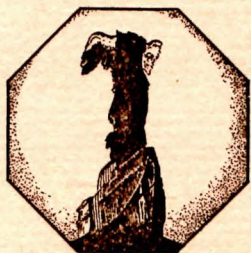


Journal of The American Institute of
ARCHITECTS



August, 1946

Design and People—I

Organic Architecture

Low-cost Housing in Hyderabad

Programming Municipal Expenditures

War Memorials

The Maya Builders

Why "Architectural Engineering"?

35c

PUBLISHED MONTHLY AT THE OCTAGON, WASHINGTON, D. C.

UNIVERSITY OF ILLINOIS
SMALL HOMES COUNCIL
MUMFORD HOUSE.

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

AUGUST, 1946

VOL. VI, No. 2

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The *Journal of The American Institute of Architects*, official organ of The Institute, is published monthly at The Octagon, 1741 New York Avenue, N. W., Washington 6, D. C. Editor: Henry H. Saylor. Subscription in the United States, its possessions and Canada, \$3 a year in advance; elsewhere, \$4 a year. Single copies 35c. Copyright, 1946, by The American Institute of Architects. Entered as second-class matter February 9, 1929, at the Post Office at Washington, D. C.

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ADEQUATE FOR TOMORROW'S NEEDS


.. Because Bud is watering the spinach!



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Don't forget the modern equipment that's to be installed--automatic laundries, dishwashers, garbage disposal units, etc. as well as extra lavatories and showers your clients want. For all of them, the pipe-line is the life-line of efficient operation. Remember, too, that with city water pressures constant, you regulate the individual water supply by installing steel pipe of larger diameter. So, it's up to you.

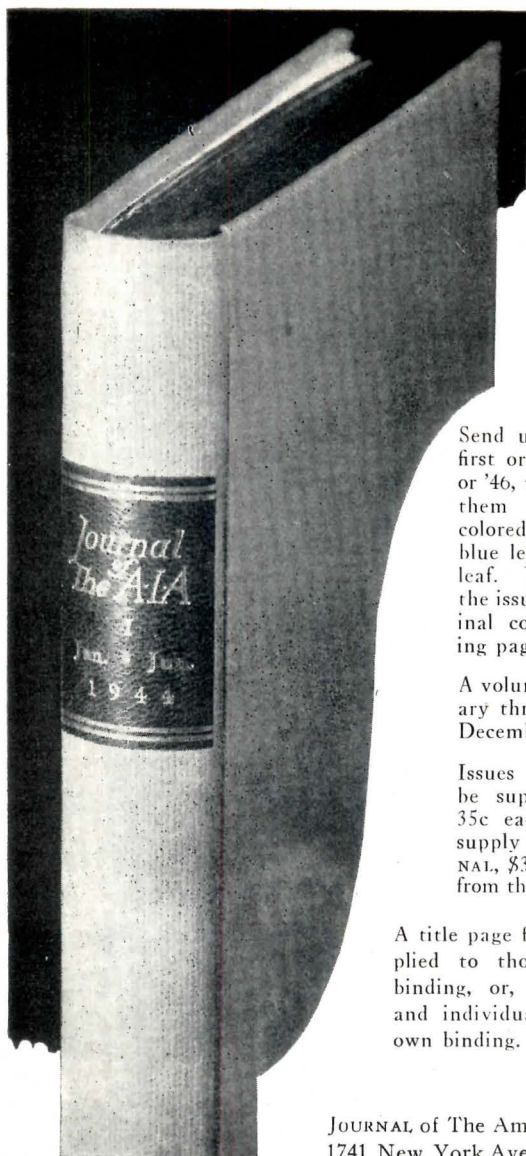


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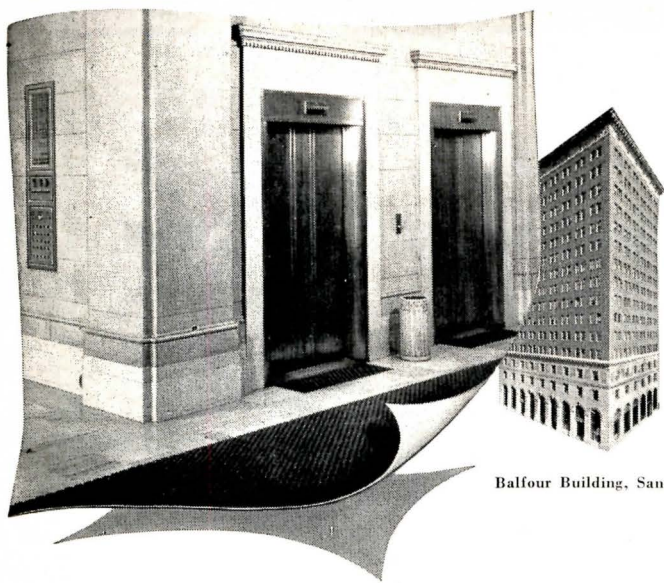
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JOURNAL of The American Institute of Architects
1741 New York Ave. N.W., Washington 6, D. C.



Balfour Building, San Francisco, Calif.

There's more to it than meets the Eye

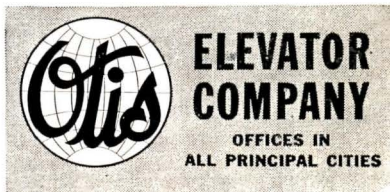
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Design and People—I

By *Richard M. Bennett* *

CHAIRMAN, DEPARTMENT OF ARCHITECTURE, YALE UNIVERSITY

An address before the Boston Society of Architects and architectural staff and students from Harvard, Yale, M.I.T. and Boston Architectural Center, May 4, 1946. Part II will appear in the September JOURNAL.

AT THE TIME I was doing advanced design here there were two big questions: Should one be a modern, or a traditional architect? and Would there ever again be work for any kind of architect?—enjoying as we were at that time the beginning of the great depression. I think the answer to the first question has been arrived at, since the issue between traditional and modern is just about ended, and for us today it is comforting to be facing the greatest opportunity to build in the history of the world.

The issue before most of you is not a simple one of taking sides, being modern or traditional, but to be a *good* modern architect; or, as

teachers and critics, to distinguish between good and bad modern. In short, now that we may be said to be back on the track of non-stylistic architecture, to distinguish between good and bad building. This differentiation, this establishment of higher standards becomes a matter of education—education of architects and, equally important, education of those who employ, or should employ, architects.

Where does the average person, the average college graduate even, get his ideas about architecture? I venture to suggest, first, his environment, then from various art courses in school, and finally from adult education in magazines, from advertising, books, lectures, movies

* Richard M. Bennett is Professor of Design and Chairman of the Department of Architecture at Yale University. He has been in active practice, has worked with several of the best-known industrial designers and headed up the Bureau of Style and Design of one of the great mail-order houses. As the article suggests, he is deeply concerned with the relation of industrial and architectural design, believing that there is far too much compartmentation and specialization in the professions.

the advertising pages have become the more potent adult educational force. I have no figures to prove my point precisely, but it seems obvious that the major refrigerator manufacturers, alone, spend more money on advertising, on setting visual standards for kitchens and homes, inside and out, than is spent in the major universities on architectural education. When one thinks of the other parts of a house—plumbing fixtures, heating systems, roofing, siding, paint, hardware, radios—it is appalling to realize that the manufacturers of the *pieces* of buildings wield an immense power on architecture as a sideline to their titanic struggles for a little more money to be spent on the part of a structure or appliance in which they have a stake. Any pressure for thinking of a house as a whole, or a house as a part of a community, is woefully little.

If you were the manufacturer of a heating system, you would have little interest in just what philosophy of living was back of a house for which you hope to install the furnace. All you as a manufacturer need to know and deliver is automatic heat, convincing the purchaser that he is going to get it at a reasonable cost. Conse-

quently, the houses in the background of your consumer ads will be pretty average houses—the purpose of including the house in the background being to illustrate the fact that your piece of equipment will fit *any* building style. Now I think it is impossible to overemphasize the part played on the subconscious mind by the repeating of a symbol. When one thinks of the billions of reproductions of Cape Cod cottages, it is a wonder people think there is any other form for a house to take. I think it speaks well for the intelligence of the country that more and more people *do* know that there is something different.

Remember, it isn't just the advertising of building parts either. It is the insurance companies, druggists, toothpaste ads too. Here is a rather classic formula for an institutional ad: first, there is a headline something like this, "Happiness and security with your loved ones," above an illustration of a handsome American male with good teeth and a baby on his shoulder; beside him is an older child of the opposite sex, and behind this child is a knockout-looking girl wife, all coming through a picket fence, white, which surrounds our Cape Cod cottage.

Remember then, when we talk about modern building we are arguing against the subconscious holding on to one of the strongest symbols of individual independence, security and happiness ever established. This kind of adult education indoctrination is subtle and powerful. It is the weapon of industrial distribution, and can be combatted only by having different attitudes established within industry itself.

It is not only the background

pictures of buildings that are influential, but the form and design of industrial products themselves which influence attitudes. It is interesting to note how the manufacturer can present as his part of a building a brand-new, unfamiliar form, but he presents it in the foreground, with a very conventional house behind it to lend authority to his product. It is all right to have a streamlined kitchen, but put it in a time-honored Connecticut salt-box.

The Maya Builders

*By Herbert J. Spinden **

CURATOR, AMERICAN INDIAN ART AND PRIMITIVE CULTURES, BROOKLYN MUSEUM

Transcript of a talk before The Architectural League of New York, February 28, 1946.

