



AIA JOURNAL

of The American Institute of Architects

MAY 1959



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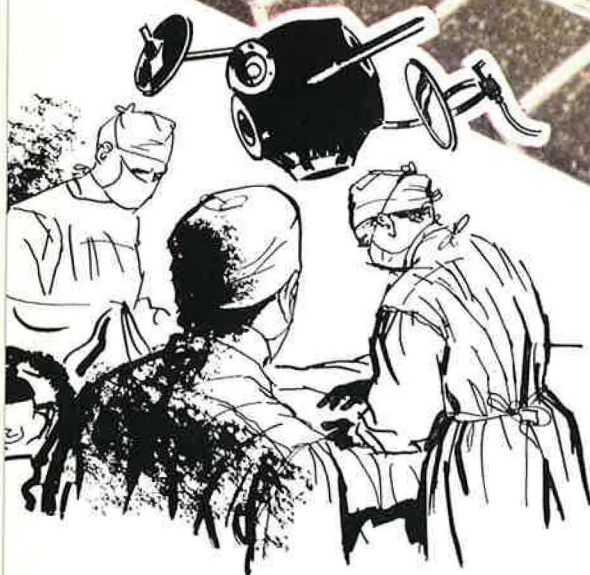
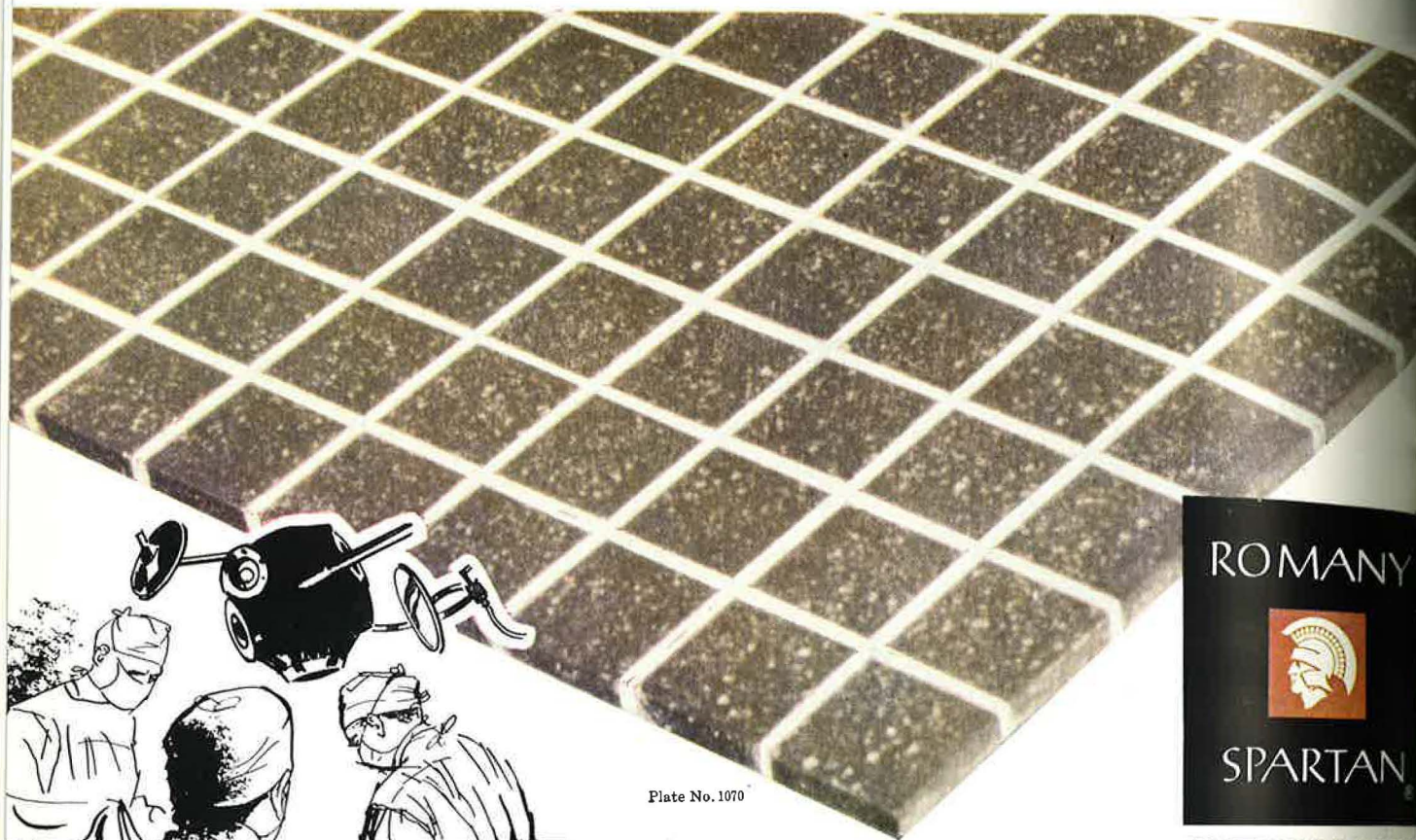


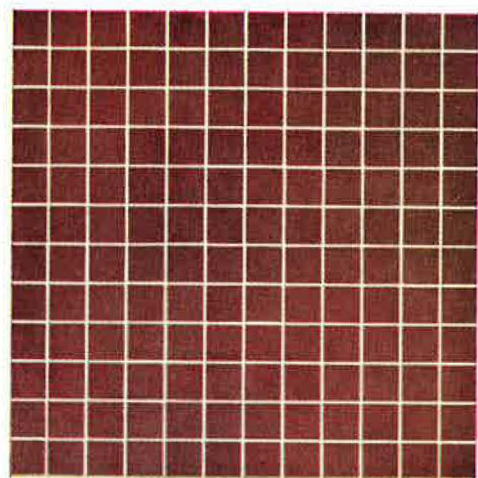
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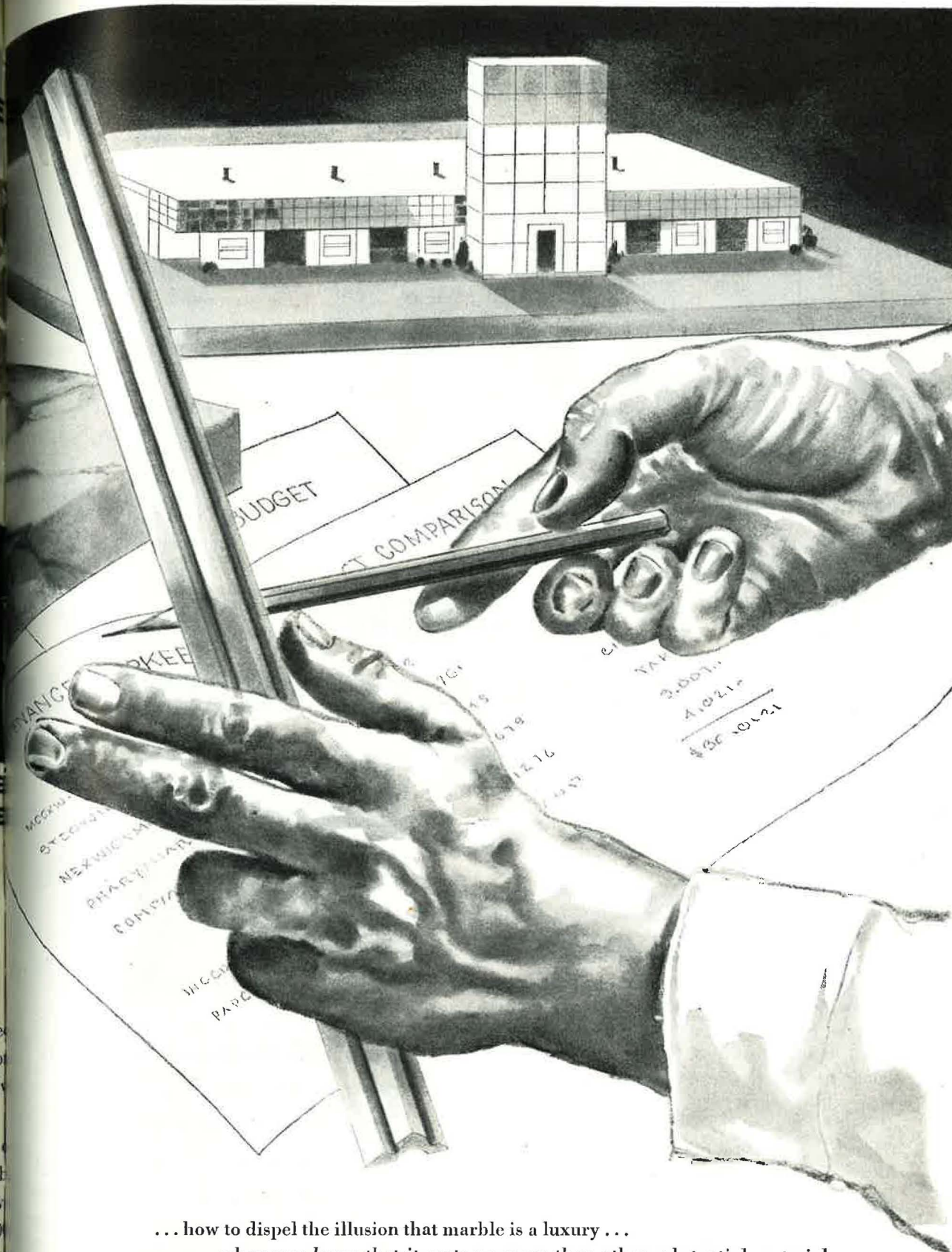
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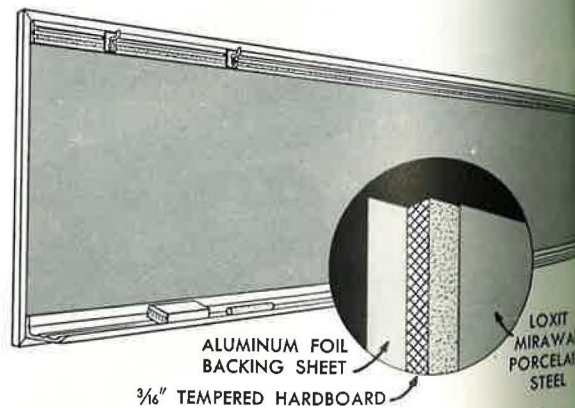
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Journal of The American Institute of Architects, official organ of the Institute, published monthly at The American Institute of Architects, 1700 New York Avenue, N.W., Washington, D. C. Editor: Joseph Watterson. Subscription in the United States, \$4.00; elsewhere, \$5.50 a year. Associate members, \$2.00; Life Members of Art Museums, etc., \$2.00 (by special arrangement). Single copies 15¢. Copyright, American Institute of Architects, 1929, at the Post Office at Washington, D. C. under the Act of October 3, 1917. Change of Address: Send old and new addresses, giving both old and new addresses. Allow four weeks for change.

AIA JOURNAL

of The American Institute of Architects

VOLUME XXXI, No. 5

MAY 1959

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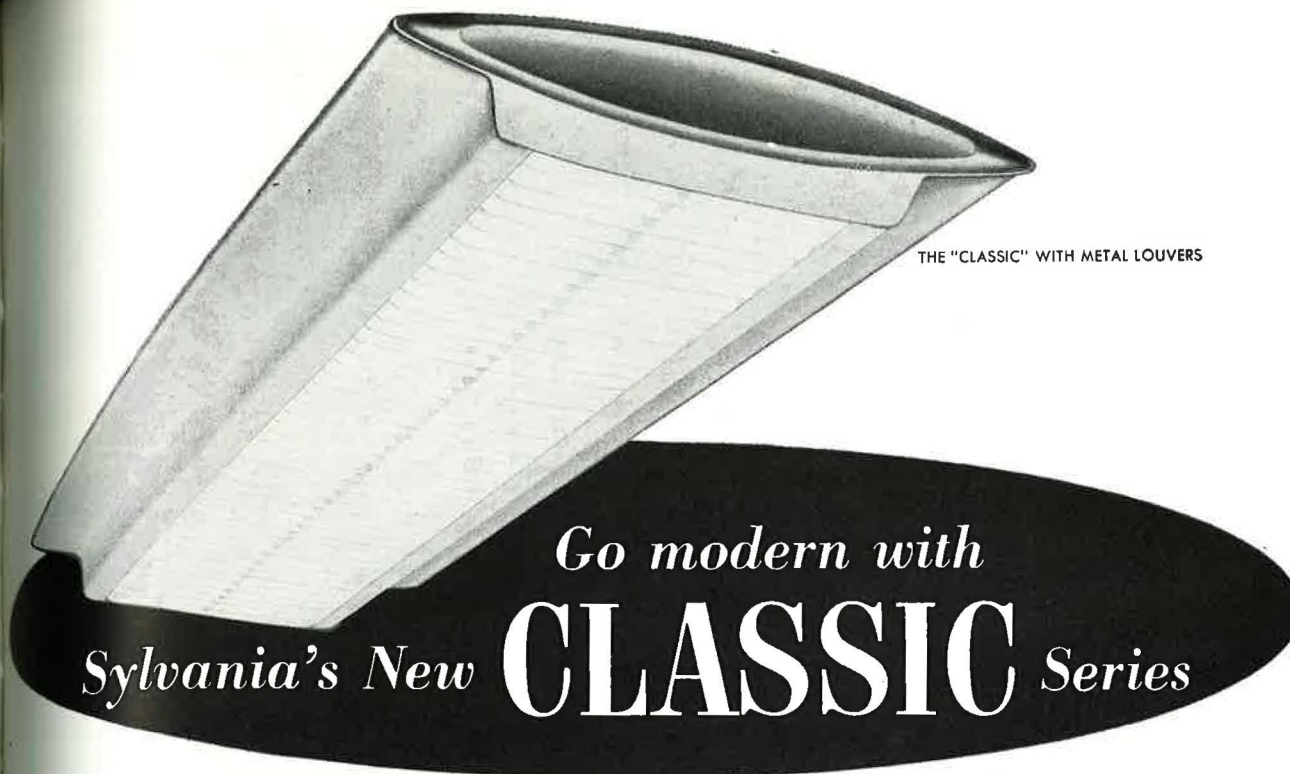
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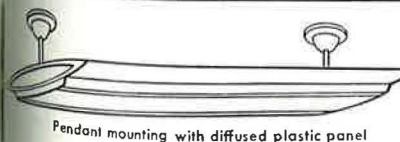
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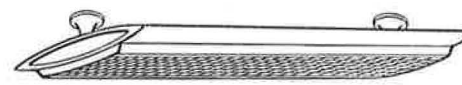
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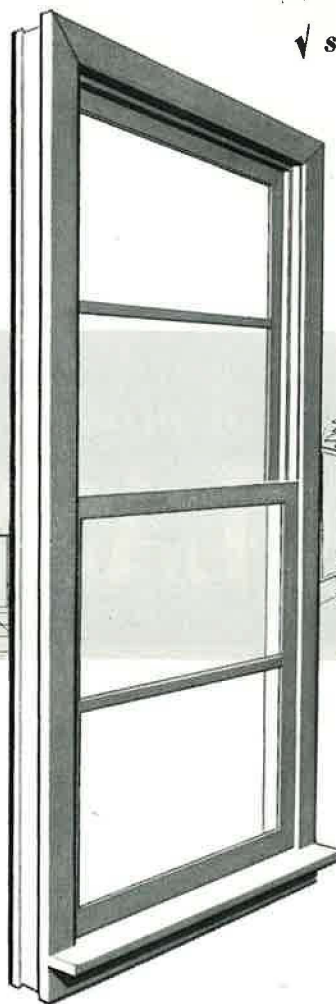
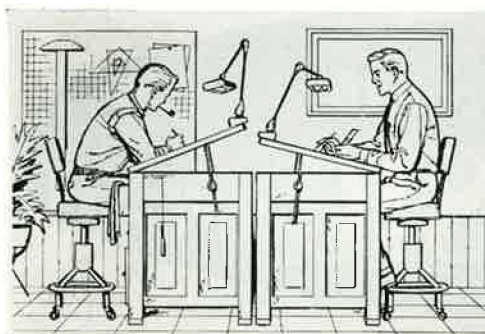
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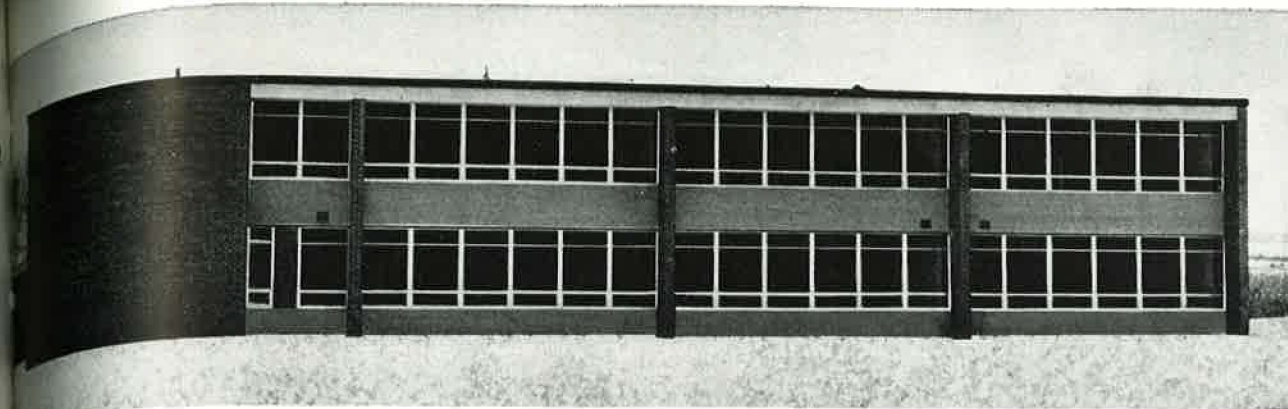
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GOWER SCHOOL ADDITION, Hinsdale, Illinois. Architect: Wight & Schlaebitz, Downers Grove, Illinois. Plumbing and heating contractor: Jerry & Phil's Plumbing & Heating, Inc., Brookfield, Illinois.

