yours; solving his problems is your job. Do not sabotage your services by augmenting your functions as an architect by assuming the functions of a builder as well. Like the shoemaker, stick to your last. You cannot function as a representative of the owner and represent yourself also as the contractor. One of you will suffer, and human selfishness will probably not allow your own immediate interests to suffer.

Do not hesitate to perform more services for your client than your

contract requires. Service is your stock in trade, and the repetitive commissions resulting from performing just a little better and just a little more, add up to a successful career. Lastly, never do a commission for a client, be he old or new, as though it were just one more job. Look beyond the job to the one next month, or next year. Provide the service which will make you indispensable on the next job. You thereby create not only a successful project, you also create a satisfied client. It all adds up to service and, in the final analysis, that is all you have to sell.

One Really Should Build a House

By Edwin Bateman Morris

DAVID MARGARINE had six thousand dollars. It was just a financing six thousand, composed of one part of cold legal tender and five parts of something built up of credit, FHA, bewilderment and a growing conviction that above certain sums money became volatile and was the sole responsibility of the Government.

Anyway, David decided to build a house. Sitting in his slippers be-

side his favorite silvered radiator in his temperately warmed apartment, he went into a sentimental mood and came to the conclusion it would be marvelous to have a fireplace. He wouldn't use it for chatting over the radio, but would build a fire in it—a hot fire.

After discussing it with his wife, who he thought would be interested, he went to the bank, explained that he was thinking of

building a house, and told about his War Bonds. He was informed that his bonds, plus some vague elements, would permit him, surprisingly, to consider a house costing six thousand dollars. Thus, he became, quite suddenly, very rich.

He could not stir up much enthusiasm in others about the fireplace. It appeared that in a small house it was non-functional. It would be expensive to get firewood, the chimney would have to be put in the wrong place, a disproportionate sum of money would have to be spent on its construction.

It seemed, when you planned a house now, you centered your plans around the kitchen and bathroom. They were functional. The function of the kitchen was to adjoin the bathroom. The function of the bathroom was to adjoin the kitchen. The function of the dining-room was to be a part of some other room. The function of the living-room was to adjoin everything. Its rhythm had to flow into the rhythm of the rest of the house. Then there had to be a wrap-around-the-corner window to bring the out-of-doors inside. That was a good deal of adjoining and flowing and wrapping around, it was explained, and obviously the room had neither the strength or the

perimeter to take care of a fireplace.

David suggested to the architect, nevertheless, that they be real good and original and build the house around the fireplace. This would also locate the bath and kitchen where he, David, wanted them. But that would make them non-adjacent, which made the architect, who was steeped in the modern doctrine of precise efficiency, very sad. He explained about piping.

When the plumber had put in a kitchen, it appeared, he was greatly fatigued and was physically unable to bring into being long connecting pipes to a distant bathroom. That was now a lost art. The plumber was actually at his relaxed best when all the piping for the combined kitchen and bathroom came coiled up like the large intestine, inside a stainless steel box; and all you had to do was to screw in a water connection and a waste connection. Then you could go upstairs, turn on a faucet and get cold and luke-warm water immediately.

After there had been a lot of this sophisticated talk about pipes, it was explained that the fireplace was merely sentimental. It required bringing in wood, a little at

a time, which was piecemeal economy, as against a universal economy of bringing in all heat and light energy from a central source—a very functional move indeed.

David couldn't understand that you had to be modern and streamlined and functional. He couldn't understand about the kitchen. It seemed there was some virtue in compactness. One motion put a pork chop from the refrigerator into the frying pan. You could sit on a stool, grab a potato, peel it and put it into a pot with a single motion.

So what? he asked. After you have peeled one potato and put it into a pot without changing your position, you have peeled them all. In the long winter evenings, sitting in the rhythm of a streamlined living room, what comfort did you get out of saying, "Come on, let's go out in the kitchen and peel ourselves a potato!"