THE MAYA INDIANS were good Americans—they had the skyscraper instinct! To develop a civilization, two things are necessary after the food problem has been solved: first, social methods; secondly, social purposes.

So, before one learns to build a skyscraper one learns to build a

house. Red Indians reached America from Asia with tents for summer and underground lodges for winter. When they came to the open, dry tropics, they needed little in the way of shelter; but not so in the tropical forests, where the rainy season is long and very wet. The Maya house was invented as

*Dr. Spinden, educated at Harvard, has been engaged in field work and writing on archeology and ethnology since 1905. He is credited with solving the chronology of Mayan inscriptions, their civil calendar and the Venus calendar. His books, scientific papers and magazine articles stand as the authoritative record of ancient civilizations of Mexico and Central America.

a sheer necessity in Yucatan, which is hot and dry half the year, cooler and wet the other half.

Years ago in central Yucatan, I saw two men and an old woman build a house without a saw, without a hammer, without a nail. The posts and beams had been cut and trimmed with bush knives, replacing, I suppose, older stone-axes. There were piles of looped bejucoes—not vines so much as the long, slender airroots of plants nesting in high trees. The Belize Negroes call these cord-like airroots “tie-tie,” and the thick ones used for lashing heavy beams they call “bellyful tie-tie,” because it takes a well-fed man to dislodge the large plants.

When I arrived, the six or eight posts had been set in holes to form a rectangle, and the plate beams laid along their forked tops. Cross-beams also were in place, while the heavy roof tree already was lying approximately along the center of the house, resting on the cross-beams. It had been lifted to this position by a simple tripod rig: that is, one end of the pole had been lifted from the ground and a spread tripod fastened loosely to its underside. There was no pulley, but when the tripod legs were drawn in, one at a time, the log

was slowly raised. This simplest of all jacks had considerable mechanical advantage: the first lifting near the ground means half the weight of the roof tree but the subsequent liftings, one tripod leg at a time, mean a sixth part of the weight and at more difficult heights. Once the roof tree rests across the frame, two larger tripods are attached, one at each end, and a forked pole of small diameter is tied near the center of the roof tree to steer the load, so to speak, when the lifting by tripod, at one end or the other, begins. In this way the roof tree is soon lifted to the apex of the house frame. The tripod legs are lashed in place as a permanent part of the construction.

But this was only the solid framework. The cross-beams extended several feet on either side of the house posts. Lighter, secondary plate beams were now put in place to which rafters were attached, leading up to a new lightweight ridge placed on top of the heavy roof tree. To this outriggered roof, the thatch was fastened, having previously been tied neatly to ten-foot lengths of pole. Ultimately the extended thatch made porches, and usually each end of the house was built in a half curve. A front and back doorway cut the

center of each side wall. Soon the Maya family had a new sweet-smelling home. I asked the native name of every part of the construction and remember the laugh that rose when I inquired about a stiffening rod halfway up the roof. "Oh, that's the rat's road," they told me.

Really the Maya house is important architecture if only for its wonderful ventilation, re-used, in principle, in the so-called Panama House.

Remember, the Indians had no aid in the wheel, no pullies, possibly not even rollers. The tripod device is basic American engineering for conical tents as well as for hammock supports set up by South American Indians camping on river bars.

I have never observed much use of levers. Once in Merida, I dined at a missionary school where American girls were teachers. That day they had driven out to a Maya village where the natives were repairing their church and they told me excitedly about it. "The Indians were shaping some new stone drums for columns; not with stone chisels, although they had a few, but with wooden wedges and wooden clubs. They said it saved time!"

"You mean," I replied, "that the Indians were chipping stones to shape, like so many arrowheads, and that afterwards, they ground them smooth with other stones."

Their faces fell: "Oh, then everybody knows about that!"

"Well, no, not everybody, exactly! There may be a few architects who never heard of it!"

Maya stone buildings are seldom built of rectangular stone blocks, and I personally have never seen a true, corbelled vault in Mexico or Central America—only occasionally in Peru and Bolivia.

In fact, the secret of Maya architecture is their discovery of how to reduce limestone to lime, then to slake that as a binding mortar. This discovery took place, I suppose, as the Maya were clearing their fields by slashing and burning in their predominantly limestone country.

Maya architecture, which is rubble-and-mortar with a veneer of trimmed stone, got a late start, perhaps as late as two centuries after their first stela was carved on a limestone slab. The earliest use of lime seems to have been limited to courtyard floors and perhaps to making cisterns watertight. After that it was used on

walls and on flat roofs laid over poles.

It seems that the first stone buildings of the Maya were temples having such narrow chambers that only gods could accept shelter there. Walled rooms, six or seven feet wide, did not appear until the second half of the fifth century, or about 9-15-0-0-0 in the Maya dating system. As late as 480 A.D. temples at Tikal are lofty enough, but have chambers only 3'-3" wide. Within a century and a half, say by 630 A.D. when the First Empire ended, rooms attained a width of 12'. Massive decorations rising from the roofs were supported with increasing efficiency.

A collapse brought on the poverty-stricken Intermediate Period. Towns could not afford pyramids

—only decorative towers which were like vestigial pyramids, topped by temples having decorative stairways impossibly steep. Yet these Intermediate Period temples—like the churches of the Dark Ages in Europe—are really magnificent: although small in size they have great beauty and dignity. In the subsequent Second Empire the Toltecs swept down from Mexico and the Maya artist gave form to many foreign ideas. Now we find rooms a hundred feet square, supported over columns. But these Maya-Toltec buildings of Chichen Itza lost the old factor of safety: their stone roofs over wooden lintels collapsed. Many buildings of the twelfth and thirteenth centuries have their appeal to modern Americans as part of a great American tradition.



Nominations for Honorary Corresponding Membership

THE Board of Directors, A.I.A., depend upon the membership at large to nominate from time to time foreign architects eligible for election as Honorary Corresponding Members. Nominations of this kind frequently orig-

inate in the Committee on International Relations, whose members usually are more familiar than most of us with the activities and accomplishments of architects outside of our borders. Nevertheless, nominations for this honor by The Institute are welcomed at any time from the membership by The Board.

AUGUST, 1946

Programming Municipal Expenditures

By *William Stanley Parker, F.A.I.A.**

Mr. Parker here outlines a field of professional service, not too far outside of the architect's normal range, and one in which broad areas of civic betterment are well served. Any architect to whom this field of activity appeals would do well to write to Mr. Parker, who very kindly offers all the help at his command.—EDITOR

MANY, indeed probably most, architects have wandered from their normal beaten path during recent years, war service of one sort or another being the cause in most cases. In my case, city and state planning activity shunted me on to a siding not related in any way to the war but having a continuing relation to municipal government and to the construction industry as it is affected by public works.

Long-range programming of public works is not a particularly new idea, having been endorsed repeatedly in reports during the past twenty-five years, but nothing actually was done about it until 1931 when the Federal Employment Stabilization Act was passed,

during Hoover's administration. This required Federal departments to lay out six-year programs of construction requirements when submitting their annual requests to the Bureau of the Budget. And it was nearly a decade later when constructive action was taken with a view to applying the same idea to state and local public works.

My connection with this problem as a member of the Massachusetts State Planning Board led to my appointment by the National Resources Committee as a member of the special Public Works Committee to which this job was assigned. Our first meeting was in January, 1939, and since then I have devoted myself exclusively to this work. Opportunity in this

*For thirty years Mr. Parker was a member of the office of R. Clipston Sturgis, a past-president of The Institute, and then for three years president of Mr. Sturgis' successor, Sturgis Associates, Inc. A former member of the Massachusetts State Planning Board and for more than twenty years a member of the Boston City Planning Board, Mr. Parker was appointed by the National Resources Planning Board to its special Committee on Public Works in 1939. Since then Mr. Parker has acted as consultant to many cities and towns in New England in the development of their local programs, and is now guiding a similar program for Terre Haute, Indiana.

field is rapidly increasing, and there is a great need of more trained consultants to guide municipalities in the development of this new governmental technique. Other architects may well find this work a means of widening their own field of usefulness, as there are many who, like the writer, are taking part actively in city planning work, with which public works programming is intimately connected. It is not inappropriate, therefore, to devote some space in the JOURNAL to describe this new technique and to indicate its importance to the national economy.

There has been a great change recently in the relation of Federal public works to those built by state and local governments. During the 1920's state and local spending for public works was ten times as great as Federal spending for such projects, roughly as \$3,000,000,000 is to \$300,000,000. During the depression of the 1930's, state and local spending shrank to little more than one billion and Federal spending, in an effort to take up the slack in employment, increased to over a billion, increasing from 10% to over 50% of all public spending for construction. What the relation will be in the

future is anybody's guess, but it is hardly reasonable to assume a continuance of the relationship that existed during the depression. With the elimination of war construction, Federal spending for normal public works may amount to 25% or 30% of the total; that is, somewhere in between the 10% of the 1920's and the 50% of the 1930's.

If such a prognostication is reasonable, then state and local expenditures will be about three times as great in the aggregate as Federal expenditures. In spite of the great preponderance in the 1920's and this substantial preponderance probable in the future, I find more concentration of thought on the magnitude and control of Federal expenditures than on state and local. This is illogical and unfortunate, and I urge that we all turn our attention to the problem of local expenditures and their proper administration, so they may not again create the national problem of unemployment they created in the 1930's. President Hoover, during his administration, tried to stem the growing tide of unemployment by *increasing* Federal expenditures for construction by *300 million dollars* a year. But during those same years,

state and local expenditures were *cut down 2 billion dollars* a year.