SUPERIOR ALL-COPPER PLUMBING IN THIS SCHOOL AT LOWER COST TO TAXPAYERS



COPPER SANITARY DRAINAGE LINES roughed-in among structural members at Gower School. This space-saving installation would have been impracticable with heavy, threaded pipe requiring threaded or caulked joints.



COPPER SANITARY DRAINAGE LINES for second floor lavatories at the Gower School. Light weight of copper tube and ease of making solder joints save many dollars on multiple installations like this. Compact assemblies eliminate wide plumbing walls, give greater usable floor area.

Bergeron and Jerry Wehrmeister, plumbing contractors near Chicago, have found that the installation economies with copper tube and solder-joint fittings enable them to offer all-copper plumbing—water supply and sanitary drainage—at a cost lower than competitive bids based on installing ferrous piping. Recent awards to them as low bidder include the Gower School, the LaGrange Township Junior High School, a health center, two restaurants and a store. Anaconda was used for all these jobs. Phil Bergeron says, "We specify Anaconda Copper Tube and Fittings

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Letters to the Editor . . .

A Letter to Ralph Mitchell Crosby
from Hubertus Junius:

Dear Ralph, your verses on Abstraction
Gave me enormous satisfaction,
For I too, can never understand
This passion for distorting man.
I trust tis but a passing whim in
This strange urge to change our women
Into angles, bumps and bubbles
Thus adding to our other troubles.
But then dear Ralph the cause might be,
You were born in ninety-four, and I in ninety-three.

My Dear Hubertus Junius:

'Twas very good, Hubertus J.
To have your message come my way,
And know that with a jaundiced eye
You share so sensitively my
Abhorrence of a female shape
Of bubbles, bumps and head like grape.
One thing's a mystery to me;
You say your birth was ninety-three.
But how in hell, Hubertus, dear,
Did you exactly pin my year?

Dear Ralph:

Dear Ralph, your curiosity
Has more or less astonished me
You asked me how I knew your age?
Remember son, I am a sage.
Could it be that we have met?
Surely you would not forget
A loaf of bread, a can of booze
Across a bar in Vera Cruz,
A misspent night in gay Paree—
Now, do you remember me?
Now on the 25th you'll be
Sixty-five, the same as me,
But tell me if it's just the same,
How in hell did you know my name?
Lousy, yes, but it could be worse
If we tried to do it in abstract verse.

P. S. If you need a rhyme for Hubertus Junius
An appropriate one is impecunious.

My Dear Hubertus Junius:

Oh my, here we go again:
Hubertus, you have pinned me cold;
Year, month and day that I am old!
But how, oh how, you rascal, you?
I know that I'm not in "Who's Who."
Alas, I must confess that we
Could not have met in gay Paree;
But Vera Cruz it might have been*)

For I was there all through '14.
(Somehow I doubt that you were there).
It could have been in St. Nazaire,
Oran, Algiers or Constantine **)
Where you and I got tight on wine.
By Jove, I've been in Ft. Worth, too;
Oh, luscious gals! But where were you?
So, if mystery's to remain your game,
Just guess from whence I got your name!
We're getting nowhere, I can see,
But I remain yours, "R" (that's me).
P. S. I don't agree that "impecunious"
Is a proper rhyme for Hubertus Junius.
Somehow it doesn't seem to fit,
For you'll be *never* poor in wit!

Dear Ralph:

Dear Ralph, your innate modesty
Seems unbelievable to me
How little you realize your fame.
In every office in the land
I could obtain, upon demand
These facts about your name;
Your birth, the date and year,
And where you have travelled, far and near
In fact your whole biography.
The story of your life is seen
On page one hundred seventeen
(and also Ralph, there's one of me
If curiosity asks for more
on page one hundred and one four)
Of the AIA Directory.

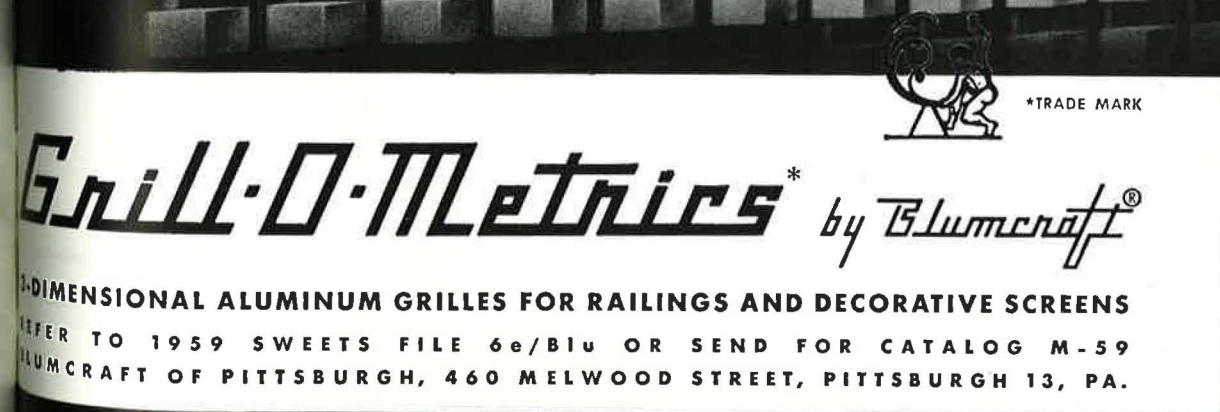
Hubertus Junius, Friend:


Oh, simple stupid little me!
How naive can a fellow be?
I'll have to shamefacedly admit
I did not know my life is writ-
Ten in that sage directory
For all the world and you to see.
The only mystery to remain
Is how in hell I know your name.
Ah me, I cannot compromise
The mutual friend who put me wise.
Hubertus dear, ask not in vain;
And so farewell, auf wiedersehn!

*(Boston pronunciation, please)

** (time, as in fork)

Editor's Note: The letters of poets have long been considered priceless collector's items, so we think we owe it to our readers to share with them this rhyming badinage between our own long-faithful Hubertus Junius and that talented upstart, Ralph Crosby. (Oh where are you, Elise?) Fortunately for posterity, both poets have sent us carbon copies of their correspondence.



 *TRADE MARK

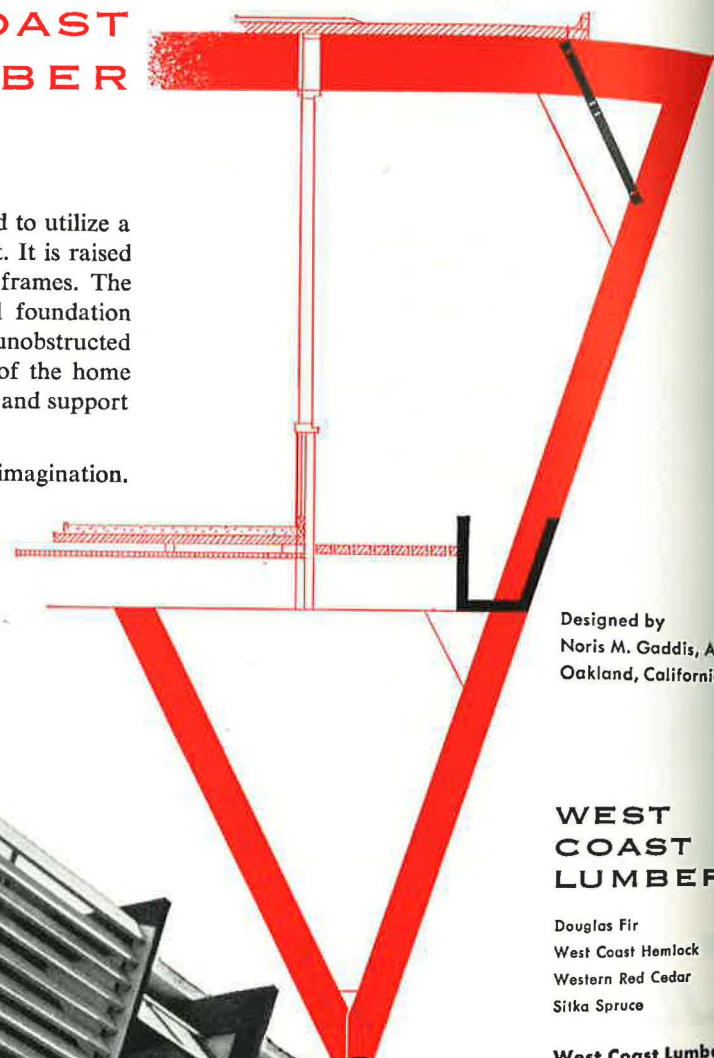
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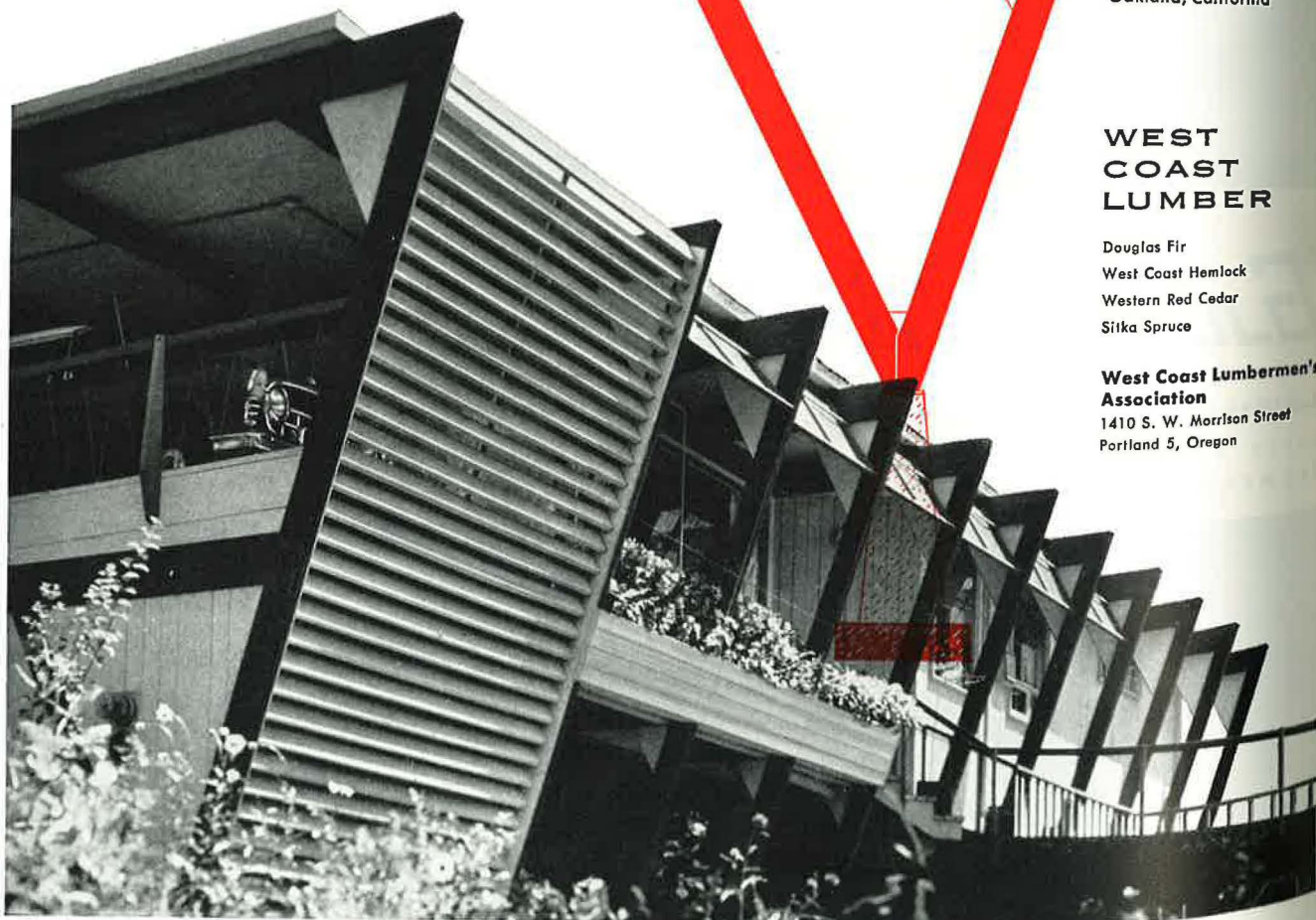