He wasn't up to it. He couldn't understand that if things were realistically planned, happiness followed as the night the day. If the bathroom piping were properly arranged, obviously it was proper to enter the place in full view of the living room. Open plumbing openly arrived at. But he couldn't get it.

His wife liked the prompt-po-

tato type of kitchen. She had insisted that he have a rug and Venetian blinds in his office to kill that commercial feeling. But now here she was favoring a kitchen with everything metal and straight-lined to kill that domestic feeling.

He was bewildered. They always wanted things different. He wanted a house that would be comfortable, and they were talking about kitchens and vacuum cleaners. He wanted to be old-fashioned and easy-chair. His mood of sentiment was fading, in the face of so much planning; he could not go on. He hated to give up the affluent feeling that came of controlling six thousand dollars. But, with a gesture as of Pilate washing his hands, he put the plans definitely and firmly away in the bottom of the bureau drawer. *Requiescat in pace.*

That's what *he* thought. "David Margarine," said his wife, "what are you putting those plans away for?"

"I don't know that I'll build the house."

"You don't. Well, *we* are building this house. *I'm* tired of jumping for shelves, lying on my stomach to get skilletts, making like an icicle at the refrigerator on the back porch."

That was dangerously reasonable. "Furthermore," said the better fifty-percent, "when I clean, I don't want to do rooms put together like a train of cars, I want them simplified and arranged."

"Now this fireplace," she continued, "you have a sweet sentiment about it so long as you feel it is going to be serviced for you. But if you have to bring wood and chop kindling. . . ." He began to see handwriting on the wall;

he saw he was going to build a house, *the* house, rhythmical and streamlined. A woman's place of business, he reflected sadly. It was all right to say the hand that has the rocks rules the world.

He moved the roll of plans in an absent gesture. "And don't you put those plans back in the bureau drawer, David Margarine," she directed.

"No," he replied, "No. I wasn't expecting to."

Are American Students Backward?

By F. Senior Bolland

EDITOR OF THE ARCHITECTURAL STUDENTS ASSOCIATION JOURNAL, *Plan*

ASK this question from England, and I mean to be provocative. For, lurking in the back of my mind is the phrase "The Big Three," which I have a suspicion is meant to indicate Great Britain, the U.S.S.R. and America bound together in the ventures of the peace as well as the War.

In many spheres of international co-operation the phrase means something; in others, in the one with which I am concerned, it means absolutely nothing. In international interchange of views between students of architecture, the

United States is, so far, taking a place less important than that occupied by Malta, never mind Great Britain and Russia. Here in Britain, we are attempting to build up a basis for the formation of an international architectural student committee. Apart from our friends in the British Commonwealth, our closest associates abroad are the students of Sweden and next, our comrades in Moscow. We have built up a close friendship with such students, by means of many letters, the interchange of journals and photographs of school work

and the writing of articles for publication in the respective professional periodicals and newspapers. Why is it, then, that American students have not participated? It is not because participation is dependent on there being a highly organized national architectural student body in the United States, for there is no such body yet in Sweden. It is not because there have been no invitations to co-operate, for the national body of Britain, the Architectural Students Association, has sent more than one appeal to The A.I.A. and has, for instance, tried to develop one particular contact—the University of Pennsylvania Architectural School—all without result. We know not a single American student. Why then, is there this insulation—dare I say *isolation*? Is it because the student is as yet unrecognized as a member of society in the United States? Has he not, as yet, become aware of himself as a vital unit in the professional set-up? Has he not had time to progress from the debating-society stage to that of the cultural society? Is he so young that he is not able to be aware of his responsibilities? Is he so naive

as to imagine the world ends at the coast-lines of the Americas?

These are questions that only the American student can answer. Let him do so. Let him write to us here in Britain. The A.I.A. can give him our addresses. We should like to know all he has time to tell of himself—of his work, his play, his politics, his ideals. We invite him to consider coming to the first international congress of architectural students that we are organizing. We invite him, in other words, to become internationally-minded. The A.I.A. JOURNAL may not reach him in all his many homes; yet it will reach him somewhere.