For the next five years Roosevelt more than doubled Hoover's expenditures and was only able finally to offset the local shrinkage in public works, without being able to offset any of the large shrinkage in private construction activity. This Federal spending was made necessary by the financial weakness of our local governments, which went into the depression with a high public debt, a sudden shrinking of assessed values and no financial reserves. They were unable to increase taxes on depressed real estate and the Federal Government had to carry the burden of relieving unemployment.

Unless municipal governments reform their procedures and stabilize their expenditures, they will again help to bring about a national depression that Federal action will not be able to relieve. The only way they can do this is by foresight, long-range programs and financial reserves, and their administration under a policy of stabilization of expenditures on a long-range basis. This is a policy that can be understood and applied by local authorities, and will permit the accomplishment of that other

popular local objective—stabilization of the tax rate.

The technique of long-range programming is not difficult but it involves a new point of view. It abandons the old idea of one-year-at-a-time finance. It still would pass a one-year budget, but, when proposing the one-year budget, it would lay out an additional five-year advance program representing probable expenditures and income, and showing what assessed values and tax rates appear likely to be.

This permits the citizens to see where present trends are likely to take them in another five years; and if they don't like the outlook, that is the time to start doing something about it. The tabulations will show each year the proposed new budget estimates, actual experience for the prior five or ten years, and the probable experience for the next five years. The probable future, as well as the actual past, will form a basis for present action.

This being an annual procedure, each advance program is reviewed each year in the light of current conditions, and past judgment revised as may appear wise. Thus the municipality's program is flexible and constantly being adjusted to fit changing conditions.

In forecasting operating expenses, past experience is a good guide, supplemented by knowledge of current trends. In forecasting capital outlays for new structures and other physical improvements, past experience is of relatively little help. They must be programmed on a basis of need related to financial ability to pay. Department programs submitted by department heads constitute the first step. These must then be correlated by the programming committee, and a city-wide program developed that will provide the most needed projects within the total financial limits available on a basis of locally reasonable tax rates.

In publishing a program, however, all requested projects are listed, those that cannot be financed within the program period being shown in a column headed "Future." Thus the citizens have before them at all times a list of current foreseeable needs, allotted with regard to relative urgency. This will tend to eliminate the "pressure group" procedure so frequent in the past. If a pressure group does develop, seeking to secure action on some project earlier than indicated in the program, or to inject some project entirely omitted, full information is avail-

able by which to appraise the relative importance of the project as a basis for action. This has not been the case in the past.

When, in 1938, the Massachusetts State Planning Board recommended that long-term reserves should be established by municipalities, it was looked upon as a revolutionary idea. Only one state then permitted any kind of reserves. Today 25 or 30 states permit reserves for capital outlays, and Maine permits also setting up a reserve for operating expenses in bad times.

By the proper use of reserves, together with wise policy with regard to debt, a municipality can put itself in a sound financial condition so that it can meet the problems of minor depressions wholly with its own resources. It can also tend to prevent any depression from becoming serious by steadying its own operations in boom times. In the past, municipalities have imitated private enterprise, going on a spending spree in a boom and cutting their expenditures to the bone in a depression, as they all did in the 1930's.

Action to minimize booms is quite as important as action to cure a depression. Indeed, it is more important. It constitutes preven-

tive medicine in the field of the national economy. The most important segment in which this preventive medicine can be applied is the field of municipal finance. By adopting a policy of stabilized expenditures under long-range programming procedures, much can be accomplished. The Federal Government must add its influence by actually reducing its expenditures in booms and increasing them in depressions.

We know the Federal Government can use deficit financing for this purpose, as it did in the 1930's, and we know that local govern-

ments with taxes largely raised on real estate cannot do so. They must actually build up reserves in good times if they are to maintain their normal expenditures in a depression.

There is much to be done, however, before these new techniques are adequately understood and applied in the field of municipal finance. Architects functioning on local planning boards can render a valuable service by acquiring an intimate knowledge of this new technique and helping to guide additional municipalities along this new road to stability.



War Memorials

Excerpts from a report adopted by the National Commission of Fine Arts, May 14, 1946. The Commission is at present constituted as follows: Gilmore D. Clarke, chairman; David E. Finley, vice-chairman; William T. Aldrich, L. Andrew Reinhard, Maurice Sterne, Frederick V. Murphy and Lee Lawrie.

WITH the conclusion of the second World War, many memorials will be erected in coming years to commemorate the achievements and sacrifices of those who served in the armed forces of the nation. The building of war memorials is part of the nation's obligation toward those whose heroic efforts resulted in victory, and

the National Commission of Fine Arts is happy to encourage the construction of such memorials, and to call attention to some of the appropriate opportunities available. From time to time the Commission has been consulted in regard to the type, site and design of such projects, and therefore undertakes to suggest certain suitable

considerations of a general nature, to the end that these war memorials may conform to the highest standards of artistic and cultural value.

An early resolution of Congress provided a memorial to one of the heroes of the Revolutionary War, "it being," as the resolution said, "not only a tribute to gratitude, justly due to the memory of those who have peculiarly distinguished themselves in the glorious cause of liberty, to perpetuate their names by the most durable monuments erected to their honour, but also greatly conducive to inspire posterity with an emulation of their illustrious actions." This statement defines the three-fold intention of a war memorial: (a) gratitude, (b) recollection, and (c) inspiration. Any proposed memorial should be judged according to this threefold purpose.

Regardless of the form employed, the memorial should be obviously and definitely a war memorial, conveying, in the words of the late Paul Cret, formerly a member of the National Commission of Fine Arts, "a clear and arresting expression of the commemorative idea." Some communities have planned war memorials of the civic improvement

type, such as playgrounds and recreation centers, clinics for children, music foundations, etc. While eminently commendable in themselves, these civic improvements do not as a rule fulfill the precise purposes of a commemorative monument.

There is no reason why a memorial may not be useful, provided it unmistakingly proclaims the purpose for which it was erected, namely, to keep alive in the memory of this and future generations the heroic deeds of those who fought for their country.

The Commission do not recommend civic projects under the guise of "war memorials." If such a project is adopted, as a memorial, however, it should be amply marked with tablets, archways, sculpture or other such accessories, where annual memorial services may be conducted. Moreover, such a project should be amply financed to ensure its permanence, which is a necessary condition of a memorial.

A type of memorial deserving special consideration is the laying-out of a park area for commemorative purposes. Here the tablet, fountain, column, arch, building or other such memorial structure may be combined with the general

utility of a park area. Architectural and sculptural projects, in an open setting, can be used to express the commemorative intention. Particularly appropriate are groups of sculpture or relief panels in stone or metal, and archways or gateways with memorial inscriptions. An advantage of this type of memorial is that individuals or special groups can be commemorated by tablets, fountains, or monuments erected by relatives or friends.

After a memorial program is decided upon, the Commission recommend that a period of one or two years be allowed to lapse before actual construction work is begun. This will allow added time for the most mature deliberation upon all aspects of the program, and permit alterations contingent upon changed conditions or resources.

The choice of a site for a memorial structure may be as important as the structure itself. Sites are usually determined by special factors, which vary with each locality. In every community, therefore, careful consideration must be given to the problem of obtaining the most suitable site, where the surroundings will enhance the quality of the memorial itself.

The site itself can be enhanced in various ways with appropriate plantations of trees, and possibly with hedges, shrubbery, and flowers. An avenue of trees or a formal garden add immensely to the beauty of the surroundings. A site also can be improved in other ways, such as the construction of reflecting pools, stone walls and decorative enclosures. All such planning, of course, should be subordinated to the design of the memorial as a whole. The Commission recommend the employment of a competent landscape architect to collaborate with architect and sculptor in the choice and in the development of the site.

The ultimate requirement for a war memorial is that it should be a work of art. The greatest memorials are those that fulfill this condition, such as the Winged Victory of Samothrace. Others that may be mentioned are the Arc de Triomphe in Paris, the Lion of Lucerne, the Reformation Monument in Geneva, the Washington Monument and Lincoln Memorial in Washington, and the standing Lincoln figure in Chicago. Figures in relief, such as the Shaw Monument in Boston, are particularly adapted as memorials of modern warfare.

Selection of a competent artist or architect is vital to the success of a memorial. There are many competent artists and architects, whose services can be obtained for projects of this kind, and whose fees are commensurate with their skill and experience. In any case, before selecting an artist, committees should secure able advice from professional sources. Competitions frequently result in obtaining the best possible designs, and are effective if successfully administered with the assistance of competent and impartial judges.

To be avoided at all costs are stereotyped or standardized commercial monuments, such as the cast-iron soldier or a pile of cannon balls. An individual design is to be preferred to a commercial pattern that in all likelihood will be duplicated and seen elsewhere.

Because of the power of words to enhance or detract from a memorial, the wording and lettering of an inscription should receive careful scrutiny. Inscriptions are brief by necessity, and should express the purpose for which the

memorial was erected, to which some fitting terms of sentiment may be added. The latter may take the form of a quotation, either classical or modern, prose or poetry. Greek and Latin sources provide many suitable classical inscriptions, and the latter may be used either in the original or in translation. If an inscription is written specially for the occasion it should be terse, incisive and, if possible, beautiful. Such an inscription is that written by Simonides for the Spartans who fell at Thermopylae:

TELL THEM, PASSING STRANGER,
WE REMAIN,
KEEPING FAITH WITH SPARTA
AND HER LAWS.