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Oakland, California

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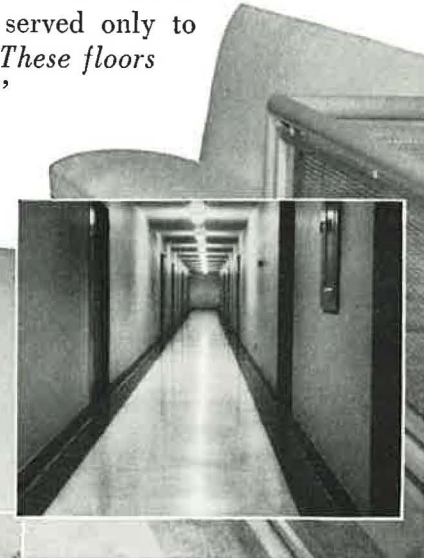
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Professional Building, Rockford, Ill.
Architect: Marshall T. Munz



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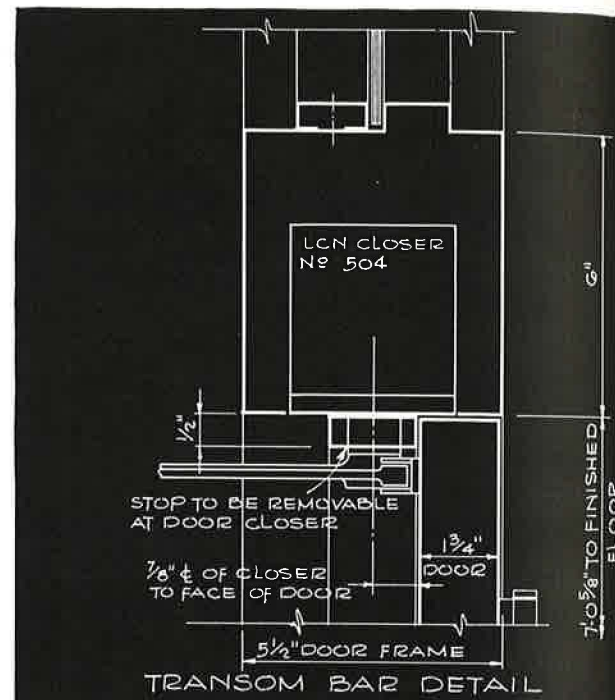
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Construction Details on Opposite Page



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1818

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Edward Fleagle, A. I. A., Architect

Marcello Mezzullo, Inc., General Contractor

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Write for Bulletin No. 158

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OF THE AMERICAN INSTITUTE OF ARCHITECTS

VOL. XXXI, No. 5

MAY, 1959

Opinions expressed by contributors to the AIA Journal are not necessarily those of the AIA

BY VICTOR A. LUNDY, AIA

"Art Alone, Untiring, Stays to Us"

This thoughtful article by Mr. Lundy

is based upon a talk he gave to the Monterey Convention of the California Council, AIA, and again to the Fourth Annual Student Forum at the Octagon in November. The illustrations are selected from the Author's color slides which were shown as he talked.

I AM CONVINCED that really great architecture must have meaning for *all* people, and that it is usually distinguished by certain fundamentals which make it part of the positive drive in history, despite all its vicissitudes, towards the survival and betterment of the human race. The really great structures of man, his works of art, his city squares, have that quality. I think when one stands before the really great buildings, everyone sees and experiences the essence of them. One doesn't have to be educated to them to sense their greatness, just as great music reaches people, even when they don't particularly understand it. For the great buildings speak to us. They all have the quality of fundamental truth and most people recognize it. They are not precious—they do not belong to only a few sophisticated and learned enough to understand them. There is no room for snobbery in architecture.

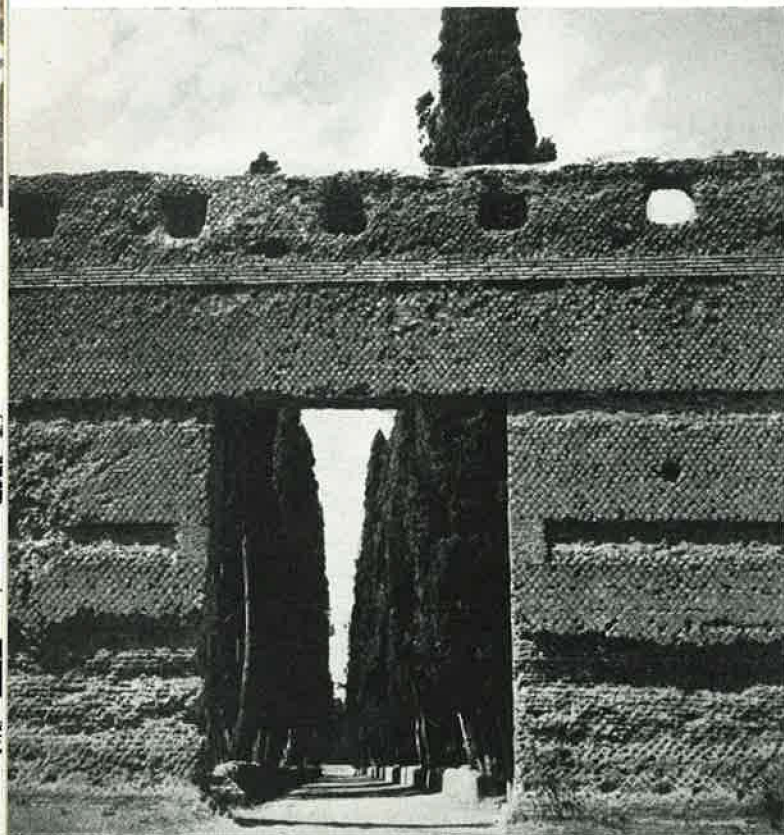
Great architecture is very human, it is for people—and people are the most important of all. Their survival, and everything we are doing, has as its source, reason for being and ultimate goal, in human beings and the forward push toward an enlightened and better life. The "little man," with all

his faults, finally supports what is decent, human and right, and he is worthy of history.

For me, creative architecture is a "total" art—it is painting and sculpture, it is engineering technique, it is an expression of our culture—beauty out of utility, purpose, structure, technology—all the things we have to work with. It is a thing of *today*—and what a wealth of knowledge we have to draw from.

The fact that labor is expensive, and that hand craftsmanship and personal artistry in all its fine details apparently belong to another era; the fact that mass production gives us easy answers; the fact that architecture has finally become big business and one can make money at it, which seduces many and thins the ranks at the fringes; does not alter or change human needs, values and aspirations. These are simply the realities, the given factors for the architect-artist today. His ingenuity and his stature as a creative artist are taxed and exercised and can be stimulated as were the great architects of all times to solve the basic architectural problems presented him—to satisfy human needs. I think every problem has its realities of site, budget, func-

tional needs, human relations; these are all important and are all realities that form the program and not one of them can be ignored—plus the reality of the guiding architect, who he is and what he brings to the problem. Every different situation produces a different set of circumstances and I feel strongly that there is close to a *best* answer in every case within the context of these given factors, and that the measure of the greatness of a building is how creative (perhaps the word is “godlike”) men can become in the given circumstances—how high they can reach and accomplish.



Hadrian's Villa, Tivoli.

There are certain fundamental laws that will always have meaning for us and belong to all of us. Things that have been kept mysterious and precious are being added all the time to our tools of fact—tools that all of us can use—all the things we know and are finding out about how we see, think, feel, hear, about light, color, structure, etc. The mysteries that have limited us are breaking down. Human needs are basic and more light has been shed on them than ever before. We creative artists today have an advantage over our forbears in that if we take the trouble to find out, we have at our fingertips wonderful research on the human being, his mind

and its reactions to light, color, sound, acoustics, etc.—clues that widen our creative horizons. The human need for color, for texture—the innate appreciation of nature's way and of fundamental good design wins out—truth will win out—true merit always wins out.

So the human desire for texture, interest, variety, stimulation, is as important for us to satisfy as it was in other cultures, for the people of India, the Greeks, the Egyptians. It is part of the problem for us to solve—and we can do it as an expression of our culture. We are making tradition, we are making our cultural heritage now. It may test our ingenuity—it takes work. Creative design doesn't come easily. Most of all, it must be of today—belong to our culture—be “right.”

What message then, is there here for us? It may be simply that we can say how lucky we are that we have this to look forward to—a full, rich, flowering of our architecture—belonging to our culture. We are in the midst of it now. It is so obvious, it almost bears no saying that we are beyond the oversimplified Sweets Catalogue building diagrams. The self-criticism which Americans have given themselves with the startling nudge of the space age, could well be extended to architecture. We have looked too quickly for easy ways out, easy patterns to follow. We are too spoiled.

It's time for us to quit being soft in American creative architecture—as we have let our mid-sections get fat in this cumulative American development of a cult based on easy security—worship of group effort, “togetherness”—too easy mockery of the rugged individualists. Gropius said recently on this subject: “But didn't we only yesterday run down the rugged individualists? We did, but the pendulum has swung back sharply to the other extreme now, and we have to discover the hard way that neither conformity within the group—which leads to tyranny by the majority—nor willful extravagance of the individual can create a climate which favors the development of initiative and imagination; but that it is the moral responsibility carried by each individual independently within the group which provides the basis for the goal of a democratic culture: unity in diversity.”

My own experience is that free and equal talk and fighting a problem through—digging for truth—is important, but that finally, the moment of decision is there—every point can't be argued to a logical conclusion. Different human beings are involved and the time comes for the positive and creative guiding hand—the composer of the whole entity. The decision may be wrong in terms of logic sometimes, but inexplicably, it will be *right* in the

total image. You can talk and discuss architecture into the ground—but finally it is an art of direct action—of doing. You can take the fun and adventure out of architecture by feeling a necessity to justify every last detail in terms of logic. When you feel what is right you have to do it.

And further—you cannot equate human beings. There is a danger in making too much of the group, a different kind of tyranny in a righteous attempt at the equating of every single contributor to a total effort, when it means the denial of the wonderful individual richnesses possible when creative artists can give the very best they are capable of as individuals.

Then, too, there will always be the short-cut brought about by the brilliant one—and we should feel specially blessed to help along and encourage our bright creative artists, even though their personalities may sometimes be repulsive. We must not try to suppress them or bring them unhappily into the general group—into an abyss of conformity, even though it may be one of good fellowship. Of course there is really not much to worry about here, for the true creative artist will fight clear of all this. We can be articulate, clear, logical about our solutions to problems, but never just neuter. If we are to reach pinnacles of greatness in architecture, there must always be the opening for the infinite individual genius and brilliance that man can bring to his work and that can come from anywhere. That's why there is always so much hope for us. Man is the most important thing in all of this.

You can discuss and think architecture endlessly, but finally there comes the time of actually doing, and then many other interesting factors come into play that involve the realization of actual buildings in space. There is a great gap between the beautifully conceived and designed structure and its ultimate realization in space—a great labor of love to be lavished on details, on dealing with people in a manner so as to get one's ideas through. It is one continuous, integrated flowing operation that can't be divided up for so many of the parts are uncontrolled. However big the problem becomes, one finds that the great buildings still stem and are controlled and nurtured from a creative *source* of inspiration—and if this is not allowed to happen and the problem gets compartmentalized and out of control, something quite negative happens, it becomes dehumanized and neuter.

The most important thing is to design with the full passion of existence, with the whole of one's being. In their moments of revelation and greatest creation, creative artists are finally crystallized into what they really are—the “whole of their being”—

they think and feel and create and decide with the full passion of their existence. Restraining influences are negative and of little consequence to positive creative effort.

The really great artist and architect cannot be restrained—he will fight clear. The very nature of his greatness will shine through and be exposed in his work for all to see, in its total actual reality of visual and sensory experience that will reach, surround and engulf all people.

Happily, architecture finally becomes a total physical reality, a thing of being—it stands there

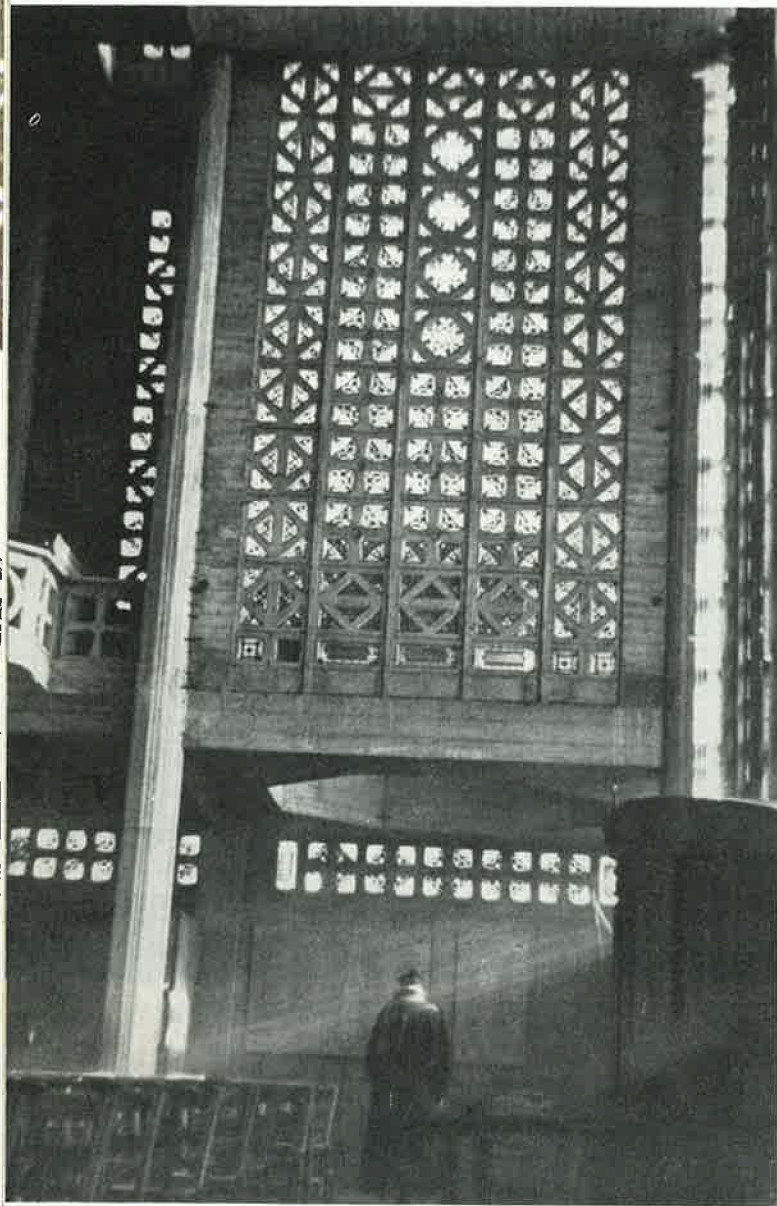


Piazza of St. Peter, Rome.

itself and it speaks to us, and surprisingly, the little details which may have been arguable enhance the work just as “flaws” or imperfections and variety, do in nature. A great work of architecture might not have seen the light of day if it had been discussed into the ground. A building is finally to “be in,” to work in, sleep in, love in; to touch, to feel; to influence us and to be a part of our lives, affecting our tastes. The really great architecture passes this human test always—it reaches and has meaning to us all.