The Architectural Students Association in Britain started in 1933 with an idea of Manchester and Newcastle University students to get together. Now it is perhaps the strongest architectural student body in the world, because of its roots in the British Schools of Architecture and because of its uncompromisingly international outlook. Is there any reason for fearing that America will lag behind for very long?

“Let us assume that we ought to shut up about having the highest standard of living on earth until the time when such is the case.”—DOROTHY THOMPSON.

The American Frontier

By *Eric A. Johnston*

PRESIDENT, CHAMBER OF COMMERCE OF THE UNITED STATES.

From a speech before the Electric Institute of Washington, D. C.,
March 21, 1944.

THE OTHER DAY a government official said to me—and I know that his views represent the thinking of a great many other people in and out of government:

“Eric, never again will it be possible for a poor man to become wealthy in America. Never again will it be possible for a poor man to own and develop a large business of his own. What we must do in the future is to divide what we have, so that there will be no want on the part of any of us.”

I am one who vehemently disagrees with this theory of maturism in America. I am one of those who feels that our program must be one to enlarge our horizons, to open up new vistas of success and accomplishment; to allow the American people to see that the road ahead can lead to greater heights than anything that they have ever known before. I realize that the program will not be an easy one. Yet, I also realize that we have not reached the last frontier of American civilization, that

we are bound to explore the horizons of tomorrow.

May I use an illustration? Out in the West we have eleven Western States. If I eliminate California and Washington, which are perhaps most highly developed, and substitute the two Dakotas, you have an area which is approximately the size of all of India, or of all of Europe outside of European Russia. This area of eleven Western States contains a population of about 9,000,000 people. In India there are 385,000,000 people, and in Europe outside of European Russia, 265,000,000 people.

But, you say, there are not the resources in these eleven frontier states that are yet undeveloped. I tell you that there are more known natural resources in these eleven Western States (and they are far from all explored) than in all of India or all of Europe put together. You say that there are not the agricultural lands in these eleven Western States, and I tell you again that there are lands under

cultivation, or capable of being brought under cultivation by proper irrigation and reclamation procedures, which will approximate the land under cultivation in India or the land under cultivation in Europe outside of European Russia.

In the State of New Mexico alone there is sufficient coal in known seams and known deposits to last the United States at its present rate of war-time consumption for 450 years, and yet we don't consider New Mexico as a coal state out in the West.

Does that indicate that our frontiers are gone? Does that indicate that there is no room for expansion in America?

Yet the greatest expansion and the greatest frontier that our country has, lies in the enrichment of the people. We have never produced enough in America to provide a minimum modern subsistence standard of living for all of the people of the United States alone, and please do not forget that the prince's luxuries of today are the pauper's demands of tomorrow. We have only begun to enrich these people who have come to our shores to escape religious persecution, to find a new way of life in America. We have given

them new horizons; we have given them new opportunities; we have given them new goals. There is something indigenous in the soil of America that makes a new race of people more productive than they were in their old habitats before.

I could cite numberless new inventions and new processes, new techniques, and new materials of the world of tomorrow. Allow me to take just the airplane alone. Had I stood before a group of this kind forty years ago and told them what the automobile would do for America, most of them would have laughed at me. Had I told them that it would spread ribbons of concrete across the country from coast east to west and from north to south, that on these ribbons of concrete there would be more than 30,000,000 passenger cars moving with the speed of the wind; told them that it would decentralize our cities, change our shopping areas, revise our ways, they would have thought that I was dreaming dreams.

I have no idea what the airplane will do for the world of tomorrow. All I can tell you is that in this room tonight you are no more than sixty hours from any point in the world; that within five years after this War, you will be, in Washing-

ton, no more than thirty hours from any place in the world. All I can tell you is that you will go places and do things that you have never contemplated before. What effect it will have upon our cities, upon our way of life, upon our civilization, I can't tell you. Not even if I retired into an ivory tower of meditation would I be able to describe what this one thing might do for you in the world of tomorrow.