Another example is an inscription in a London church to the dead of the first World War:

THEY SHALL NOT GROW OLD, AS
WE THAT ARE LEFT GROW OLD,
TIME SHALL NOT WITHER THEM,
NOR THE YEARS CONDEMN;
AT THE GOING DOWN OF THE SUN,
AND IN THE MORNING
WE SHALL REMEMBER THEM.

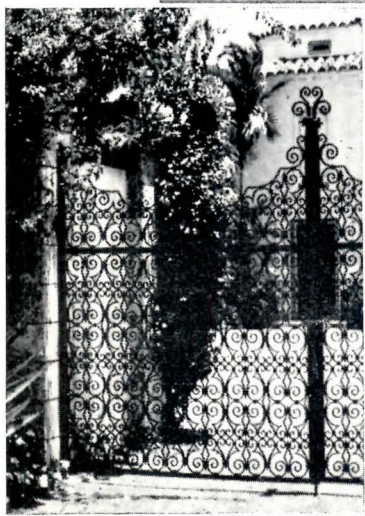
“We should cease thinking that being pioneers in imitation is desirable, or that a photograph of a foreign building in a magazine is more important than a knowledge of our own cultural surroundings.”—RALPH WALKER, F.A.I.A.



SOUVENIRS OF MIAMI BEACH

Above, looking south along the beach from an ocean-front balcony of The Shelborne. Left, The Shelborne, where members of The Board were housed and held their meetings. Below, an after-dip lunch on the terrace; l. to r., clockwise, beginning with Yeager (under left umbrella), Edmunds, Robinson, Kaelber, Koch, Purves, Cellarius and Orr.





SOUVENIRS OF MIAMI BEACH

Above, an example of the Bermuda influence towards white roofs; some of those thus painted were originally earth-color tile. Left, one of many romantic notes in the residential district, with its plentiful bougainvillea and wrought iron. Below, the shopping district on Lincoln Road, with stately royal palms at right.



Organic Architecture

By *Waldron Faulkner**

MODERN ARCHITECTURE is now a thing of the past. Those who support the doctrines of contemporary design now speak of "organic" architecture, instead of "modern" architecture. By this they mean that buildings of which they approve have in some mysterious way achieved a living quality, as opposed to the dead architecture of the past. In order to examine the essential characteristics of organic or living things, let us turn back to our textbooks on biology.

Years ago when I was at college, students of architecture were required to take one subject unrelated to the main course of study. For no reason in particular I elected to take a course of lectures under Prof. Richard Lull on Organic Evolution, and was sur-

prised to find that this apparently unrelated subject had a distinct bearing on architecture itself. Let us then see what connection there is between architecture and other forms of life.

Organic evolution studies the gradual development of living things with special reference to their form and function. Anatomy deals with the form of organisms; physiology is interested in their functions. Form and function are different aspects of the same thing. Both must be in harmony with environment. Life consists of a constant balance between the conservative forces of heredity and the progressive forces which bring about variation. The existence of the cell, the life of the individual, the survival of the race, depend on

*Mr. Faulkner, born in Paris, was educated at the Gunnery School, Washington, Conn., and at Yale Sheffield Scientific School, where his 1919 degree was in Mechanical Engineering. After another year of engineering at the Yale Graduate School he turned to architecture. Prefaced by a year's work in New York offices, he earned his B.F.A. at Yale, together with the A.I.A. Student Medal and the Alice Kimball English Traveling Scholarship. On his return from Europe he worked in New York for James Gamble Rogers and Leigh French, Jr., then opened his own office in 1927. Moving to Washington in 1934, he was associated with A. B. Trowbridge. The partnership of Faulkner & Kingsbury, established in 1939, has now become Faulkner, Kingsbury & Stenhouse, its work consisting largely of institutional buildings—for Vassar, George Washington University, American University, Garfield Hospital, Emergency Hospital and Suburban Hospital. Mr. Faulkner was president of the Washington Chapter in 1942 and 1943.

the proper relation of form and function to environment. Let us then study in some detail the principles of evolution to see if they apply to architecture as well.

As an example of variation in architecture, let us look at the column as it evolved in Greece guided by a spiritual environment of creative genius. In a short span of years we see the flowering of the Doric, Ionic and Corinthian orders, each a perfect variation of its primitive common ancestor.

Heredity, on the other hand, is the force which, for better or for worse, tends to make children look like their parents. The complete mechanism of heredity has only recently been thoroughly understood, but its importance in life has been recognized from earliest times. If heredity applies to living forms, it holds also for architectural forms.

On examining the Roman orders, we see that they "took after" their Greek forbears with little or no change of feature. In time the Roman interpretations became standardized in every detail. Heredity has brought the classic column and entablature to us unchanged, down to the present day. This is "frozen music" indeed!

However, the forces of progress are not always limited to slow and

gradual steps in nature or in architecture. Sudden changes or mutations which are sometimes found in the animal and vegetable kingdoms are also seen in the mineral kingdom of architecture. Perhaps the most revolutionary mutation in modern construction is the appearance of the structural frame of steel or concrete. Buildings have developed skeletons. Today we can speak of vertebrates and invertebrates among buildings just as truly as we can among animals. The appearance of the skeleton frame is as important in the development of building construction as it was in the evolution of the animal world.

Adaptation to environment is the secret of continued existence. Among animals and plants, only those forms which perform their functions adequately, can remain alive. Keeping pace with change is necessary for all living things, including architecture. The window is a good example of an element which adapts its form to meet changing conditions. In Italy, where the sun always shines—except during the tourist season—church windows are usually made small in order to reduce the heat and glare. In England on the

other hand, where even sunshine is rationed, church windows must be large so as to admit all the light and heat that is available. This may be one reason why Gothic churches never flourished in Italy. Even the Milan Cathedral was designed by architects from across the Alps.

On the other hand, adaptation itself may become positively harmful. An evolutionary tendency may go too far in any direction. It is quite possible to have too much of a good thing. Animals have been known to develop antlers or tusks so cumbersome that they became a liability, rather than an asset, in the struggle for existence. These the biologist calls "disadvantageous structures," a term so applicable to architecture that it needs no further comment.

We can also find architectural examples of adaptation which have gone so far as to be a positive detriment. The vault is a specific instance. Beginning with the barrel vault and groined vault of the Romans, we see their later development in the Gothic ribbed vault, growing ever lighter and more ethereal in character. Finally we come to the fan vault in England, which in its final form develops hanging bosses resembling stalac-

tites. These not only mar the soaring quality of the vault, but are positively harmful structurally. Here overspecialization has produced eventual degeneracy.

Among plants and animals we find vestigial remains of parts which through disuse have practically disappeared. These are forms which, though useful to our ancestors, have become embarrassing heirlooms, like the wisdom tooth or the appendix, for which we have no further use. In the realm of architecture we find countless examples of these now useless appendages, like the pilaster which originally projected from the wall to support a beam. It has now retired in its old age, does no useful work and has become an ornamental feature purely.

In architecture, as in biology, the normal course of development is gradual but seems to follow a definite direction. Any form resembles its ancestors and its descendants with little or no change. The rate of change varies at different periods but the evolutionary process moves in a fairly definite line. This has been so from earliest recorded history until the days of the Italian Renaissance.

During this period, architectural

forms, instead of following the trend of natural development, took an atavistic turn back to the shapes of their early ancestors. Unfortunately this tendency to go back to earlier forms, without considering their appropriateness to needs of the day, is still with us. The various stylistic revivals—Greek, Roman, Gothic—have led to “the battle of the styles” in which form and function have little to do with environment.



If we agree that the specific principles of organic evolution apply to architecture as well as to other living forms, let us examine some of the broader parallels. On studying the history of all races, we find a basic pattern in each: youth, maturity, old age. Each of these has its own assets and liabilities. Youth brings with it vigor, but lacks experience. Maturity can boast of better understanding, but with some loss of power. Old age attains wisdom at the expense of vitality. These racial traits are found in architecture no less than among plants and animals.

In some instances racial old age is characterized by the gigantic size of the last remaining individ-

uals. This was true of some of the Saurians, whose great stature became a serious obstacle to their survival on earth. Today we hear the thought expressed that the so-called skyscraper—that dinosaur of steel and concrete—has also reached the end of the trail. It has been suggested that the extremely tall building no longer has any place in the economy of the present day. It is quite possible that these proud structures will some day vanish and that the meek will inherit the earth. The Empire State Building, the tallest in the world, may be the extreme example of racial old age in buildings. Its enormous size has made it difficult to rent successfully. It is possible that this greatest of buildings will fail in the battle for survival and will find its final resting place among the other giants of the past.

If we examine the skeletons of animals, which have come to us through the ages, we find a general tendency toward gradual increase in their size combined with a corresponding attenuation of the skeletal structure. Here again we find a rather surprising parallel in architecture. From the time of the early Egyptians onward through the Classic periods and Medieval

times down to the present day, we find a gradual but certain growth in the size of structures. At the same time we also see a corresponding attenuation in the fabric of these buildings. Walls become ever thinner and less massive, with respect to their height, while the openings in them grow larger and more expansive. The sturdy masonry wall of Classical buildings evolves by slow stages into the stone skeleton of the Gothic cathedral. The increased use of glass makes the Gothic window so prominent that the masonry wall all but disappears. With the decreased weight of the structure, even the stone skeleton which supports it becomes less ponderous. Piers, columns, buttresses grow increasingly lighter and more slender. This attenuation of the Gothic structure by means of a stone skeleton construction is re-enacted today by the introduction of the steel and concrete frame in the modern building. The frame supports the structure and eliminates the need of masonry walls. The walls can now be almost entirely of glass, and the mass and weight of our buildings are now being reduced to a minimum. The solid pyramid of the ancients has become the glass shell of today.