The dignity of the individual creative artist and individual human being is paramount. Great

teamwork is possible among creative artists only when each individual member of the team can feel free to give to the joint creative effort the *very best* of which he is capable as an *individual*, with all the background, enthusiasm, eccentricity and truths known and peculiar to him. One of the miracles of life is the endless variety, change and brilliance that



Notre Dame du Raincy.

is present among human beings. The infinite variations that produce the differences in people are elements to be nurtured and encouraged—for they in the deepest sense have to do with the human being and his dignity and his art. Where the combination in a team means that any members are restrained in

ways basic to their individual natures in what they have to offer individually to the creative effort, to a point where they cannot give the very best they are capable of, wholeheartedly and in genuine truth, the result can only end up being a neutral, watered-down version of what it might have been.

Over-specialization, where it has reached into the arts, has become a serious disease of our times. True, human beings need one another to check and reinforce and work against, as well as with each other, but this seems to be a negative direction if it means leaning on one another equally and not digging as hard and deeply individually for the universal truths as if there were only oneself to count upon. The creative source must be unfettered and free. Great art cannot be accomplished by negative ideas or action. It is inextricably involved in truth, in love, in the full passion of living—and in the last analysis the really great things one can produce will come out of oneself.

There is no limit to what creative artists can achieve working together from the design inception to the ultimate work, if they can give of themselves genuinely and without restraint—the very best they are capable of as individual human beings. For creation is a painful yet joyous experience—a passionate experience that cannot be curtailed or held back. If it is, by the negative effect of other men hanging heavily on one's shoulders, the artist must get away to do his work alone. There is so much beauty and good to be done in a labor of real love and dedication to truth, that there is no time for deterring influences.

I find an answer sometimes in almost reverting to a naive, childlike approach—of purposely not paying attention to what others are doing—of treating each problem as if it were the first—of trying to get to the fundamentals—the essence of architecture. Like being alone with only a forest of trees and your hands, and having the problem of building a shelter.

So, too, with the realities—the architectural facts of limited budget, site, available materials, regional problems—from these a wonderful personal architecture can be evolved that doesn't deny the soul.

Why should we be ashamed of buildings that are personal—individual—if they derive in their essence out of our culture today?

I refuse to accept the thought that an office building, home, school or church need all look the same. There is a necessity for creative symbolism. Probably as a result of my war experiences, I have learned to respect and value human beings. What I am trying to do is for them, and I am willing to

listen to them—and there is much to learn when you do that. Why should the architect be ashamed to do something just because he likes it that way, or out of an inner compulsion—out of an inner creative urging, without being able to justify it with logic, science, economy or necessity?

What a limited beauty we are creating if we suppress and curb our creative urgings under the prodding of philosophies we may not really believe in, of conformity, of an exaggerated and overdeveloped sense of responsibility to satisfy every member of the team to the point where much creative effort is neutralized and emasculated—of a general trend towards the neutral, towards conformity and away from the rugged individualism that is part of being creative.

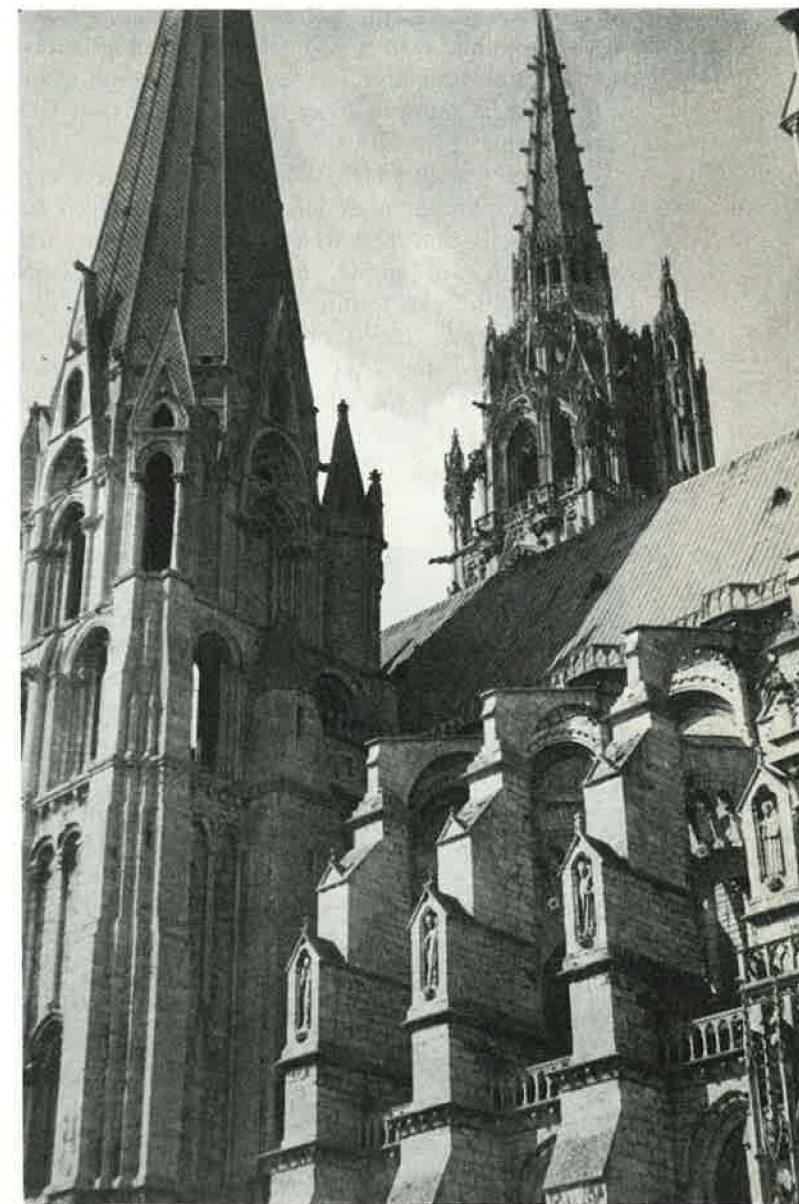
We can make beautiful architecture and decoration out of our very structure, out of our technology and necessity—we can make great beauty out of our culture today and if it is really right, it is valid.

I find you have to be fearless, relentless and not take the smallest detail for granted. To design buildings, you don't have to deliberately deny or turn your back on everything that has gone before. These are lessons to be learned that are the keys that open doors to us all—ours to use in one long continuing family of man—a great panorama of richness. Not to use these lessons is being foolish and wasteful. If you are conscious of a feeling coming strongly out of the past, you don't have to turn your back on it if it carries an answer for today. It might be truer, more a part of our culture and our time with elements and forms that have roots in the past. For aren't we all derived from the past? Something odd or brand new isn't always the way for creative design to be a part of our culture and time.

At any rate, I am convinced now that the really important things an architect will contribute in his lifetime—be it as part of a giant organization, or with a small individual group—will, in the last analysis, be something that really and truly comes out of him, *himself*. The very wonderful and special things that make all of us what we are—the infinite influences and backgrounds that make the human being so special and different and with so many different things to contribute. *These* are the qualities to nurture and encourage. They are what make us human beings—the most precious and valued on earth. We are not to be denied or neutralized, or submerged in the wake of philosophies or trends. Truth and beauty and the individual human being will always fight clear for survival. I think anyone who has been to war and somehow survived has come away with such a manifesto of optimism. All

it takes is a kind of relentless courage, a willingness to fight with dedicated effort and deed, a determination to avoid certain pitfalls, some less evident than others—like conformity, “groupism” and shallow popularity.

Creation is an adventure. Any suggestion of fear or of cynicism is against the whole spirit



Chartres Cathedral.

of adventure in creation. If you have something to say in architecture and it is important and has meaning to people, then say and do it in your own way. In this spirit of adventure, and if it is important enough, it will reach them. I am an optimist and I have faith in people, even though I

have felt the sting of most of the negative things they are capable of. But I have also found—at first hand, in wartime and later—that the humblest person can rise to peaks of great nobility, and that often he has to be led and shown. If the creative artist gives up and doesn't lead, and he is looked up to for that leadership, he has only himself to blame for ugly environment and a soulless future to look forward to, where the spirit will be denied more and more. Let us not dismiss all people with a wave of the hand and take refuge behind a precious snobbery of professionalism. They are astute and when a really great thing is done, they will see it—it will reach them.

I am convinced that unless an architect can develop a philosophy sooner or later in which he really believes and from which his creative effort and contribution will spring, he is lost. The giants of architecture can inspire and teach, but they can also crush and stifle if one isn't careful to know where one is going—not through purposeful intent of course, but by the effect of the very bigness of their genius and their philosophies. So people who

are learning or who haven't yet found their way, can lean on them even though it is without real belief or inward conviction. But one can't lean on them all one's life. One must find out for one's self. And there are no limits to what one can attain. If the individual doesn't stand up and shout a little bit under the urgings of his own creativeness, during those rare times when the little spark of individual genius flairs, because he is subdued too much by the shadow of a giant philosophy or some other negative reason, something very important may be lost. He can be discouraged because no one is listening or more likely because he himself gives in too easily. If he starts on the road to his own philosophy—and he can find this in its deepest meaning only by himself—there is good hope always that it will crystallize into something that will make his contribution a very real one.

There is no choice for us, for the goal is our responsibility—that creation of great beauty out of our culture.

"All passes—art alone, untiring, stays to us."

Piazzetta, St. Mark's Cathedral and Doge's Palace, Venice.



A FLIGHT FROM FUNCTIONALISM



ERIC MENDELSON: EINSTEIN TOWER, 1920

ROBERT GARDNER-MEDWIN, FRIBA, MTPI

Last summer in Milan I saw some of the challenging new buildings which have been having such startling effects upon my students, and indeed upon many of the younger groups of architects practising in Britain.

From the magazines, which of course illustrate the most bizarre, one gets the impression that most of the Italian work since the war is of the kind which can be appropriately labelled "sculptural formalism." In fact, I discovered that there were comparatively few buildings of this kind. Most of them were the works of Luigi Moretti, who is perhaps the most theatrical architect building in Milan today.

Even the youngest Italian architects and students, it seems, no longer feel the earlier enthusiasm for Moretti's theatrical formalism; they are more deeply interested in the structural inspiration of Nervi, the rationalism of the early Rogers (I will explain the "early" later), the integrity of Giuseppe Terragni's work of the late thirties and early forties, and, in general, the clear expression of plan and structure in the work of an able body of architects and industrial designers such as those who designed the Olivetti headquarters in Milan (Nizzoli, Fiocchi and others).

Of course, there is great enthusiasm for Gio Ponti, but he is not so easily classified as formalist or functionalist. In his industrial design he is certainly functionalist (X-ray analysis of how a mouth nego-

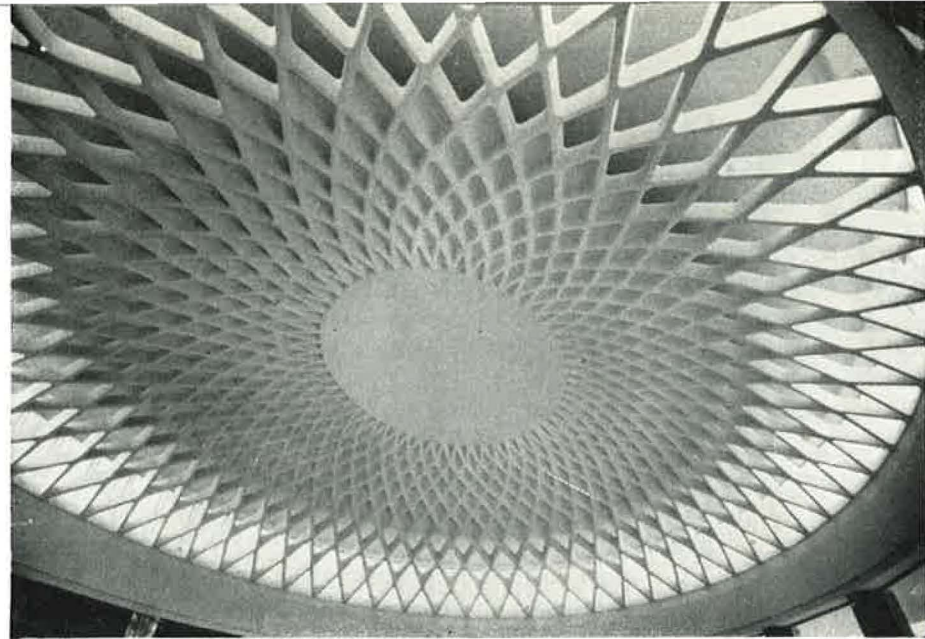
tiates a spoon; knives scientifically re-formed to resemble surgeons' instruments); but in his architecture the functionalism is far from pure; it is often mixed with playful juggling with forms, though usually with forms which have functional origins.

It was easier to understand the abiding faith of the Italians in the functional tradition when one visited the architecture exhibition at the Triennale. This was the best-told story of the development of modern architecture that I have seen. After ascending a stepped hall in which were displayed structural models reminding us of the daring of Brunelleschi's Duomo and of some of the Byzantine and Gothic cathedrals, we entered a gallery of structural pioneers which began with Telford and Paxton and ended with Maillart and Nervi.

The exhibition established the vital *rapport* between engineering and architectural thought in all that is significant and notable in a hundred years of development. The moral of the display seemed to be that the most compelling forms in architecture are significant forms; that functionalism (in its broadest sense) is not a phase through which modern architecture had to pass, as some would have it today, but an expanding intellectual force, nourishing the creative mind and leading on, through scientific discovery, to new and unexpected forms of expression.

Every building or project in this exhibition was illustrated not only by photographs or drawings of its outward appearance (we have seen too many exhibitions like this), but by admirably clear plans and sections by which one could assess the analysis of the solution almost at a glance. The more obviously formalist works of the Italians (buildings in which modern forms are exploited for the sake of modern forms) were conspicuously absent. I suspect that most of them would not have survived the revealing photo-transparency exposure of their plans and sec-

Professor Gardner-Medwin read this paper to the Architectural Association of Ireland in January 1958. Since it is both a lively discussion of contemporary architecture in general and a critique of contemporary Italian architecture in particular, we found it of great interest. We are indebted to the author and to the Editor of the RIBA Journal for their permission and their assistance in getting the material together.



Multi-purpose hall, Terme di Chianciano, 1952, P. L. Nervi.

tions. Frank Lloyd Wright's Falling Water and Le Corbusier's Ronchamp, which might seem to belong to the category of sculptural formalism, were given places of importance; but these masterpieces have the integrity of "organic" architecture; they are poetic declarations of the nature of their materials.