I wish that I had time to tell you what other things are going to do for America, but I can only tell you this evening in all sincerity that there were never greater opportunities in the world opening for our people than there will be after this War. New methods, new techniques, new products, new ways of doing things, will crowd themselves in never-ending fashion on the minds and the consciousness of the American people.

I thoroughly realize and understand that periods of history are very much like stretches of land. You go for a long time, sometimes almost across the continent, with things pretty much the same, and then suddenly you come to the land's edge; suddenly you come to the water's beginning. Beyond lies the great unknown, the open sea.

We are like the pioneers on the continental edge of one of those great periods of history. We are like Columbus taking off from the European shores. We do not exactly know where we are going; there is dissension in our crew in attempting to reach our destination, and probably when we arrive at that goal it will be quite a different goal from that imagined.

All I can tell you, again, is that there are looming up through these nebulous fogs of tomorrow certain definite things which we can characterize, describe, label. The first is that we in America have done something with people; we have brought forth a new race. Those of you who are familiar with metallurgy realize that a pure metal is never the strongest. It takes the alloy, other metals, to give a keen cutting edge, a sharp surface, a tensile strength. We in America are an alloy of all races and creeds and religions. We in America have built up a fiber of people who are toughened in spirit and mind and heart. We in America have a moral consciousness of the world of tomorrow that we can develop, and we shall attempt to achieve that world of tomorrow.

No one can defeat America except the American people.



Architects Read and Write

Letters from readers—discussion, argumentative, corrective, even vituperative.



ARCHITECTS IN SMALL COMMUNITIES

By CLARENCE C. PALMER, Parkersburg, W. Va.

THE ARTICLE in the July JOURNAL by B. K. Johnstone as to why there are so few, if any, architects in the small communities is a most timely subject.

Why do architects stay away from the small community? Why do architects prefer the larger cities? Why, and most important of all is, *how* can the architect make a fair living in the small community?

It is very hard for a young architect to start a practice anywhere without at least five years of the best all-around practical office, field, business and social training. This experience is absolutely necessary, but so few of our young men of the profession seem to realize this.

The architect starting a practice in any of the small communities does not, and cannot, have the opportunities the doctors and lawyers receive. I wonder why so many of our profession wish to compare the architectural profession with the legal and medical professions, when

their ethics and business methods are so vastly different from most of the practicing architects. For instance, one of the biggest reasons why architects in small communities fail in their efforts is that, just as soon as the small town decides to build a church, school, town hall or even the larger homes, the architect in the larger city a few miles away rushes post-haste to this small town to grab any and all of these jobs. The doctor and lawyer are not permitted to do this. What chance has a young architect in such a town against such architectural competition of seasoned salesmen who have a long-established practice, are well-known socially, and have political contacts?

Most of the town's small buildings, particularly the homes, are and have been designed and built by the one or two local contractors who have made themselves solid in the community, and who, incidentally, are generally good salesmen.

Answering the second question, there are many, many more oppor-

tunities in the larger cities, too numerous to note here. There is more security and a better chance to occupy one's time in a profitable manner aside from architectural practice, if the occasion demands it.

There is a way by which the small community may be the proud possessor of a good architect, if it is really serious in wanting one. If a group of business men of prominence will get back of this new acquisition and boost him in his profession, acquaint him socially, see to it that he is given local work until he has proven (or unproven)

himself as a qualified architect and businessman, then there is some hope for these small towns to have an architect, also a mighty good chance that the architect will succeed and stay put as an active, responsible and worthy citizen.

Not until the architect is financially and educational equipped and ready, and not until the town is ready to assist its new architect, will either the one become a successful architect or the small town be able to boast of a really good architect.