On looking over the striking similarities in the evolution of biological and architectural forms, we are driven to the conclusion that all architecture is organic—that it follows the pattern of all living things. We cannot limit the term “organic architecture” to a few examples selected by the extreme modernists. We can apply it to all architecture—present, past and future.

This leads us to believe that the evolution of all organic forms, including architecture, conforms to the same general pattern, and seems to indicate that there is an underlying plan for their ultimate development. Only those forms which conform to law have a chance of survival. As soon as they stray from the straight and narrow path of progress, they are lost forever. Such thoughts lead us to wonder about the goal of evolution itself.



Although this may seem outside the realm of architecture, there is perhaps one further connection between architecture and other living things. We know that buildings must be planned before they can be built. Even the humblest shack must have a plan. We cannot let

the bricks fall where they will. The plan must be there, although it may be invisible.

There are almost no plans now in existence of the early cathedrals, but we know that plans for them must have been drawn at one time. Otherwise their orderly arrangement, their complexity of detail and their sureness of execution would have been impossible. If a cathedral must have a plan before it can be built, it seems reasonable

to suppose that this must hold true for all other organic structures, such as the wild flower or the sea shell, which are developed according to the same natural laws.

If the architecture of all living things, including buildings, is guided by the same principles, is it not logical to believe that there is an underlying plan for the development of life itself—a fundamental design which unites the atom and the universe?

The American Academy in Rome

CAPTAIN LAURENCE P. ROBERTS of the Signal Corps, A.U.S., has been appointed Director of The American Academy in Rome.

Until recently Director of the Brooklyn Museum, Captain Roberts is a native of Philadelphia. He was graduated from Princeton in 1929 and continued there his studies in the history of fine arts at the Graduate School. After two years in the Philadelphia Museum he studied in the Orient and in 1934 joined the staff of the Brooklyn Museum as Curator of Oriental Art. In 1939 he became Director of the Brooklyn Museum from which post, in 1942, he was

granted a leave of absence for Army service.

The American Academy in Rome, which began as the American School of Architecture in Rome in 1894, was chartered in 1905 to promote the study of painting and sculpture as well as architecture, by an Act of Congress. The Academy was consolidated with the American School of Classical Studies in Rome in 1912 under an amendment to the charter by which its scope was widened to include the study of archaeology, literature and history of the Classical and later periods. Since that date the Academy has consisted of a School of Fine Arts and a School

of Classical Studies. Studies in landscape architecture were provided for in 1915 by a Fellowship established with the aid of the American Society of Landscape Architects. In 1926 the Garden Clubs of America donated funds to support a second Fellowship in landscape architecture which the Clubs have since permanently endowed. The School of Fine Arts was further enlarged in 1921 by the addition of a Department of Musical Composition, with provision for three Fellowships.

The Academy is situated on the Janiculum, the highest point in Rome. It has assets of \$3,614,075, including its buildings and exclusive of its library which contains

50,144 volumes. Each year before the War, eight Fellowships were awarded, for terms of two years, to assist the recipients to study in Rome at the Academy. The American Academy, closed during the War for the first time in its distinguished history, will be reopened on October 1, 1946 for eleven holders of War-deferred Fellowships, and anticipates the resumption of competitions for its Rome Fellowships in 1947. In the meantime, however, it already has resumed a part of its artistic and scholarly activities with provision for studies carried on in Rome by members, and former members, of the American Army in Italy.



Honors

JAMES KELLUM SMITH, F. A. I. A., of New York, has been made a Doctor of Humane Letters by Amherst College.

DANIEL P. HIGGINS of New York has been publicly commended by New York City's Board of Education for "the valuable services and contributions" during eight years as a member of the Board of Education.

LUTHER M. LEISENRING of Washington, D. C., in retiring from the office of Supervising Architect in the Corps of Engineers after twenty-eight years of service, received from Lieutenant Generals LeRoy Lutes and R. A. Wheeler, in a public ceremony in the War Department Building, official commendation and praise for outstanding performance of duty.

Low-Cost Housing In Hyderabad

By Major General Philip B. Fleming

ADMINISTRATOR, FEDERAL WORKS AGENCY

COMMISSIONER Thomas H. MacDonald of the Public Roads Administration and I traveled extensively in India last Spring, primarily for the purpose of inspecting highways and advising the Indian Government on problems of road construction, but we found various other types of public works to enlist our interest as well.

Perhaps one of the most pleasant features of the trip was the few days we spent in Hyderabad (population in 1941, 739,159), capital of Hyderabad, Deccan, largest native state, the fourth largest city in India. We were guests of the Nizam. His Exalted Highness is a benevolent despot in the oriental tradition, and a most gracious host. That he is reputed to be the richest man in the world may not be unrelated to the fact that he keeps his palace doors open at all times to receive any of his petitioning subjects—the only condition being that the caller shall approach with a gift of gold in the palm of his outstretched hand!

Whether the Nizam weighs out his favors in the scales in which

he weighs the gold is unknown to me, but there is no doubt that he is genuinely concerned about the welfare of his people and has made of Hyderabad one of the most progressive cities in India.

Evidences of progress are the accomplishments of the Hyderabad City Improvement Board, which embarked in 1912 upon an ambitious program of city improvement and beautification, much of which already has been realized in the form of gardens, river improvements, public buildings, streets and housing. The engineer for the Board is Mr. Chandolal C. Dangoria, graduate of the Iowa State College of Agriculture and Mechanical Arts at Ames, who served as our guide.

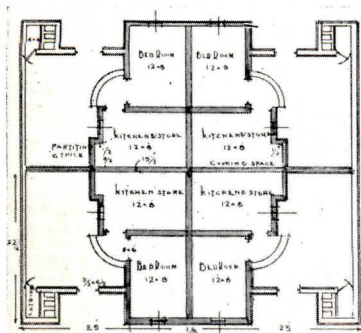
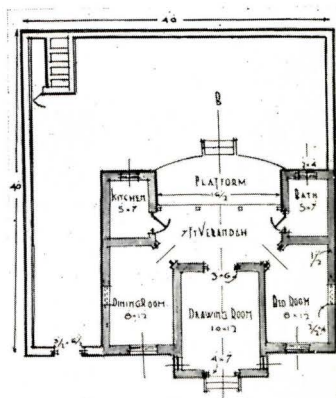
A brief exposition of the housing development may be of some interest to readers of the JOURNAL. The work of slum clearance goes forward steadily. Hyderabad slums are deplorable, but probably not more so than those of many an American city. To date, fourteen areas have been cleared and redeveloped, at a cost of seven million rupees—roughly equivalent to \$2,100,000.

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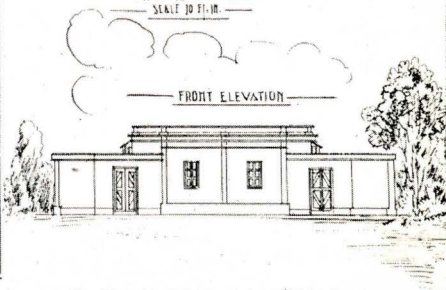
LOW-COST HOUSING IN HYDERABAD

Above, Class A public housing; the dwelling units are uniformly of the plan shown at the right, and rent for the rupee equivalent of \$3.16 a month, amortising the government's investment and providing for maintenance. Below, plan and front elevation of the Class C houses, built in groups of four, and renting for ninety cents a month; cost per house, \$270.



TYPE DESIGN FOR A DWELLING HOUSE

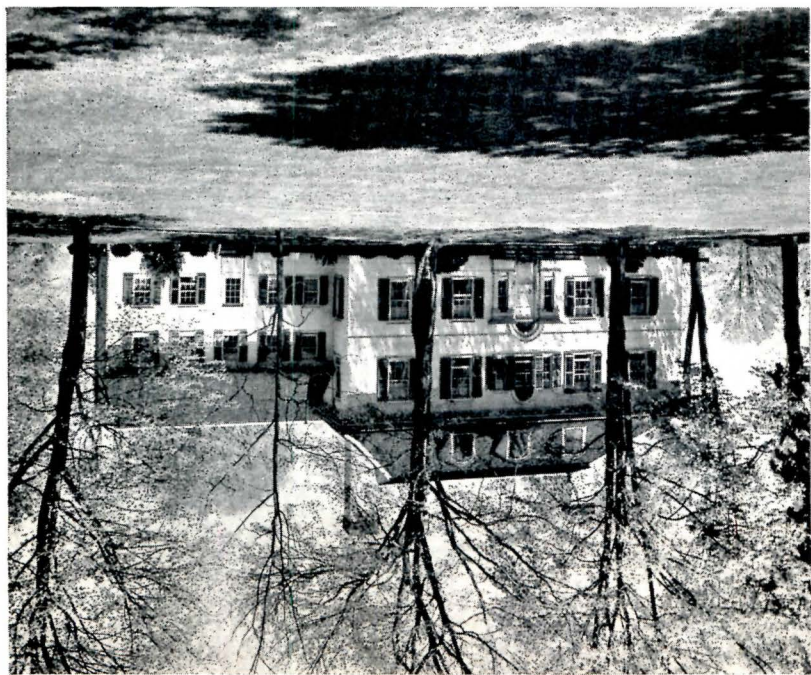
(C) CLASS
CAPACITY 105-1000. EACH
SCALE 1/32" = 1'-0"



THE FORD MANSION IN MORRISTOWN NATIONAL HISTORICAL PARK
(Washington's headquarters in the winter of 1779)

Photograph by courtesy of U. S. Dept. of the Interior

Do you know this building?