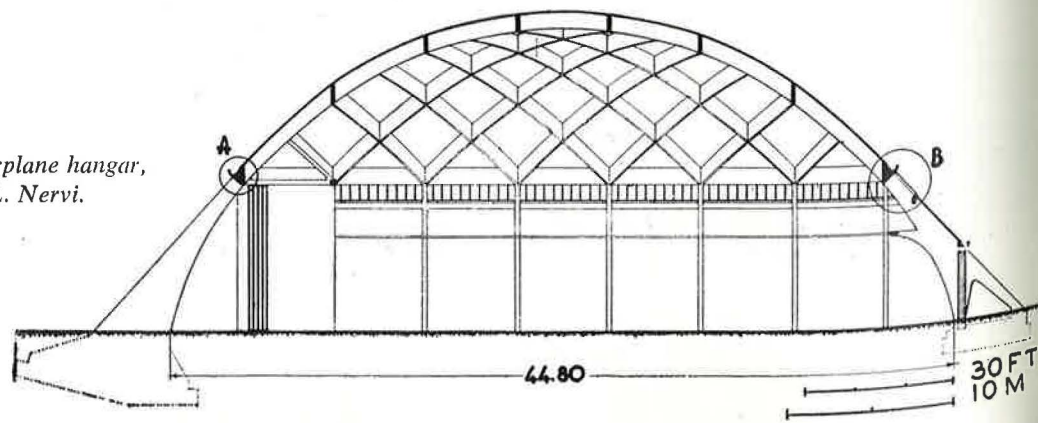
However, the inter-war Dutch formalism of Dudok and others (inspired by Frank Lloyd Wright but lacking his organic character), and the more sculptural post-war work of the Brazil formalists, were ignored. In the pioneer section, Eric Mendelsohn's early expression was shown, perhaps for the same reason as Wright's and Le Corbusier's; and looking at his famous drawings one asked oneself if the latest realizations of Moretti—powerful, monumental, expressive—have anything more important to say than the prophetic projects of the young Mendelsohn. These two have much in common: Both, for example, love drama and monumentality. But while Mendelsohn's projects anticipated the potential of modern methods, Moretti's realizations have nothing of this prophetic quality and seem to have been arrived at without any particular reference to methods which already exist.

Moretti was in fact represented in the Exhibi-

tion by an earlier building, his 1935 *Accademia di Schormia* in Rome, in which Fascist dictatorship seems to have demanded a classical facade which gives the lie to the dynamic cantilevered shell section behind it. The showing of this building seemed to be an exception to the exhibition policy. Another exception, perhaps, was the showing of an early Terragni building. Giuseppe Terragni (who died in 1954) was one of the few outstanding Italian architects who refused to follow the Fascist line; a line which of course was also formalist, but in a rigidly derivative classical straight-jacket. He and Pietro Lingeri were represented by a building of this period: The dramatic assembly of solids and screens which enfold an ingenious plan and result in a thoroughly human and personal expression of an art gallery which somehow simultaneously satisfied the Fascist program—probably because of its suggestion of classical monumentality.

After following the story of the early pioneers one entered a darkened room in which more recent achievements sparkled from back-lit transparencies. The approach was through the triumphal arch of a model of Nervi's most famous space-frame hangar (one of those so unfortunately blown up in the war).

Cross-section of airplane hangar, Orvieto, 1936, P. L. Nervi.



This was large enough to stand up inside and, by crouching, to get an impression of its structurally inspired but deliberately proportioned, elegantly modulated vaulting, which links it to the traditional functionalism of Gothic.

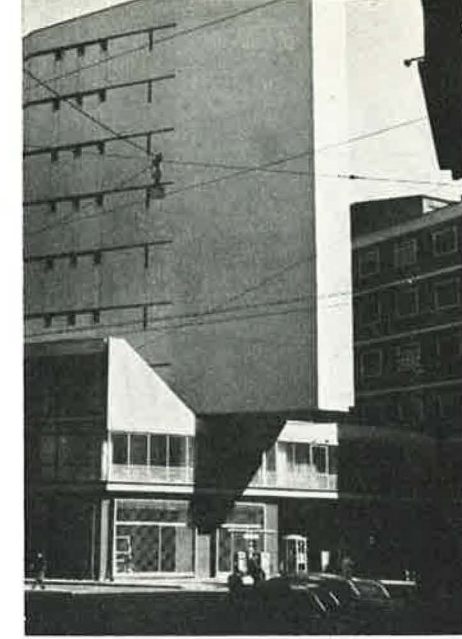
Here is the source of a much more important, more deeply rooted influence on Italian architects, and indeed on architects in all parts of the world. If we are to give it a label we might call it "free functionalism"; or perhaps "structural expressionism" might be more accurately descriptive of some of the buildings which fall into this category, with their concern for logical planning and their passion for structural adventure. Such buildings are certainly in the functional tradition, but they have freed themselves from the strict prose of the early puritanical creed. They exploit the possibilities of their structural material and seem to express a poetic delight in it.

I have made a list which gives a fair idea of the types of recent buildings, other than housing, chosen by the Triennale architects from international sources to illustrate the theme of the architecture exhibition; the theme, as I interpret it, of greatness in architecture born of plan and structure.

The climax of the architectural exhibition was a great model of the Pirelli building, the twenty-five story lozenge-shaped skyscraper, then half-way up, which promises to be the most distinguished commercial building in Milan, if not in all Italy. The Nervi-Ponti partnership should produce a building in which powerful structural expression is associated with elegant detailing and industrial design. I shall return to this building later when I compare it with the Milan buildings of Luigi Moretti.

Skill in industrial design is reflected in the detailing of many Italian buildings, and high respect for the nature of materials seems to be keeping most Italian architects on a steady course. Their buildings are often as precisely finished as the Germans', but not always so precisely constructed, one suspects. Although more of them have a gay flourish, it would be easy to mistake many buildings in Milan for buildings in German cities. The Grattacielo (skyscraper), so exciting in photographs, is one of these, but it is disappointingly mechanical in quality at close range and lacks the convincing precision of a good German commercial building.

Here and there in Milan the Italian zest for life rebels against the strict and orderly and becomes highly inventive and original. This can be seen in many shops and shop-fronts, in the new Gallery of Modern Art (by Gardella), in the work of Ponti and Moretti, and most vividly, perhaps, in the design of glass and ceramics. When one sees the late Fascist

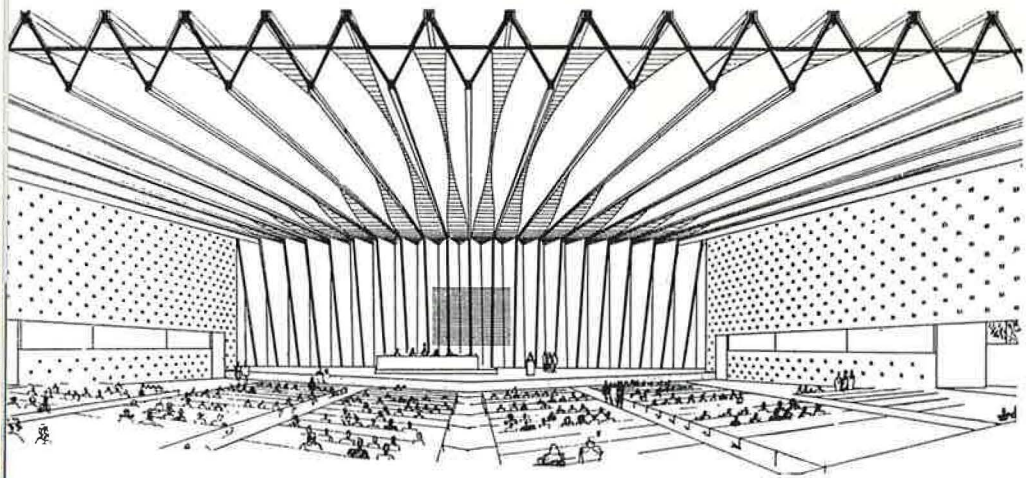


Palm Olive office building, Milan, Luigi Moretti. "The sculptural play of forms."

legacy of harsh, unbending monumentality in Italian cities, one is ready to understand the passion to break away from stern discipline of any kind and to play freely with the fascinating forms which have been unlocked again and lie strewn about the nursery of modern architecture. The surprising thing is that there has been so little irresponsibility—except at the lower end of the scale, where the most terrifying travesties of modern architecture have occurred.

Baffling rather than terrifying, and certainly provocative, is the latest building by Ernesto Rogers, the Torre Velasca. This is a tall office block in which the six top stories project from the stem of the tower on concrete brackets, giving it the silhouette of a very Big Ben, or an absurdly blown-up version of the bracketed top of the central tower of the Palazzo Sforzia—the medieval stronghold which commands the main axis of the city. Apart from the fact that this could be explained as a cunning method of gaining more lettable space on upper floors without loss of daylight to neighboring buildings in the lower regions, the modeling of the brackets is gauche, and far from convincing as structural form; the surface modeling of the facade is arbitrary, and the "pinnacle" forms which crown the tower strike an incongruously romantic chord.

It is rash to criticize this building before it is finished (when I saw it in September 1957, it was still hidden behind the bamboo screens of scaffolding with which all new construction in Milan is mysteriously sheathed), but the combination of what could be seen then and the perspectives of what is to come, was enough to make one anxious about the latest de-



Unesco House, Paris; Conference Hall. Breuer, Nervi and Zehrjuss. This and the Pirelli building illustrate the principle of "structural expressionism."

velopments of Rogers and his group who, in the early days, produced an exquisitely graceful architecture which seemed to spring from a philosophy as sensitive as it was rational. It is with a sense of disappointment that one compares the relatively crude and irrational forms of the Torre Velasca with Rogers' USA pavilion of an earlier Triennale, and with his famous monument to Italians who died in German concentration camps—the symbolic cage which remains pure and evocative in spite of an atrocious new landscape setting among the gigantic, writhing memorials massed so startlingly in the Cimitero Monumentale of Milan.

In the Triennale gardens another cage, a habitable one — the Buckminster Fuller aluminium and canvas geodesic dome which housed the American exhibit—has a similar purity but was more directly evocative; it symbolized the self-generating dynamic of functional thinking.

The Rogers' tower, and the latest office complex on the Corsa Italia by Luigi Moretti, are interesting contrasts with the Ponti-Nervi Pirelli building, which belongs to my "structural expressionism" group. But while I am dismayed by the new Rogers I cannot help being excited by the new Moretti, although he belongs to the "sculptural formalist" movement which I regard as leading us up a backwater away from the main river of architectural progress.

Moretti's two earlier buildings in Milan, the Albergo Americano and the Casa Albergo, are the ones which I regard as having affinity with Mendelsohn's early projects. They are stern drama; powerful declarations of the "split slab" principle by which Moretti likes to surmount the boredom of a great mass punctured by an infinity of hotel bedroom windows. The narrow ends of the slab have deep slits corresponding with the width of the corridor (an absolutely logical expression of the plan); but not con-

tent with this, Moretti divides his slab longitudinally with another narrow slit, thus separating his plan, above the ground floor, into two distinct closely adjacent parts. In the Albergo Americano there is a second smaller slab in which one end is narrowed by a slight chamfering of one of the side walls (another favorite sculptural device), and the two slabs are joined together by public rooms disposed under a butterfly roof. Over the entrance there are his characteristic suspended slabs with twisted curves, which make one feel that the builder has literally copied the rather wavering planes of the thin cardboard of the model.

The whole building—this is true also of the Casa Albergo—is covered with whitish-gray mosaic, and there is no suggestion of color on the exterior apart from the silvery glint of the mosaic when the strong light plays upon it. It is unrelieved drama of architectural mass, arresting but coldly uncompromising. The interior also foregoes bright color, yet it is not a peaceful interior. Moretti's ordering of internal volumes in these buildings is not as competent as his ordering of external masses. There is an obsession with shapes as shapes in the ceiling sections and in the disposition of fixed furniture.

But there is much more humanity, warmth and color in Moretti's latest complex of offices and flats in the Corsa Italia. The devices are all here again: the split slab, the tapered slab, the twist, the coil, the sculptural play of forms. But they are used to very good effect to solve the problems of an irregular site. For instance, the tapered lozenge slab, though it forces the internal planning, gives a sense of flow as one moves from narrow to wide spaces; the slit in the center of the dominating high slab makes one aware of another space beyond, and on the shadowed side allows a streak of sunlight to enliven the prospect. This ten-story slab, which is of very great length, is

not only slit in the middle, but bent on plan in each of its halves. Seen from one side this gives it a concave effect which reduces one's angle of vision, gathering the building together in one glance, rather in the way that a camera gathers together a large group of schoolboys by swinging round in an arc. By the same token, when seen from the "convex" side, the great bulk of the building is reduced by foreshortening. On this side, the split slab is seen in relation to two lower units which are nearly, but by no means quite, at right angles to it. One of these two lower units is a highly sculptured apartment block; the other, in contrast, an elegantly simple frame and glass office block which serenely reflects the splays and slits and tilts and curls of its exuberant neighbor. This building (the sculptured one) thrusts a sharp prow into the Corsa Italia and seems about to sail through the city. Long horizontal slits of windows forward (bathrooms and w.c.'s), and a bridge-like protruberance on the roof deck, add to the illusion.

Early functionalist buildings used to be described as "like ships"; but this building is not so much like a ship as like the abstract image of one. It is as if the architect had dramatized the ship-like quality of modern architecture, consciously; indeed, one gets the impression that he has consciously dramatized modern architecture itself. The essential nature of sculptural formalism is an affectation of forms which, instead of being a derivation of the plan and structure of the building as such, is an assembly of abstract images suggestive of modern planning and structural techniques in general. Obviously this thesis cannot apply to every part of the building: The form of a window, for example, is bound to reveal its actual method of construction. But if one examines the modeling of such a building as a whole, one cannot escape the impression that one is not looking at modern architecture but at a dramatized abstraction of modern architecture.

There is nothing immoral in this attitude to architecture, provided that the architect can rightly claim that he has solved his program in a way which is not merely interesting but efficient; for certainly it is possible for a building to work well without laboriously expressing its function.

Nothing immoral, but plenty that is dangerous. The temptation to "play" with architectural forms is considerable, particularly among students in schools of architecture who inevitably develop a facility for pattern-making long before they have mastered the science and techniques of design. This is apt to cause despondency in all but the most structure-minded honors graduates in later life; despondency born of the frustration of never being able to produce anything so fascinating again.

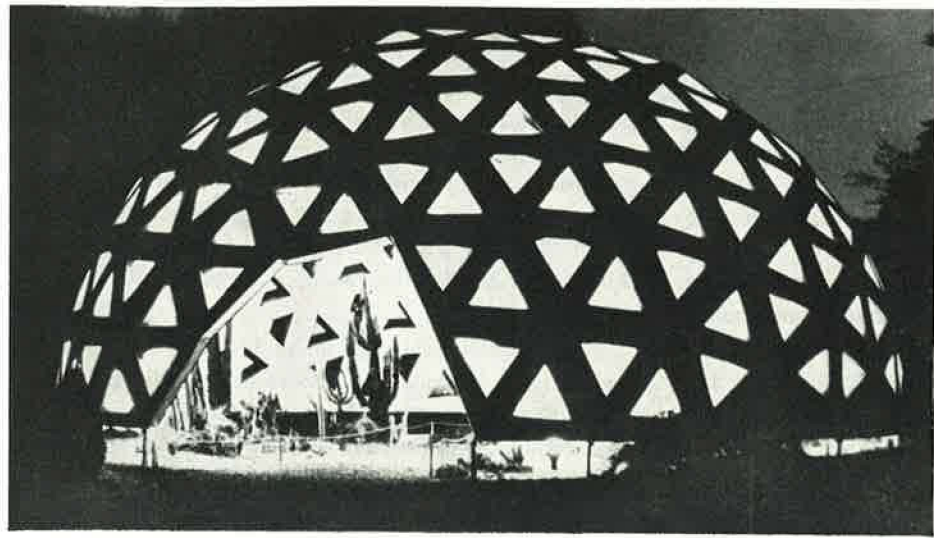
But the movement known as sculptural-formalism not only has dangers for students; it has dangers for the progress of modern architecture . . . which perhaps, after all, is really the same thing. I have suggested that I regard this movement as a dallying exploration of a delightful backwater, off the main river of modern architecture. I hope I am right about this, for if instead it proves to be a change in the course of the river itself, I think it will be disastrous.