THE NEW YORK PANEL—A CORRECTION

BY SIMON BREINES, New York

FOR the sake of record, I wish to correct two misunderstandings which appear in Electus Litchfield's comments on my article, "Selecting Architects for Public Works—New York's Experience."

In the first place, I most certainly did not state, nor did I intend to suggest, that there had been any case of favoritism in the selection of architects from the Mayor's List. I sincerely believe that the architects' panel is a genuine step forward and has worked out to the advantage of the public and the profession. Indeed, as one

of the architects in New York's post-War program, I can bear personal testimony to that fact.

All I wanted to say in the article in question was that the very nature of a list of qualified architects is such that the better-known firms would be more likely to be selected. There is, of course, nothing reprehensible about this; indeed, it is a perfectly natural situation. But since I had been asked by the JOURNAL to suggest how the less-known, younger and untried architects could qualify for public works, I proposed more

competitions for specific projects. Now, this idea may or may not be good, but I want to assure Mr. Litchfield and others who are interested in furthering the impartial selection of architects that I meant no derogation of the New York Panel, nor of any of the City's public servants, for whom I have a high regard.

In the second place, Mr. Litchfield got the impression that I proposed that competition winners be included in the panel. I agree with him that this would not be desirable. My recommendation was essentially that the design of occasional public buildings be the subject of competitions open to all architects including the panel.

THE METRIC SYSTEM

BY CHARLES BUTLER, F. A. I. A., New York

I CANNOT let my old friend John Klaber's article in the October JOURNAL pass without registering a protest.

He admits that the metric system is theoretically superior to English measure, but lets himself be discouraged by the difficulties of the transition. As a matter of fact, dimensions in feet and inches are easily translated into meters, as those of us who have had occasion to use the metric system well know by experience. I question the accuracy of his statement that our products and materials are standardized in sizes that are easily expressed in feet and inches, and far less easily in centimeters. We seem to do fairly well in producing cannon of 75 mm., not to mention the 88 and the 155.

It is true that the French, although they adopted the metric system many years ago, still use the names of the old measures, though the *bock* is actually three-tenths of a liter and the *livre* is not the old pound, but a half-kilogram. Is this a reason for failing to adopt a system which will mean untold saving in the long run, which is so good that all the rest of the world except Great Britain and ourselves has adopted it? His argument against adoption strikes me as defeatism, pure and simple.

What Mr. Klaber entirely neglects to mention is the interrelation of measures of length, surface, capacity and weight in the metric system, and the utter lack of such interrelation in our system. I rec-

commend to all architects to consult page 25 and the following pages in Kidder-Parker's "Architects' and Builders' Handbook," if they wish to be convinced of the utter imbecility of our system, with its different pounds, Troy and avoirdupois, its dry and wet quarts, short and long tons, its perches which vary in different parts of the country, its gallon, which contains 231 cubic inches, its ounce avoirdupois, which has 437,488 grains and, above all, its greatest triumph, the acre, of which there are 640 in a square mile—how many could tell offhand how many square feet there are in this acre, and what is the length of the side of a square acre? Of course, it is a help to know that 4 square roods

make an acre, also 10 square chains!

If ever a system was set up as if with the deliberate purpose of making petty cheating easy, this is it.

Mr. Klaber evidently considers that our trade with countries using the metric system is unimportant, a point of view which is not shared by economists.

If anyone can prove that our present system is preferable to the metric system, by all means let us retain it, but if this is not the case, let us who like to think that in most things we lead the world, set out without delay to catch up at last with the rest of the world in this particular, even though it may take years to accomplish it.



Highlights of the Technical Press

Architect and Engineer, Oct.: Solar Heating (findings by Ill. Inst. of Tech.); 3 pp. t.

Architectural Record, Oct.: Railroad Station, Burlington, Ia.; Holabird & Root, archts.; 6 pp. t. & ill. Children's Hospital, Mexico City; Jose Villagran Garcia, archt.; 8 pp. t. & ill. Apartments; 22 pp. t. & ill. Laundries; 16 pp. t. & ill.