Those who have been dispossessed of their homes by these operations are given access to open spaces around the city where, under guidance of the Board, they may rebuild. For those too poor to build, 8,000 units of sanitary housing have been constructed by the Board at rents ranging from \$3.16 per month to as low as the American equivalent of 30 cents.

There are four types of these houses, denominated respectively as Classes A, B, C, and D. Class A is designed to accommodate those able to pay most. A feature of all classes of houses, except D, is that each is built within its own walled court, or compound. All the houses have flat roofs to which the Indian family repairs in the cool of the evening, by way of removable ladders. Indeed, the emphasis, as the courts imply, is upon much outdoor living. Concrete is the construction material invariably used.

The Class A house is constructed on an area of 40' x 40' and contains five rooms, one 12'x10', two 12'x8', and two 5'x7', the last two serving as kitchen and bath. There is a rear covered veranda, 16'x7', and a wash-down latrine at one corner of the courtyard, a facility characteristic of all but

Class D housing. The cost of construction is \$650, and the rent charged is \$3.16 a month, or at the rate of 6% per annum on the cost of the building, exclusive of the cost of land.

The Class B house is built on a plot of 30'x30' and contains three rooms, two 12'x8' and one 5½' x6½', the last serving as a kitchen. There is a rear covered veranda, 11½'x7'. These houses are built in duplex fashion with a center dividing wall, the two courtyards also being separated. The Class B house is built at a cost of \$405 and rents for \$2 a month on the same basis as the Class A house.

Class C houses are built in units of four, each on a plot 22'x25', and each contains two 12'x8' rooms. The construction cost is said to be \$270, and the monthly rental is 90 cents, or at 4% of the cost of the building, excluding the cost of the land.

Class D houses, which lack individual courtyards, are built in units of two, back to back, around a large rectangular common court. Each is constructed on a plot 18'-6"x12'-3" and consists of one room 10'x10', a kitchen 5'x5' and a covered platform 5'x5'. The cost of construction is given as \$150 and the rent charged is only

one rupee (30 cents) a month, which works out to a rate of 2.4%. Separate bathrooms and flush-trines are provided in the common court for the two sexes.

The original intention seems to have been to paint the exteriors of the houses gray, buff, blue or brown, according to class, but the personal tastes of the occupants may have modified that plan. In any event, I found various colors—blue, pink, brown, green, buff and gray—used on the exteriors regardless of class, adding an additional touch of interest.

It may be said of all the houses that they are substantially built, well suited to a climate where the sun alone furnishes ample heat, and to the habits and customs of the people. Limited in appointments as they seem from the American viewpoint, they nevertheless mark a long step forward in the comfortable housing of the poorer residents of Hyderabad.

The population of the city is about 60% Moslem and 40% Hindu. We read much about religious and political differences between these two peoples, but certainly I found them living together in amity. There is no segregation by race or religion. Even at the university, Moslems and Hindus room together in the same dormitories, study together in the same classrooms, play together on the same athletic fields. The only trace of segregation noted was in the cafeteria, where separate messes were provided for the two groups. But that was by the request of the students themselves and was motivated by their differing religious dietary requirements. Even so, it was not uncommon to see a Moslem or Hindu, perhaps a backslider, eating at the same table with his fellows of opposite faith. It may be that Hyderabad can teach the Western World some valuable lessons about tolerance and brotherhood.

Educational

THE STATE BOARD OF AGRICULTURE governing Michigan State College has approved one half-time Graduate Assistantship in the Department of Landscape

Architecture for the academic year 1946-47. This assistantship is at the rate of \$800 for candidates for the Master's degree and \$1,000 for those who have the Master's

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degree (M.S. or M.A.) or its credit equivalent and who are candidates for the Doctor of Philosophy or Doctor of Education.

Appointment is to be based particularly upon the candidate's scholastic record and his promise as a graduate student.

Address all inquiries to the Department of Landscape Architecture, Michigan State College, East Lansing, Mich.

THE GRADUATE SCHOOL of the U. S. Department of Agriculture is a night-time university with an average enrollment of about 3,000 students. It offers courses to Government employees and to others who are interested in almost every subject available in any of the regular daytime universities.

The architectural profession will be interested in the fact that the Division of Fine Arts and Architecture in this school is now under the chairmanship of Gilbert Stanley Underwood, Supervising Architect.

The list of courses includes: Pencil Sketching and Freehand Drawing; Art Appreciation; Portraiture and Illustration; Water Color; Home Decoration; Domestic Architecture; Functional House Planning; Theory of Modern Architecture; Landscape Development of Small Projects; Basic Mechanical Drawing; Architectural Drafting; Mechanical and Machine Drafting.

Instruction in these courses is planned to begin in September next.

The 1946 Delano and Aldrich Scholar

A free translation by CHARLES BUTLER, F.A.I.A., of a note by M. Gromort, Secretary of the Paris Committee. Mr. Butler also wrote the historical note which follows the translation.

"**M.** GASTON LECLAIRE, who has just been selected by the Paris Committee as the 1946 Delano and Aldrich Scholar, was born in Metz in Lorraine in November, 1913, at that time under German occupation. He entered the Ecole des Beaux-Arts in Paris in

February, 1936 as a student in the Pontremoli-Leconte Atelier and entered the first class in 1941, after winning medals in Archaeology and Drawing. He then began a brilliant series of projects in design, securing twenty-nine values, six of these on medals, as

against the ten values required for the Diploma. Among these was a first medal in the Rougevin competition and the Maréchal prize. His recent diploma drawings were highly rated. As his professor, M. Pontremoli, said of him, "His fine qualities and his spirituality are even more remarkable, and he will represent in the United States what we most like to see in a young French architect."

It is doubtful whether the members of the Institute are familiar with the work done for us by the Delano and Aldrich Scholarship Committee in Paris.

When the Scholarship was first set up, some fifteen years ago, the then Committee on Education decided that the best results would be secured if the selection of the scholar were placed in the hands of a committee of five French architects. The Committee was selected among men known to our

Committee and it has continued to function with but two replacements necessitated by the death of Messrs. Duquesne and Arfvidson.

The Committee now consists of Messrs. Gromort, Lefevre, Pellechet, Jaulmes and Madeline.

It is an interesting fact that notwithstanding the five years of German occupation, the full pre-War Committee has met on several occasions this spring to select the 1946 scholar.

It is also to be noted that although four of the five Committee members are former pupils of the late Victor Laloux, only two of the holders of the Scholarship have come from that atelier.

All of the members of the French Committee are Honorary Corresponding Members of The American Institute of Architects, to which positions they were elected as a slight recognition of the devoted service they have rendered to The Institute.

Form and Function

ABOVE is the tentative title of a three-volume work in preparation at Columbia University under the sponsorship of the School of Architecture and the editorship of Talbot Hamlin.

In order to make this project representative of the best thought in the architectural profession, Dean Leopold Arnaud, as chairman, has named the following advisory board: Turpin Bannister,

Dean of the School of Fine Arts, Alabama Institute of Technology; Jean Labatut, Professor of Architecture, Princeton University; John C. B. Moore, architect, and Morris B. Sanders, architect and industrial designer, both of New York City.

"The architecture of today is no longer revolutionary," Dean Arnaud pointed out in announcing the beginning of the work. "Contemporary design in buildings has been sufficiently established, and has developed over a long enough period, so that its elements and principles can be studied and evaluated. Its place in the continuing stream of architectural tradition is assured; its relationships to the basic problem of architecture—the integration of use, structure and beauty—is clear.

"The time thus seems ripe to produce a work for architects and architectural students which will do for the architectural elements, the principles of design, and the building types of today what Julien Guadet did for the eclectic architecture of 50 years ago in "Elements and Theory of Architecture." The School of Architecture of Columbia University, realizing this, has undertaken to prepare such a work."

Guadet's four-volume work was published in French in 1894, based on lectures which he began giving as early as 1872. Since then there has been no comparable work and Guadet's volumes have not been revised.

The Producers Council

RECENTLY ELECTED to membership in the Council are the following Company Members, with the names of their Official Representatives and Alternates:

Andersen Corporation, Bayport, Minn.; J. D. Rowland.

E. I. DuPont DeNemours & Co., Wilmington, Del.; Matt Denning.

The Flintkote Co., New York, N. Y.; Stuart H. Ralph; M. W. Searles and L. M. Simpson.

U. S. Plywood Corp., New York, N. Y.; S. W. Antoville and E. J. Maroney.

Association Members recently elected are:

California Redwood Association, San Francisco, Cal.; Kenneth Smith and Carl Bahr.

Indiana Limestone Association, Bedford, Ind.; M. J. Morgan and Charles T. Penn.

Why "Architectural Engineering"?

By Sherley W. Morgan, F.A.I.A.

DIRECTOR, SCHOOL OF ARCHITECTURE, PRINCETON UNIVERSITY

THE MAY ISSUE of the JOURNAL of The American Institute of Architects contained a very eloquent exposition by Professor W. W. Dornberger of the need in contemporary architectural practice for men with "comprehensive and rigorous training in engineering fundamentals, and in the engineering problems of the design and construction of *buildings* and their immediate surroundings, including structures, heating, lighting, ventilation, sanitation, air conditioning, utilities and landscaping."