This sculptural formalism in Italy and Brazil, and when it occasionally occurs in Britain, has been likened to baroque; but it is a doubtful analogy. The renaissance of functionalism in Germany in the nineteen twenties was a very different proposition from the classical Renaissance in Italy in the 15th century. Baroque was the exuberant climax (or decadent end, if one clings to the teaching of the twenties, of an architecture essentially formal and non-functional in concept. Sculptural formalism is exuberant, too, and it has some affinity with baroque in its relaxation of strict disciplines; but fundamentally it is a reaction against functionalism itself, whereas baroque was by no means a reaction against the Renaissance. If it has a creed, it is "go your own way and play to your heart's content." This is fine freedom for a handful of brilliant designers, with a flair for architectural opera; but it is a chaotic creed for a movement. My fear is that if it were practised by architects at large, modern architecture would lose its directive power, its missionary zeal, and become discredited as a play-thing.

In any event, baroque came to full flower some two hundred years after the beginning of the Renais-

Unesco House, Paris. Interior of Conference Hall.





Geodesic dome, Triennale, Milan, 1954, R. Buckminster Fuller, "Free Functionalism."

sance, while modern architecture had scarcely begun to take hold in Europe thirty years ago. Even allowing for the increase in the pace of life today, it seems a little early for either a splendid climax or a decadent end to modern architecture. We are surely only on the threshold of our new renaissance: we should not be impatient for a new baroque, even if we have any reason to anticipate such a repetition of history; which I doubt.

Thirty years ago, as Lewis Mumford puts it in one of his *New Yorker* "Sky Line" articles, "the lines were clear and the direction was obvious; the tide of historical imitation had ebbed, and the turn towards a clean, bright, austere, efficient modern form had begun. The modern was then easily defined; it was that which did justice to the virtues of the machine—the precise, the calculable, the economic . . . the great cylinders of an American silo were the Doric columns of a new age."

It was inevitable that there should be a reaction against such an icy philosophy, and I think most of us who felt the enthusiasm of polar pioneers for the new architecture in its early days, knew that a warmer front was bound to come. New freedoms have been explored since the war, and by no means all of these have abandoned the functional creed: They have simply made new interpretations of it, finding new freedoms in its truths.

"A question of morality," said Le Corbusier at the start of the modern movement, "lack of truth is intolerable, we perish in untruth."

There are many brilliant young architects today who can design in perfect freedom and yet still adhere to that doctrine, simply because they feel an instinctive need for a discipline of this kind.

What the sculptural-formalists have to guard

against is that they do not drift so far from functionalism that they approach the "accidentalism" of action painting. The "method" of one action painter was described by an *Ark* critic* recently as one who "makes his pictorial and spatial drama in terms of color patches created part by accident, and part by conscious effort after cognizance of the significance of the accident." I hope, if only for our clients' sakes, we shall be spared this method in architecture.

One of the dangers of the present formalism is that it tempts young architects to think of buildings in terms of sculpture and painting, a habit of mind which can lead to more successful results on the drawing board than on the site. If we allow form to become detached from function we lose what Le Corbusier calls the *truth* and Frank Lloyd Wright the *organic* in architecture. These two temperamentally opposite masters are at one in recognizing that the art of architecture emerges from the nature of the program, of the materials, of the site.

I may well be reminded here that the new architecture had formalist tendencies from its very beginnings. This is true, particularly if we recall the work of Mies van der Rohe, from his Tungenhaut house to his Illinois Institute of Technology. The formalism of van der Rohe is akin to the strictly disciplined formalism of the Renaissance. His work has been admired because it provides two simultaneous pleasures for us: It provides in purest essence that which our educated taste approves in the geometrical proportions and rhythms of the Renaissance; and it expresses with exquisite refinement (though not always with truth) the precision and perfection of industrial techniques. We find this combination so irresistible that we can scarcely bring ourselves to criticize van der Rohe for forcing his plan and bending

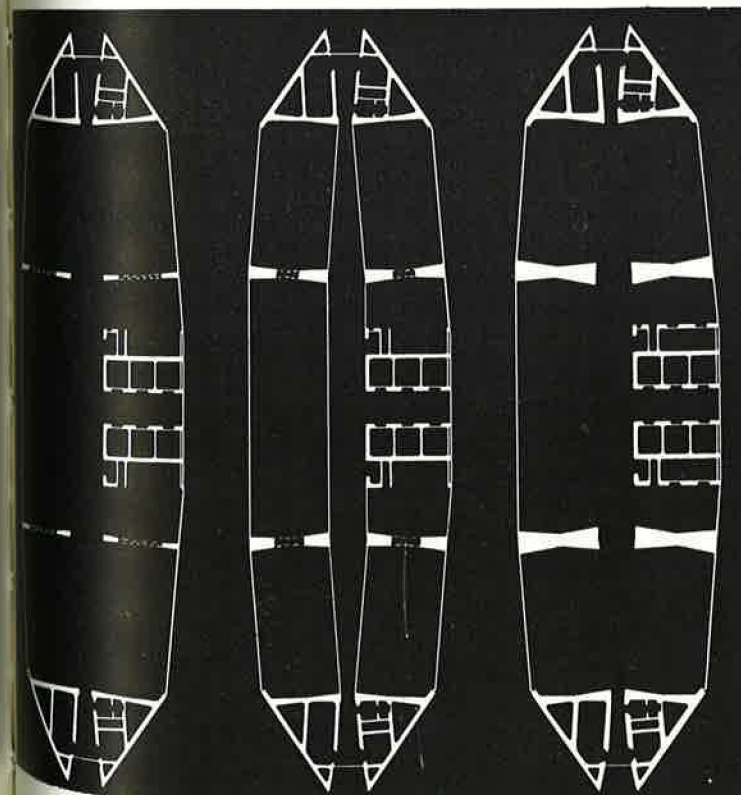
his structure to suit his pre-conceived pattern of *functional* formalism—a phrase which I think we can apply to the work of van der Rohe and some others to distinguish it from the *sculptural* formalism of the Italian and Brazilian schools.

All interesting architecture has what is described as "formal qualities," regardless of the extent to which function influences the form. The distinction I am making is between two opposing modern tendencies: The one in which form is exploited for its own sake in a manner which can be regarded as sculptural rather than architectural "sculptural formalism"; the other in which form is an expression of the structural solution of the program ("structural expressionism" or "free functionalism").

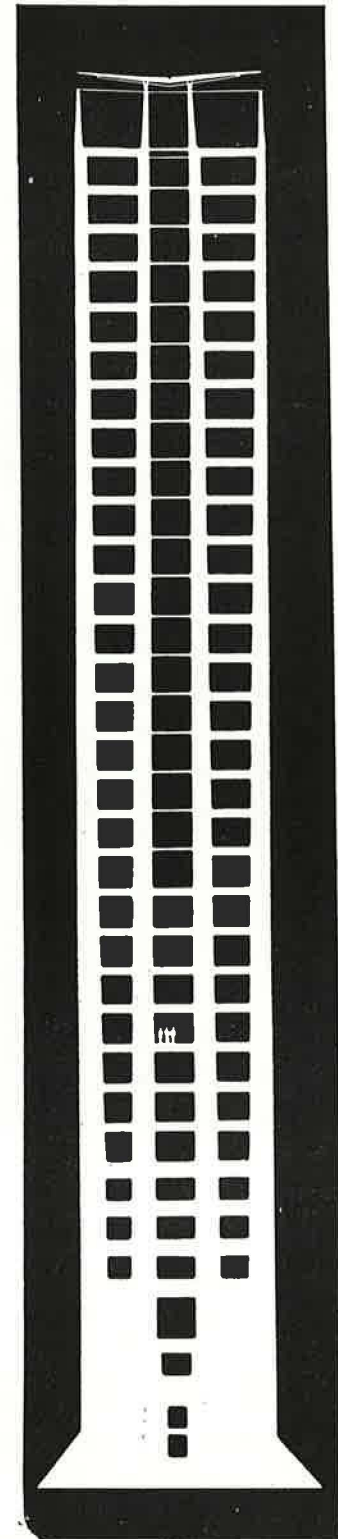
The first seems to me an abandonment of the functional tradition in modern architecture, the second an extension of it. Both have exciting possibilities, but if our most promising architects abandon the functional tradition in its youth, I believe that the vigor of the movement will decline and wither for lack of sustenance.

I now want to describe two buildings—one in

* In the *JOURNAL OF THE ROYAL COLLEGE OF ART*, No. 20.



Office building for Messrs. Pirelli, Milan, 1955-56. Section and ground floor, 15th and 30th floor plans. Gio Ponti, Architect. P. L. Nervi, Structural advisor.





Torre Velasca, Milan, 1958. Belgioioso, Peressutti, and Rogers. A drift from functional integrity?

Italy, the other in France—which I believe are examples of free functionalism, although at first sight they have a *joie-de-vivre* that makes one suspect sculptural formalism. One is the Ponti-Nervi Palazzo Pirelli; the other the Breuer—Nervi Unesco building. Both were under construction when I saw them, but they were near enough completion to judge their character.

The concept of the Pirelli tower is evident at once from its plans and sections. It was good to start the tour of this building at the base of its two tapering spines. The giant spreading roots of the structure are visible in the basement, eloquently declaring their thrust and spread. The shuttering had just been struck from Nervi's vigorously "organic" tree-like vaulting of the basement conference hall, whose roof

forms a podium for the tower. The scene down in these depths, with the engines of construction still in evidence, had the superhuman scale and drama of a Piranesi drawing.

The lozenge shape of the tower, with its Moretti-like deep slits at the ends, might be taken for affected formalism at first sight. Indeed, the plan and section of this building cannot be described as functional in the strictly economic sense of the word; yet the whole is essentially a structural concept, adapted to a logical and beautifully articulated plan. Structurally, it is a daring experiment, deeply satisfying because it seems to echo the structural logic of natural forms. This building is essentially in the class of "free functionalism" and possesses also the quality of "structural expressionism."

I feel the same about the Unesco building. The twin conference hall unit is a brilliant exploit and a clear example of structural expressionism. The folded slab has been applied not only to the roof but to the inward-sloping supporting walls at each end, where it is boldly expressed externally and internally with direct simplicity and with a sense of scale and drama most appropriate for the occasion. This building glories in the rugged eloquence of concrete and is a magnificent example of the power of architecture to move men's minds. Breuer, left alone, is often tempted to play with his materials in a gaily illogical, fanciful way, though at his best he works in the organic tradition of Frank Lloyd Wright. In partnership with Nervi, he has allowed himself to be at once disciplined and inspired by the mathematics of structure.

These two buildings are a marvellous reminder of the endlessly developing potentialities of structure, and of the powerful influences of scientific method on architectural form. They are a reminder, too, of the affinity of architecture and structural engineering, of science and art. They should inspire us to a greater comprehension of structure and a keener scientific attitude to design. If we are to produce great architecture in a world now on the threshold of still more startling scientific and technological advance, this is the worst moment to take flight from functionalism. If we indulge in form for form's sake, retreating to architect's architecture, our work will cease to have any significance for our age, and soon, in payment for our irresponsible independence, we shall find ourselves forced to surrender the poetry of architecture to the trade catalog of technology.

To be functional in the purely practical sense is an important part of an architect's responsibility, but in this scientific age we shall do well to remember that the secret of greatness in architecture lies deep in the roots of the functional tradition.

BY RICHARD H. HOWLAND, PRESIDENT OF THE NATIONAL TRUST FOR HISTORIC PRESERVATION

Architecture Worth Saving



Belle Grove, Louisiana—Destroyed by Vandals, 1952

The Museum of Modern Art, the *Architectural Forum*, and the National Trust for Historic Preservation collaborated last fall in the production of a photographic exhibition, first shown at the Museum's November opening and now traveling around the country as one of the Museum's circulating exhibitions. This show, entitled "Architecture Worth Saving," points out that much of America's architectural heritage has already been destroyed; that in the last generation perhaps thirty percent of our historically and architecturally significant buildings have gone. Still more of our heritage stands as doomed. The exhibition shows tragic examples in each category. But there also has been a number of important structures saved from destruction, and a program exists for the salvation of many more.

Unfortunately the cause of preservation has

been sometimes clouded by sentimentalists, seeking to save everything old. The National Trust has published its criteria for preservation, which state frankly that mere antiquity is not sufficient basis for selection of a structure for permanent preservation. Preference should be given to structures where there is a preponderance of original material or other physical remains which have retained their integrity. Integrity may be defined as a composite quality derived from original workmanship, original location, and intangible elements of feeling and association. Repair or restoration of original elements or reconstruction of a building long destroyed demands high professional standards of historical and scientific techniques. Generally speaking, it is better to preserve than repair, better to repair than restore, better to restore than reconstruct.



The Courthouse and Jail, Pittsburgh, 1886, H. H. Richardson, Architect.

Before ►



Grand Central Terminal in 1913, Warren and Wetmore, Reed and Stern, Architects.



Grand Central Terminal, New York, as it appears today.

◀ After

The Auditorium, Chicago, 1889, Adler and Sullivan, Architects.



The buildings featured in the exhibition are significant structures of the nineteenth and twentieth centuries, representing important work of architects whose genius influenced their age, including Mills, Richardson, Wright, Adler, Sullivan, and McKim, Mead and White. The earliest building is the United States Capitol, which has now lost its historic east front for an improvement of doubtful value and fabulous cost. The new extension will destroy a unique and historic space, the forecourt of the Capitol, and interrupt the dramatic cascade of row upon row of columns from dome to portico.

Among important buildings that have been destroyed in recent years, the exhibition features Belle Grove, in Louisiana, with its two superb Corinthian tetrastyle porches, burned by careless picknickers in 1952. Its heavy classical details are in sharp contrast to the slim iron columns and piers of the St. Louis waterfront buildings, dismantled by the score in 1939 to make way for the Jefferson National Expansion memorial. Another recent loss is Frank Lloyd Wright's Larkin Building of 1904 in Buffalo, razed in 1950 after the city sold the property to a trucking company that now parks its trucks on the

site. Last autumn the city of Bridgeport pulled down the Harral-Wheeler house, after a long and valiant struggle to preserve it on the part of national and local groups. Designed by Alexander Jackson Davis, the structure was an important issue in a local mayoralty campaign, although the successful candidate, after attributing his election in part to the support of the preservationists, was the leader in the campaign to raze the mansion.

Many notable buildings today are in danger of destruction. The exhibition notes H. H. Richardson's courthouse and jail in Pittsburgh, which the architect considered his finest work. Its fate today is uncertain. In Chicago, Roosevelt University is seeking support for the Auditorium Building, Adler and Sullivan's great achievement, finished in 1889. The great room of McKim, Mead and White's Pennsylvania Station has already lost its magnificence by the intrusion of a non-conforming canopy over the ticket facilities that negates the spatial concepts of this area.