Arts and Architecture, Oct.: Suite for a Post-War Hotel; Arnold Lawrence, des.; 2 pp. t. & ill.

Church Property Administration, Sept.-Oct.: Architecture and Religious Tradition, by Charles D. Maginnis, F.A.I.A.; 3 pp. t. & ill. Designing Liturgical Vessels, by Suitbert Kramer, O.S.B.; 4½ pp. t. & ill.

Pencil Points, Oct.: Integrated Design is a Joint Responsibility, by Roland A. Wank; 6 pp. t. & ill.

Building Product Facts—Insulation—Low Temperature Block, cont.; 2 pp.

The Editor's Asides

THE NUMBER of architectural minds that recall events at the turn of the century is dwindling. To most of the present generation the name of Wilson Eyre probably carries no special significance. Even the highly individualistic sketches that he turned out as presentation drawings for country-house clients are seldom seen, even in retrospective exhibitions. They were almost invariably on dark brown butcher paper, with shadows in soft black pencil, charcoal, or sepia wash; highlights in Chinese white, with a sparing touch here and there of gamboge or blue. With the names of Cope and Stewardson, Frank Miles Day and Albert Kelsey, that of Wilson Eyre was one with which to conjure in and about Philadelphia in 1900. The privilege of working in his office, at little or no salary, was eagerly sought by graduates of the architectural schools. The phrase "to the satisfaction of the architect" in his specifications roused something like terror among the contractors—and probably a material defense in

higher bidding—for he knew what he wanted, experimented, and got it.

In a day when the work of American architects was satisfying or not according as their architectural libraries were well stocked or meager, Wilson Eyre's work reflected Wilson Eyre, not the books. It is likely that his rationality of plan had frequently to bow to the suavity of exterior mass and a charm of roof lines; windows may sometimes have been omitted, or included, in the interest of exterior appearance rather than as matters of practical necessity. But never would a client of those days have dared to question Wilson Eyre's judgment in design; that the master had condescended to create for the client a Wilson Eyre house was all-sufficient.

Born in Florence, Wilson Eyre came to America as a boy of eleven; he studied architecture at Massachusetts Tech and served a five-year internship in the office of James P. Sims, starting independ-

ent practice in 1881. He died in Philadelphia Oct. 24 at the age of 86. *Ave atque Vale.*



EVIDENCE continues to mount, supporting the conviction that among miscellaneous bottlenecks that will hamper our post-War building, the bottleneck of the architectural profession will be the most troublesome of all. In the period just ahead of us, when the United States faces what is by far the greatest building activity engaging any nation at any time in history, there are not enough architects to do their part of the job.

For a decade past our ranks have been steadily thinned. The depression drove some men to other pursuits. Fewer students entered the architectural schools during the years when building itself was in the doldrums. Then came the War. Student bodies were still further depleted by enlistment and the draft. Younger practitioners and draftsmen joined the Armed Forces, or were diverted to the drafting rooms of ship and plane and tank builders.

Here we stand, facing our greatest building activity, with the smallest architectural personnel in many years. Already, with post-

War designing only begun, a shortage of draftsmen is hampering progress. Representations to demobilization authorities are being made, urging selective demobilization of architecturally trained men in the nation's obvious need. Many who have temporarily been engaged in various branches of materiel design and production will undoubtedly return to architecture. But even with the utmost flow that we can hope for from these sources, the prospect of a throttling bottleneck remains. And the worst of it is that this means a vast volume of building without competent technical guidance—probably a flood of speculative houses hatched from resurrected stock plans that were no good when they were made, and are far worse now.

There is one faint glimmer of hope in the prospect. We have rather lately learned that it is the community that most needs design—more than the individual dwelling. One competent architect can design a community of 300 houses, making use of repetitive elements, more readily than in the past he could design houses for half a dozen individuals. And the houses of tomorrow are likely to be built by the hundred rather than by the piece.



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