The author points out the value of such qualifications in one member of a team organized to render complete architectural service; the combination to consist of "a top-flight designer, and an equally top-flight engineer." The very effective associations of "architect-engineers" formed during World War II are cited as examples of the success of such collaborations. The complexities of most twentieth-century architectural problems are recalled as evidence of the virtual impossibility that a single individual can ever master all of

the special knowledge required for satisfactory solutions.

With all of this I believe that most practitioners and architectural educators would agree; although the latter might raise a cautious eyebrow at the attempt to provide in a four-year college program more than the barest rudiments of all the techniques listed above as the province of the "engineer" member of the combination, who must in addition "cover the field of building contracting, promotion and use of building materials, research in the fields of materials and processes, together with a keen appreciation of good planning, sound construction and the ideals and traditions of the architectural profession." Indeed, Professor Dornberger himself states later in his article that the man he proposes to train for this purpose will "not profess to replace, or compete with, the advanced consulting engineer."

Even so, one is tempted to ask, "All this and Heaven, too?—and then, "Why call such a man an *engineer*?" Certainly he is needed in, and basic to, the architectural

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profession, as rightly entitled to be registered an *architect* as the most gifted designer. Equipped with such knowledge and teamed with a partner of more imaginative gifts, he will be an important part of any firm strong enough to tackle the job of modern building. Few will question the value of his contribution to the task, or the need for developing his talents and offering them full opportunity.

The important thing, however, is that such men should be known as *architects* and think of themselves as such. Then they may avoid the pitfall—which so often besets the specialist—of believing themselves capable of solving alone the problem of creating real architecture. Thus they may realize that no amount of merely technical skill or knowledge can produce significant space composition, or elevate the technical processes of building into great design. Thus they may resist the temptation of that deadly heresy which confuses the means with the end, and whispers that, because one knows *how* to do something, one also knows *what* to do. Thus they will be on the architectural side of the line that divides the province of the architect from that of the struc-

tural (or civil) engineer — and both from that of the contractor.

The American Institute of Architects has long recognized the need for architects with varied interests and capabilities. Our wide field embraces art, science and business. Few individuals can excel in all three. Most firms include men who have shown natural aptitude in one direction or another, but who are united underneath by their basic allegiance to the final objective. "Unification of the profession" means that all such special talents have a common ground on which to meet.

From this wider viewpoint one may well question Professor Dornberger's conclusions as to the best means of developing for our profession the type of man that he describes. He proposes to train them as Architectural Engineers, even though he intends them to spend their lives in the practice of architecture. Why start them off with a divided allegiance, or the idea that they can be two things at once?

In order to become legally qualified as architects, they will have to pass registration examinations for that profession. The requirements of either architecture or engineering are difficult enough for any

young man to face. He cannot well expect to master both. Legally few states (if any) recognize the hybrid status of "architectural-engineer." One must be registered professionally as either *engineer* or *architect*. The law forces a distinction which has long been accepted instinctively by the public.

There is more here than quibbling over titles. The noun is the important thing. It shows "where your treasure is" and "your heart also." The qualifying adjective isn't enough to make an architect. The man meeting Professor Dornberger's specifications deserves his proper designation from the time that he enters school.

It is true that courses in "Architectural Engineering" have been established in a score or more of our universities—some for a very long time. About a dozen have been accredited by the Engineers' Council for Professional Development as schools of engineering. This marks them definitely as preparing young men to be engineers. Their graduates will presumably provide the consultants who, Professor Dornberger admits, will still be needed.

It is also true that many holders of A. E. degrees have been succes-

ful *architects*. Some states even report that those with such training make better records on the registration examinations than do those with purely "architectural" training. Without raising the question as to what this may indicate as to the type of examination given, or as to the quality of the "architectural" graduates, such evidence certainly provides all the more reason for giving such young men their proper title even while in school. Call the curriculum organized for them a "structural option," or what you will, so long as the students in it are known as architects from their earliest years of professional education. We need them, we recognize their value; let us welcome them from the start, and tie them into our corporate purposes — not leave them as neophytes of another ideal until they finally decide, later on, to join us.

Several of the existing programs called "architectural engineering" are undoubtedly doing an *excellent* job in training future architects. Only their vested interest in a name stands in the way of their being a recognized source of recruitment for our profession. Now circumstances are forcing them to choose definite allegiance to either

engineering or architecture. Certainly they do not and cannot claim to prepare young men for both. When the leading schools of both architecture and engineering require five years for a professional degree, a four-year divided program rather runs the risk of falling between two stools, and failing to give really sound preparation for either occupation.

The agreement between The American Institute of Architects, the National Council of Architectural Registration Boards, and the Association of Collegiate Schools of Architecture, which established the National Architectural Accrediting Board, provides only for accrediting "schools of architecture." It makes no mention of other curricula—architectural engineering, landscape architecture, interior design, industrial architecture, etc. The writer happens to know that this was an intentional exclusion; the purpose was to make possible a thorough job for architecture, by having a single objective. However, the result has been to leave architectural engineering courses without an accrediting authority, unless they wish to align themselves under the Engineers' Council for Professional Development.

When this situation developed, the attempt was made to get the architectural engineering schools together, in order to decide on a definition of their objectives, and find a common ground on which to stand. No constructive decision was reached. Was not this because of an essential dichotomy? Some of these programs are truly engineering, with emphasis on the structural problems of building. Others—like those described by Professor Dornberger—are essentially architectural. The former are content with their present status and satisfied to be under the jurisdiction of the Engineers' Council for Professional Development. The latter wish to retain their architectural connection, yet are loath to give up their traditional name.

This is not a new dilemma. For years the "problem of architectural engineering" was debated at the meetings of the Association of Collegiate Schools of Architecture without a solution being found. Some institutions made the clear break suggested above, and renamed their previous architectural engineering courses as "structural options" within their architectural programs. Apparently none of the dire results predicted for such

changes were realized. There have been no reports of "losing good men from architecture" or "throwing them to the wolves." Enrolments have not melted away, nor schools been closed. Is not this the time, as adjustments and plans are being made for post-War reconstruction, for all schools where "architectural engineering" is being taught for future *architects* to make a similar decision?

Although the National Architectural Accrediting Board has legally no power in this situation, its duty "to develop a well-integrated and coordinated program of architectural education in the U.S.A.," has led it to take an interest in the problem. It has proposed to the Engineers' Council for Professional Development that, for the sake of clarity and in order to avoid confusion in the public mind, the term "architectural engineer" should be dropped by both professions. It suggested that:

"The word 'engineering,' or any other confusing qualification, shall not be used in the titles of courses included as training for the practice of architecture, nor in the titles of the degrees to which these courses lead. This will not preclude 'options' as between what

the architect calls 'design' and 'construction,' but such options should have sufficient minimums in each field to warrant being called training for architectural practice."

It was further proposed to "define the objective of architectural engineering courses (already accredited by the ECPD) as the training of *engineers* to meet certain specialized structural and mechanical problems of the building industry. Possibly engineering schools and registration boards will be willing to substitute a less confusing term than 'architectural' in the titles of their engineering courses."

This proposition was put before the ECPD on February 21, 1945. Under date of March 7, 1945 they replied:

"The members of our Committee on Engineering Schools in general approve of the definitions which you included in your letter of February 21st. The only question which has been raised is as to the use of the name structural engineering in place of architectural, with the idea that this might make the distinction between engineering and architecture more specific.

"Our Committee plans to meet

early in May, and I would suggest that this matter be kept open until after that date so that our members can discuss the question in greater detail. In the meantime, I am sure that they would approve your reporting to your Board that in general they agree with your proposal."

Sincerely yours,

(Signed) D. B. PRENTIS,
Chairman, Committee on
Engineering Schools

No further action has been reported by the ECPD and the matter is still unsettled.

At its meeting in Miami, Florida in May, 1946 the NAAB voted to continue its efforts to find a solution acceptable to all concerned. Constructive suggestions will be welcomed, and may be addressed to the Secretary of the Board for circulation among its members. If the architectural profession believes that our position is sound, and will give us its support, we are hopeful that the engineers will cooperate in straightening out this kink in our national educational system.

We believe that modern condi-

tions call for the elimination of "architectural engineering" as a name that has outlived its significance, despite its long-established position. Like other "hyphens"—political, professional or educational—its day is past.

Prefabrication Code

THE Building Officials Conference of America, Inc., is releasing to building officials throughout the country a basic code covering the erection of buildings by prefabrication techniques. The Conference believes that this code will furnish the impetus to the adoption of modern building regulations by progressive cities who would further the veterans' housing program. The basic code committee is headed by Albert H. Baum, Building Commissioner of St. Louis, and the sub-committee on prefabricated construction is headed by Gordon E. Nelson, Commissioner of Buildings for Madison, Wis. George E. Strehan, architect and engineer, who assisted in formulating the New York City building codes of 1915 and 1938, is coordinating the committee's work.

"VETERAN: A civilian who is not allowed to pay more than \$10,000 for a \$5,000 house."—SIMON BREINES



Architects Read and Write

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



REMEMBERING LOUIS SULLIVAN

BY ALLISON OWEN, F.A.I.A., New Orleans

WHILE it was not my good fortune to attend the Miami Convention, I have read with pleasure the Citation and Gold Medal Award to Louis Henri Sullivan, and I could not help but feel what a pity it was that this award had not been made at the Chicago Convention, where I met him for the last time. I remember sitting opposite to him on the occasion of the dinner, at one of the radiating tables under the dome of Atwood's building. He was then at work on his "Autobiography of an Idea," threadbare and very different from the man I had known many years before.