Fortunately a sizable number of significant buildings have been saved, delivered by the wise action or counsel of thoughtful owners, energetic

organizations, or crusading individuals. The monumental Doric simplicity of Robert Mills' Old Patent Office will remain, thanks to congressional action that will insure its future as a national portrait gallery. Wright's Robie House in Chicago has been bought by Webb and Knapp for office use in connection with their construction of the Hyde Park redevelopment project. After completion of this vast housing scheme the Robie House will be given to and maintained by a foundation. In Owatonna, Minnesota, the Security Bank and Trust Company renovated rather than destroyed their bank building, designed by Louis Sullivan in 1908.

The exhibition, during its presentation at the Octagon in Washington in late April and May, includes an ancillary show of local Washington buildings selected by a committee headed by Seymour Auerbach, AIA. Here are a number of less well-known edifices deserving protection for the future, as well as celebrated monuments like Renwick's Smithsonian Institution and the old State, War and Navy Building. Few visitors to Washington are aware of the excellence of the Richardsonian house

of the Motion Picture Association of America at Sixteenth and I Streets, or the subtleties of proportions and brickwork of its opposite neighbor, maintained as a Christian Science Reading Room.

Architecture worth saving exists in all parts of the country, and there are now means for noting significant buildings. Efforts can be made on behalf of notable buildings, although success cannot come to all. The Institute has a Preservation Committee, headed by Earl H. Reed, FAIA, 343 South Dearborn Street, Chicago 4, Illinois. Every chapter of the Institute has a Preservation Officer, in direct correspondence with Mr. Reed, who can be helpful in local situations. To promote interest and action in preserving worthwhile buildings that meet its criteria, the National Trust for Historic Preservation, at 2000 K Street, N. W., Washington 6, D. C., maintains a national clearing house and information center on preservation matters. The National Trust is a private organization, chartered by Congress, with a wide membership open to individuals and to organizations, among which one of the most valued is The American Institute of Architects.

ARCHITECTURE WORTH SAVING

in Washington

Pension Office, 1883, General Montgomery C. Meigs, Architect.



U.S. Patent Office, Washington, D. C., 1836, Robert Mills, Architect.



State, War and Navy Building, 1888, Alfred B. Mullett, Architect.





Few projects afford the architect as much fun and frustration as do those in which he attempts to visualize what his own particular community might, and should, be ten to twenty years from now. In planning his own environment the architect works on a community scale. If this sounds simple it isn't meant to, for in so doing, he encounters all the problems with which he normally deals plus a few more with which he seldom comes in contact.

Assuming that the architect-planner evolves a practical and stimulating solution, he still faces many obstacles before he can perceive any tangible results. Private and governmental reaction to his plan may be gratifying initially, but these do not guarantee implementation. This is a case history of how just such a plan was born and how it has fared since birth.

In the spring of 1957, the Mayor, other public officials, and members of the Central City Committee of the Nashville Chamber of Commerce attended a regional planning meeting held in Arkansas. There they saw an exhibit, prepared by members of the Arkansas Chapter, AIA, visualizing Little Rock of the Future. The Nashvillians returned impressed and anxious to have a similar project undertaken for Nashville, and for the same fee—gratis. It would seem that the liaison and communication system of the various Chambers of Commerce are second only to those of the Communist underground.

In the fall the Chamber of Commerce, through its Central City Committee, invited the Middle Tennessee Chapter, AIA, to prepare exhibits visualizing how Nashville's principal business district might appear in 1970. This district encompasses twenty-one square blocks in the center of the city, and contains all main facilities of local banking and commerce

plus theaters, hotels, churches and governmental offices. They selected 1970 since that is the date the proposed Federal Highway system is scheduled for completion in Middle Tennessee.

When the invitation was presented to the Chapter at one of its regular meetings, it was pointed out that we in Nashville were not represented on the planning boards, or on any other city or county commissions for that matter. It was even hinted that we might be suspect of apathy toward the future development of our community if we failed to accept the Chamber's invitation.

Thanks to Little Rock's experience, we could estimate the probable expenditure of time and money required by such an undertaking. That others had managed reasonably well elsewhere was of little cheer. The invitation had emphasized that no financial assistance would be available. All financing would have to come from the Chapter. Frankly, this put the project on an unrealistic basis, one we advise be considered carefully by other Chapters contemplating a similar effort.

After considerable discussion, the Chapter voted to accept the invitation. The last aye was still on the voters' lips when the President produced a list of five individuals who were his Planning Committee appointees. It was to be their responsibility to organize and guide the project. Several months later, when the President's term of office expired, he was enthusiastically voted an ex-officio member of the group, and was initiated into the joys of committee work.

Before recounting the actual development of "Nashville 1970" we would like to emphasize two points. These would have a distinct bearing on any similar undertaking.

Another in the Journal's series of articles about AIA Chapter-sparked downtown renewal planning projects

Clinton E. Brush III, AIA

First, Nashville's problems are basically those which confront any other city of comparable size. Nevertheless, each individual city has its own particular combination of problems which will require a particular solution. There is no formula that will work everywhere. However, there are factors which should be components of any formula derived. Two of these are common sense and hard work. Without the former, the resultant planning will be pleasant froth to be blown away by the investment bankers or the Planning Commission. Without the latter, the project will die aborning.

Second, there is no substitute for an existing, active, cooperative and intelligent Planning Commission. Fortunately, Nashville has just such a commission. Our City and County Commissions, through their joint Advance Planning Section, furnished aerial photographs and maps. They gave us information on projected traffic planning, existing land usage, tax assessments and other items without which our planning would have been greatly handicapped. Their cooperation and assistance made it possible for us to accomplish our assignment within the limitations imposed by time and budget.

We found others willing to help. The transit company, Traffic and Parking Commissions, Chamber of Commerce, the Real Estate Board, and the Mayor's office all cooperated in furnishing statistical information. A photographer was placed at our disposal to make preliminary shots of the areas in which we were interested. These shots and the aerials from the Planning Commission gave good coverage to be coordinated with the maps and the topographic data which we assembled.

Our Chapter Planning Committee approached its assignment asking these and other questions:

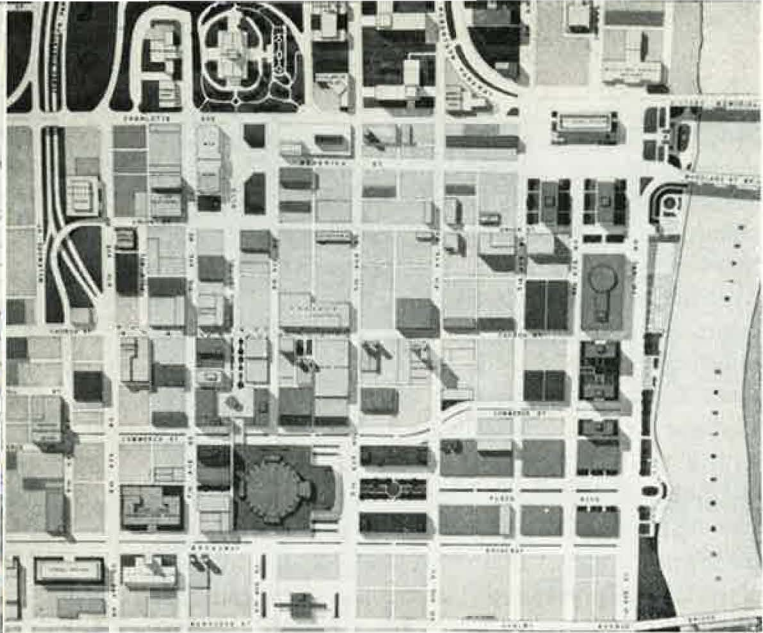
What can be done to improve the function and appearance of the Central City, and thus make it more attractive to more people? What activities are peculiarly suited to location in the Central City—are these properly housed and, if not, what should be proposed? Can land usage be improved? Can real estate values be enhanced? Where is urban renewal indicated within the Central City? What can be done to improve vehicular and pedestrian traffic? Can the Central City provide adequate parking facilities, or must it resort to fringe areas? Can public transit be improved?

This appraisal indicated that a comprehensive plan was in order, that it would probably affect a considerable portion of the Central City and that it would certainly cost a lot of money. In the face of this, the committee felt that the character of the existing city should be preserved as much as possible. Nashville is an old and historic southern town, and the idea of wholesale replacement of buildings or major revision of street patterns was distasteful and impractical. We decided to make the most of what was here and to suggest physical change only where such was deemed essential.

The committee determined two main objectives. First, whatever the plan, it must be practical. If possible, it should lend itself to accomplishment in reasonable stages and not be geared to a single tremendous civic effort and expenditure. Second, whatever the plan, it should be sufficiently provocative to stir community interest and discussion and, we hoped, action.

The committee believed the problem had to be considered from many angles if the objectives were to be realized. The temptation was to think only in terms of urban window-dressing. Although this might appeal to the merchant, it would do little for the traffic engineer, the parking commissioner, or the transit authorities. This window-dressing seemed the initial concern of the Chamber of Commerce. In the end they were delighted to receive a study which not only visualized "what it's going to look like," but also made a serious attempt to solve the basic underlying problems.

The implementation of any comprehensive plan requires a considerable sum of money which can come only from large private interests or governmental sources. Usually this takes years. So the committee decided to show the average merchant what might be accomplished by replacement, renovation, or just plain good urban housekeeping to make his city more attractive. We hoped that competition might thus be stimulated, setting off a chain reaction which would eliminate some of the ugliness and complement the larger comprehensive effort.



Plan of downtown Nashville.

To preserve the flexibility necessary to accommodate future changes and development, the committee decided to generalize its suggestions for land usage in redeveloped areas. Certain suggestions had to be made, of course. But we wanted to avoid solutions dependent on the creation of specific structures for the proper function and interrelationship of the overall plan.

Having established basic objectives and some rules for achievement, the committee turned its attention briefly to mechanics. Only a certain number of bodies could be employed efficiently in doing the planning and the physical work. The committee would have to take the lead in programming and tentative planning. Individual Chapter members would be given assignments coordinated and directed by the committee. As a group, the Chapter would be asked for suggestions and would contribute ideas and criticisms to the basic plan. Finally, the committee would coordinate the work, have it translated into presentation form, write the report and present the project at the appointed time.

So much for basic thinking and organization. This is how we went about our assignment:

First, the committee studied existing and proposed vehicular traffic patterns. It determined the parking capacities of streets, parking lots and parking garages. Second, it surveyed the transit system and its transfer facilities. Third, it analyzed and listed those activities it considered most suited for location within the Central City. Then it determined which of these community activities and needs were inadequately housed. Fourth, it investigated land usage and determined areas and buildings not particularly suited for the current inhabitants. Finally, the committee investigated the ratio of population

to existing areas of retail sales, both urban and suburban.

Then certain projections were attempted based on census and other national and local records. These took into account the probable effects of the Federal Limited Access Highway and the rapid growth of industry on the immediate area. Many suppositions were posed and argued. Out of the general discussions, and from study of the maps and photographs, came a tentative program. This program became a project to be studied by the various members of the Planning Committee and their respective offices. The studies were then presented and defended in committee, and the best points of each were combined to form a tentative basic plan.

At this point the Chapter was invited to criticize and contribute to the plan or to come up with a better one. The invitation was issued on an informal basis. Here the Planning Committee made one of its mistakes. The Chapter should have been approached with a formal solicitation for criticism and ideas. We should have set up a central plan room in which the membership could have had a better chance to express its opinion than was the case. Even so, a fair sampling of opinion was achieved.

During this period of examination and criticism the committee and other members of the Chapter were gathering, sifting and tabulating additional information. This information was tested in discussions with representatives of the Planning, Traffic and Parking Commissions; the transit authorities; the City Engineer's office; the Real Estate Board; the Retail Merchants Association and local governmental agencies. At the same time, the committee became personally involved in investigation. Traffic was tested by exasperating experiences in peak hour traffic jams. Parking facilities were checked for percentage and type of occupancy. Loading zones were timed, and service access ways and areas observed. We tramped the streets and alleys from one end of our compact city to the other. Days later, the committee had first-hand knowledge of all parts of the Central City.

Now the presentation could be planned and its probable costs assessed. The committee felt that two maps and six renderings with accompanying photographs would tell the story adequately. Since the presentation was to be made before several hundred people, we decided to have slides made of the exhibits so that all might see. The exhibits themselves were to be available for individual perusal after the presentation. The committee also felt that simultaneous viewing of an area in its existing and proposed state would mean more to the lay mind than

a series of single slides. So we planned for two projectors and two screens. To guarantee continuity and professional excellence of presentation, it was felt that a professional delineator should be employed to execute all renderings. Both the traffic study and land usage maps were to be done by Chapter personnel. We arranged for a commercial photographer to take all photographs. The committee investigated and estimated the costs of the exhibits, their mounting, and the slides and presented a tentative budget to the Chapter, which was approved. Fortunately, we managed to stay within it.

With the budget approved and the tentative basic plan criticized, the committee was ready for the final push. The plan was redrawn in rough form. Each member of the committee was assigned certain portions to study and develop in detail. These developed portions were then combined into a finished overall plan. Those areas to be visualized in the presentation were photographed. Using the photographs, the committee made rough sketches for the delineator and the cartographers. These showed the items to be emphasized and established the scale and character of the architecture proposed. When the delineator submitted linear perspectives for approval he was asked to submit a palette of proposed colors. These colors were used in preparing the maps and so contributed to a unified presentation.

While the physical exhibits and slides were being prepared, the committee worked on the report. Since this report was to be given at a special evening meeting of the Chamber of Commerce, it was presented as an illustrated talk edited to a twenty-five minute delivery time. Statistics were minimized and used only for impact.

The reaction of the audience, and later of the public, vindicated the Chapter's decision to perform this civic service. The report and accompanying exhibits were widely publicized by the press and by radio and television. In the eleven months since its initial presentation, the report has been repeated for more than twenty interested groups including the Planning Commissions, local and neighboring civic clubs, special committees and AIA meetings. The exhibits formed part of the Chapter's entry in the Nashville Arts Festival, were exhibited by the American Society of Planners at their Southeast Regional Meeting and were on exhibit at the meetings of the Tennessee Society of Architects and the AIA Gulf States Regional Conference.

The Chamber of Commerce instructed its Central Committee to study ways and means of implementation. City officials have evinced interest in trying some of the suggestions advanced. The Re-

tail Merchants appointed a committee to study the plan and report on phases they could back. Civic clubs have volunteered to help.

Our community and our profession have benefited. Almost as important, our Chapter has gained increased solidarity from the experience of pooling its talents and its funds. It takes just pride in having made a civic contribution on a scale far greater than that undertaken by any other professional or business group.

Thanks to "Nashville 1970," members of the Chapter now serve on two city commissions, and appointments to other community groups can be expected. These responsibilities, in addition to service as officers or directors for organizations such as the American Red Cross, Community Chest, the Arts Council, the Children's Museum, the Speech and Hearing Center, etc., are combining to put the Middle Tennessee Chapter, AIA, where it belongs—in a position of responsible leadership and service to the community.

In retrospect, the Chapter feels that its efforts were definitely worthwhile. The project was a great step forward in public relations. City and county officials, the planning agencies and Mr. Average Citizen all have a healthier respect for, and understanding of, the initials AIA.

We think we've started something in our community.

View of Main Street looking east toward the River.



New area to be created by extending boulevard which runs to capitol building.