During the height of his activity he had me over to dinner at his cottage at Ocean Springs, and took great pride in showing me his rose garden. He and Mrs. Sullivan attended our wedding anniversary and took active part in the chatter of Creole French.

I remember visiting him on my way home from M.I.T. and his interest in the opinions of Bartlett on Renaissance Sculpture and my reminiscence of Prof. Chandler, Ross Turner, Howard Walker and D. A. Gregg. Sullivan at that time had just done the Transportation Building, the only spot of

brilliant color in the White City. He was anxious to know what Tech was doing to bring color into the picture and volunteered the opinion that most Americans were cowards when it came to color.

Years later, I was associated with Bill Hewitt and he told me a curious anecdote on Louis Sullivan. It appears that after completing his course at Tech he had taken a position as draftsman in Hewitt's office, and one night, on his way home from the theater, Hewitt noticed the lights in his office window. Thinking someone had carelessly left them on, he was surprised to find Sullivan tracing intricate Moorish ornaments from details of a Masonic temple that Hewitt had done some years earlier. Hewitt asked if he had permission to trace the drawings in the files and remarked that it would be no more than common courtesy to seek permission. Next morning he found Sullivan's resignation on his desk and learned that he had departed for Chicago.

Knowing his work as we do, it is easy to see the direction that his mind and pencil were taking him, and so I feel the pity of it that this honor by The Institute was not delivered while the man still lived.

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Books & Bulletins

BOSTON AFTER BULFINCH. An account of its architecture, 1800-1900. By Walter H. Kilham, F.A.I.A. 162 pp. 6"x9¼". Cambridge: 1946: Harvard University Press. \$3.50.

Called on the telephone just before the publication of this volume, Mr. Kilham, architect of some of the recent buildings of the venerable Boys' Trade School of Thompson's Island in Boston Harbor, was asked by the eager reporter about a memorial chapel to be erected on its grounds. The reporter had understood that Mr. Charles Bulfinch was designer of the original building and he wondered if he or Mr. Kilham were to have the honor of this new commission.

What more felicitous introduction to the wholly delightful vistas the writer opens to the inquiring eye on a radiant period of Boston's growth!

Across these hundred pages of lively reading marches a procession of vigorous and skillful architects who left their imprint on the physical development of the City, and whose influence is still felt beyond the shadow of its State House dome: the Federalists: Bulfinch, Banner, Asher Benjamin; the Greek Revivalists: Alexander Par- ris, Solomon Willard, of Bunker Hill Monument fame, all men largely self-taught who had an inherent keen sensitivity to "compo-

sition, fitness, commodity and delight," and who gave a homogeneity and distinction, a city plan, to Boston that, in the middle of the century, reflected the well-ordered philosophy of its citizens, when the amenities of the horse-car and gaslight age had not yet been outstripped by the development of science. Each section was established in its proper place and as yet business had not shouldered out the charming residential areas of Colonnade Row and Temple Place; it was a city of low buildings, of architectural congruity.

With discrimination and dry humor Mr. Kilham traces the development of the styles from Federalist through American Gothic, Romanesque and Renaissance, to the Steel Frame, hinting that some of the mid-century examples of the business buildings—the Post Office and the Equitable Building, now departed—gave the city an impression of magnificence that their modern successors fail utterly to convey. Look to your laurels, he cautions the designer of today.

He sketches a vivid picture of the market district, and harbor waterfront with its granite warehouses, of the breath-taking wonders of Isaiah Rogers' Tremont House, the splendors of Cabot's Boston Theatre, (which yielded a wholly unexpected complete frame house and slate roof from under its main stairway when it was demolished in 1926! What could we do with

it today!) With *Silas Lapham* we move into the spacious Back Bay, with its broad streets and Public Gardens. Many are the diverting historical notes and commentaries that Mr. Kilham intersperses through his story: of E. C. Cabot coming as a Vermont farmer boy to win—with not wholly unfamiliar “aristocratic unconcern” to the conditions of the site—the competition for the Boston Athenaeum; of that other Athenaeum, now dear to the heart of the Navy, which—originally aflutter with the diamonds and satins of the élite of Boston—still does its share in “softening the arteries and relieving that tired feeling.” Of the spacious Beacon Hill reservoir behind the State House. Of W. E. Preston, designer of Rogers Building and its famous steps. Of Richardson and Trinity Church. Of McKim and his library and the wistful story of the banished Bacchante spanked by the righteous and sent flying from her fountain. Of that prolific and practical pair, Gridley Bryant and Arthur Gilman. Of the mighty teachers of education which made the architectural department of M.I.T. a name to conjure with throughout the country: Ware, Letang, Chandler and Despradelle.

A picture of a compacter, quieter, solidier Boston is spread before us in a tantalizing way to make the reader hope the author may later develop his subject at greater detail. In this day of plane and atomic fission, it is a

satisfaction to recall those men and times which made Boston what it is and whose glory and influence have not yet disappeared completely under the neon sign and restless busynesses of this febrile day.

Mr. Kilham has made a skillful selection of photographs and drawings to complement his story. They give—and we could wish they seasoned the text, and were not, like Timothy Dexter’s commas and periods, attached *en masse* at the end—an exceedingly vivid impression of the atmosphere of a vanishing city. This little volume should prove a delight not alone to architects but to everyone who realizes and esteems the heritage of the energies, aptitude, and intelligence that his forefathers have enduringly built into the foundations not only of Boston but of this country.

H. DALAND CHANDLER, F.A.I.A.

THE SELF-SUPPORTING CITY. By Gilbert M. Tucker. 106 pp. 5"x8". New York: 1946: The Robert Schalkenbach Foundation. \$1.

An argument for lightening the tax on improvements and increasing the tax on land.

STEEL JOIST CONSTRUCTION. 16 pp. 8½"x11". Washington: 1946: Steel Joist Institute (3709 24th St., N.E.).

A revision of a handbook first published in 1932, for architects, engineers and building commissioners, on the uses and properties of steel joists.

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The Editor's Asides

IT MUST BE a perfectly natural course for individuals of one generation to criticize the thinking, acts and taste of the next preceding generation. If it were not so we should make no progress. But the resulting change from one generation to another is not always progress. On Long Island, in about 1870 or 1880, the younger generation, following the usual iconoclastic pattern, decided that their simple and unpretentious dwellings were bad, and added turrets, jigsaw ornament, cast-iron, crestings, pinnacles and interminable porches. Looking back over a reasonable perspective, we now think the move was anything but progressive. Again, at the turn of the century, the younger generation—and some of the older—were bitten by a strange bacillus, *Art Nouveau*, and overnight became convinced that a straight line or flat plane was inherently immoral; Nature abhorred it, so why shouldn't we? Fortunately that epidemic was short-lived—though even now, a half century afterwards, the vestigial remains of it crop out here and there, as in the kidney-shaped pool.

The point I am trying to make

is that we cannot be sure that the changes we of today think are essential to the welfare of mankind are really in the direction of permanent betterment. And, since we cannot be sure, let us avoid being too emphatically dogmatic in our efforts to tell the world. Some of the recent books on house building seem to exude a holier-than-thou atmosphere which may arouse more antagonism than conviction of truth. After reading some of these fiery bursts of protagonism the reader is led to wonder whether the architects of a generation ago really could have been the stupid bunglers they are pictured.

The reader begins to have the uneasy feeling that perhaps he ought to seek a psychoanalyst and find out what subconscious demon is making him like the things he likes. Surely no intelligent reader of these patronizing talks down to the level of the man in the street will dispute the reasonableness of straighter thinking in the design of the physical elements of a house; he knows he has better kitchens, better bathrooms, better wiring, better insulation, better storage facilities than were available to his father. What he gags over is the

non sequitur that in this brave new world his whole life must be re-designed to fit his modern dwelling. He is ridiculed for even thinking that he and his children might continue to sleep, eat, play and read pretty much as people did last year, subject only to the slowly evolving aids and comforts that invention periodically offers.

And when poor Joe Zilch, meekly accepting the tendered new recipes for life, humbly asks, "And what is the house going to look like?" the left-wing protagonists of homebuilding in our made-over world reply: "Rationality in design brings its own answer; a machine is designed to pull a train of cars, and it looks like a locomotive; a machine is designed for living, and it looks like what it is—take it and like it!"

The answer doesn't satisfy Joe, and, fortunately for Joe and for architecture, there are many architects, no less awake to the offerings of invention and of clear thinking in design, for whom the answer is not enough. These men—call them "middle-of-the-roaders" if you will—are concerned with a factor in design that has never for long been neglected—the factor that satisfies emotional and esthetic needs. "Is it pleasing to look at

and live with?" still remains the \$64 question.



THE NATAL PROVINCIAL INSTITUTE OF ARCHITECTS has recently increased, for practicing members, its annual dues—euphonyously termed subscriptions—to ten guineas.



SUBURBAN GROWTH is a good deal like suckers springing up around an old lilac bush; the suckers grow at the expense of the core. Either the sucker growth is kept under control or the lilac is eventually strangled. The City of St. Paul, Minn. increased in population 6% between 1930 and 1940; its suburbs increased 68% in the same period. To the City's sewer system there are 1,500 outside connections; to the water system, 2,200 outside connections; and to the City's schools, 8,000 outside pupils. While the City thus encouraged the growth of its suburbs, there were 60,000 building lots available for residential use within the City limits. This is not St. Paul's exclusive problem; the city which does not have it to face is the rare exception.

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