OLINDO GROSSI, AIA

SCULPTURE

Its function in the new architecture

Design is the basis of architecture; so is it too of all the arts, and perhaps most clearly of the art of sculpture. In all the arts there is a oneness and a unity in design concept that require respect and expression of function, proper use of materials, and the organization of all the parts into the esthetic statement. Design therein excels in order, clarity, simplicity, as good design denies the trivial, the imitative. Therefore, a great similarity exists in the arts; there is a mutual universality. The language, the goals, the means all relate to design. This unity, often quite evident, should be more encouraged between architecture and sculpture for certainly architecture can be more plastic, more sculptural, more colorful.

Based on a paper read at the Architectural League of New York at the occasion of the presentation of the Avery Award in Sculpture last year, by the Dean of the School of Architecture at Pratt Institute.

We readily note that in its function sculpture today relates itself to the new architecture much as its has in history, although perhaps it is now used more in all types of buildings, including the commercial, rather than only in monuments and churches. This relation can be expressed in the following three categories.

Architecture still uses sculpture as a focal enrichment; a necessary spot in the composition, a contrast, a relief. Architecture in this sense often is a background for sculpture.

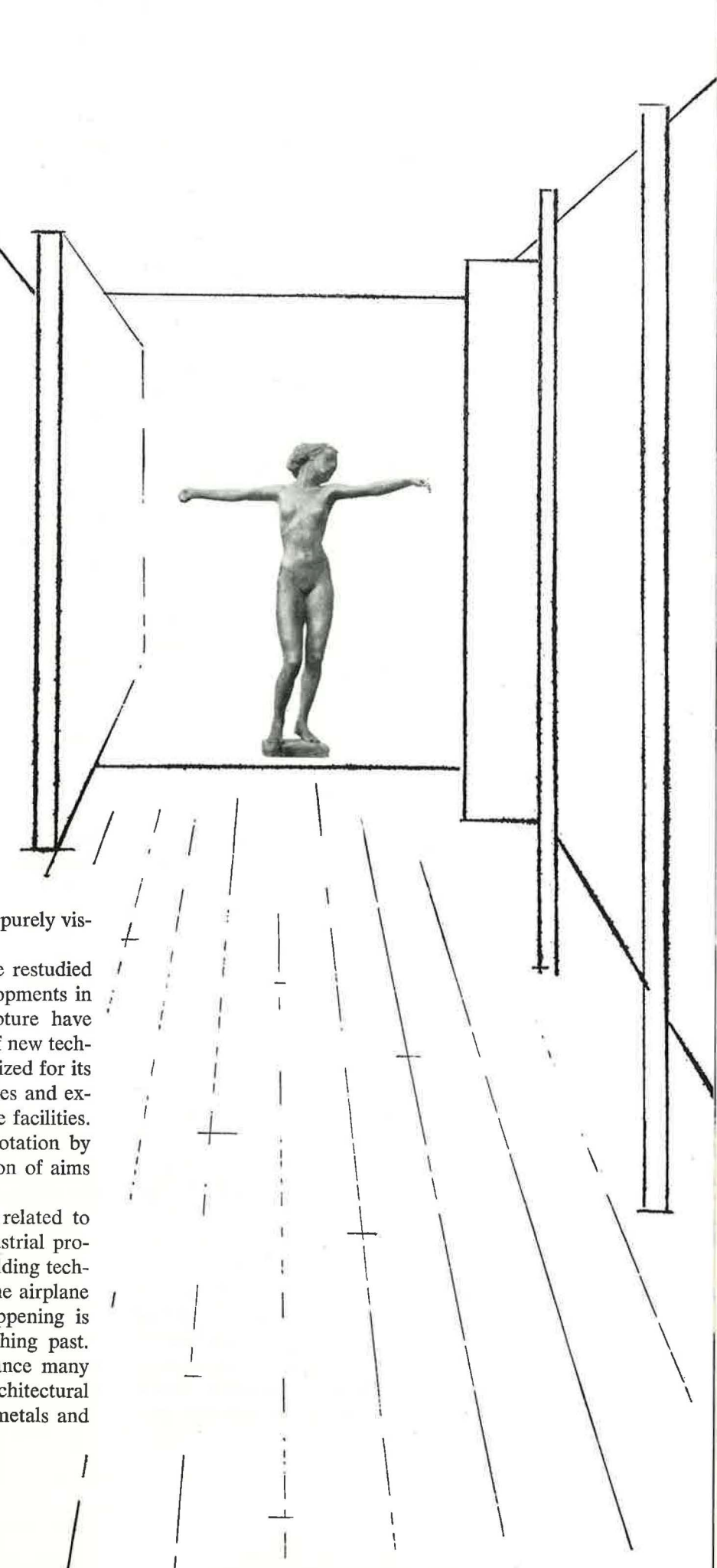
Secondly, architecture sometimes fuses with sculpture; often to a point where it is difficult to tell where architecture begins or where sculpture ends. Sculpture in this relation can be an enriching, warming and humanizing agent, colorful and decorative in a fully integrated manner.

Thirdly, and in a broad sense, architecture may be sculpture, or more sculpture than architecture, where functional aspects of a building defer in great measure to the esthetic. In this sense, form in a

building is purposefully achieved for more purely visual impact.

However, these relationships must be restudied and re-evaluated in terms of recent developments in both these arts. Architecture and sculpture have changed tremendously in their admission of new techniques. Architecture in particular is criticized for its adherence to vestiges of previous techniques and expressions not germane to the new available facilities. In this relation we can well present a quotation by Einstein: "Perfection of tools and confusion of aims characterize our times."

Now these tremendous changes are related to the impact of advanced technical and industrial production, an impact which leaves actual building techniques quite static in relation to those of the airplane and automobile producers. What is happening is happening fast! A swift panorama is rushing past. We have watched the last ten years advance many potential and actual contributions to architectural techniques in the fields of plastics, sheet metals and



other veneers, light structural sections, thin shells, air-conditioning, electronics, atomic power, science of city planning, etc. Entire centuries in the past did not develop as much in techniques. However the artist and the craftsman excelled!

It is essential that the artist excel today—for he is more needed today—and that he emerge from this industrialization of everything, this mass production that is required by economics and by developing science and technology. New techniques of building present new problems, which must be solved—usually by additional scientific and technical compensations. The glass wall with its many attributes always poses the problem of insulation, condensation, convection currents, acoustics, bleaching, privacy, etc. These are solved in part by the architect, but the esthetic remains a question. Here we require the artist.

In the present day, and in conformance with its structural basis and the available technical production, design in architecture is *planar*, respectful of the simple enclosing planes of structure. These planes, I submit, might become still more plastic, more sculptural, through the use of balconies; expressions of structure; elements used for climatology control such as sun shields, louvers, etc.; material textures; color; and even setbacks and projections, which might exist purely for esthetic reasons.

These enclosing planes, pure or adorned, present in the new architecture a new concept of space with certain abstract qualities. A more three-dimensional aspect of the transparent enveloping planes is in evidence. Interiors become exteriors as interior colors and displays are more readily seen from the outside. Interior organization becomes part of exterior plastic design. Space is free of weighty definitions or barriers.

This new space concept is also related to less material weight, less mass, as well as more transparencies and a preference for expressions of volume. Buildings today weigh less, are sound structurally and are much more comfortable than ever before. Achievement of weight should not be an end in itself, nor does one condone the false sense of security it might suggest in a building which is built of cage construction. Lighter materials are easier and more economical to transport, store and manipulate. Solidity, however, may be developed in a different way in sculptured or similar architectural expression. Vestiges of previous wall-bearing design are still applied to heavy-looking bolstered-up corners of buildings for "structural effect" when actually the load is much less at these points. For instance, the corner column carries one-fourth the load of interior columns, one-

half the load of the exterior columns. The shedding of these obsolete forms, and others, is indeed a slow process. It is difficult to progress in any art without dragging anchor with obsolescence.

Too, it has often been pointed out that as more areas and countries in the world (Africa, China, India, Indonesia, etc.) come to desire technical improvements, appliances and gadgets, there will be a tremendous increase in manufactured material. At present the have-nots greatly outnumber the haves. There may not be enough material to be used lavishly by all. Products will need to be thinner and lighter.

Even now there should be more expression of thin, planar architecture. The present thin material available makes a better shelter; thick and heavy glass roofs leak! Too, buildings should *look* paper-thin because they *are* thin-skinned, for sheets of metal, plywoods, plastics and other veneers hang on a skeleton. The veil may, in time, supplant the involved sun-controlling vertical and horizontal louvered wall now being used for insulation.

These light planes are generally assemblies of pre-fabricated component parts, i.e., wall sections, windows, panels, etc. A modular repetition is stamped out because of the process involved, and accepted because of economics. As pre-fabricated components are repeated and refined and increased in use, a great uniformity occurs—and should occur. An orderly quality is inherent in this process, and it, respectful of the architectural planes and functions, presents an effect of geometrical correctness in the space divisions of the planes. The future will need to make available more pre-fabrication of components, for poor management of labor and materials at the job makes costs well-nigh prohibitive—the ghost of "Mr. Blandings Builds His Dream House" still stalks about ruthlessly.

The function of sculpture in this progressively materialistic culture, where technical correctness is so valued, is related to the need for other enrichment as a most essential and integral part of architecture. Humanized relief is needed from technical achievement. Satisfaction does not necessarily come from the ability to do things. Mass production and pre-fabrication techniques *per se* can supply only quantity if shorn of the delight of the craft. Nor is the solely economic answer a real solution.

In his philosophy of clear, articulated elements rather than superfluous pattern, and in his purist approach to technical expression, Mies van der Rohe depends on studied proportions, refined details, beautiful materials, and sculptural enrichment. The Barcelona pavilion with Kolbe's Dancing Girl and cer-

tain IIT sketches with sculpture by Henry Moore are excellent examples of sculptural unity with architecture. Now, when a frank purist expression is practiced without sensitive care, we have only the machine which itself does not satisfy human physiology and does not offer a biological relationship, a warmth. Sculpture or sculptural feeling is truly required to help satisfy man's need to be related to a sensitive physical and emotional environment.

Sculptors and architects should be sympathetic to the converging forces that tend to describe buildings today. These challenges, I submit, are most stimulating, and therefore are most welcome, because the urgency of solution of developing, rather than static, problems should kindle fiery enthusiasms.

It is not my intention to indicate solutions to sculptors. I would note, however, that the greatest latitude of all time is available to them. It certainly is possible to complement thin-veneered structures with linear, lacy and airy forms, or, even, contrast them with fully developed figured forms. Materials also abound—wood, plastic, stone, metals, etc., and each has a readiness to be subjected to a gamut of varying treatments, if not torture.

Like architecture, sculpture now too has greater three-dimensional latitude where its statement can be related directly to both exterior and interior. Structural shapes and details also develop a sculptural quality, and sculpture in a similar manner has a healthy respect for structure.

A still greater spatial opportunity presents itself to sculptors as planners and architects become increasingly active in town planning programs. Groups of buildings will also continue to require sculpture, such as housing, shopping centers, etc. On Long Island, the Roosevelt Field Shopping Center, now practically complete, is a good example of a commercial group of buildings treated with artistic care.

There is a newly-earned freedom available in terms of spatial concepts, materials and techniques, flexible planning, town planning, and so on—a freedom, however, immediately disciplined and constrained by a lessening of craftsmanship in favor of the calculation, efficiency, flawlessness, simplicity, of the product of the machine with its ever faster and faster production.

This should not be accepted as apparent paradox, because the constant run of new materials and techniques is exciting and fascinating, and, in the hands of the artist, can be made to vitalize and humanize the environment. Recently, there has been some discussion about the development of structural plastic wall panels that will support the floors and ceilings above, that will enclose space, and that will serve as window walls so that where a window is not



desired the plastic sheet may be rendered opaque by mounting wallpaper on the inside. In some form or another this type of change may come sooner than we expect. The esthetic may be jolted, but what good fun it really is to be practicing in a time of such rapidly evolving techniques.

Now design in architecture and sculpture will move ahead or die. Its new life must come from the tremendous changes in the social and technical fields. We should be optimistic enough to believe that the twentieth century can properly solve its design problems with a real understanding and appreciation of the merits and facilities of this century; and that these problems will encourage and embrace the proper interdependence of the facilities of the arts.

I close with the plea I made at the beginning—that there be a oneness, a unity, between architecture and sculpture, that both are exposed to the same urgencies, which if clearly understood, should be gainfully exploited for mutual benefit.

American architecture, to which the world now looks for leadership, is only as good as its solutions of its current needs in terms of a genuine esthetic. Sculpture can contribute invaluable assistance.

ROBERT I. CARSON, FAIA

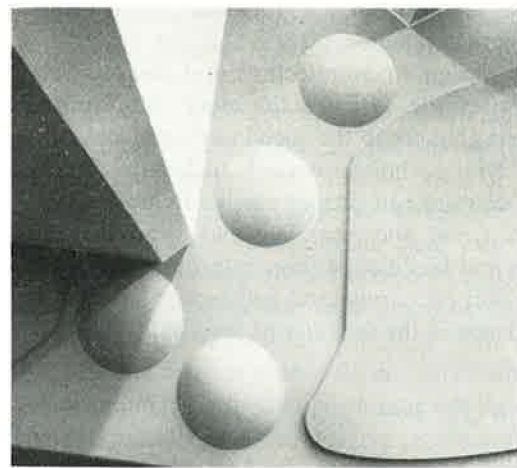


Gerrish Milliken Mill, Pendleton, South Carolina. Detail of entrance and offices. Photo by Gottscho-Schleisner.

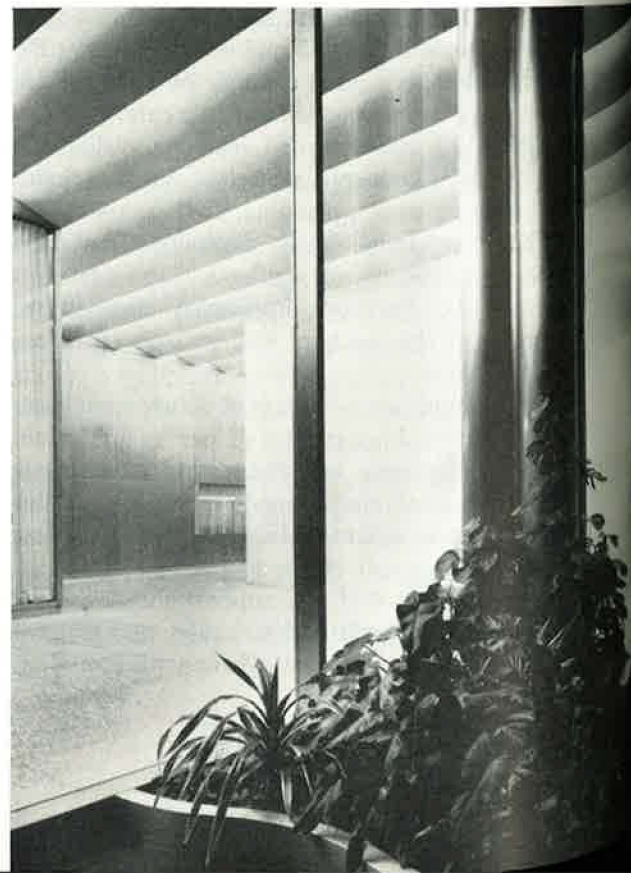
Carson & Lundin, Architects
New York City

Opposite. Home office of Liberty Life Insurance Company, Greenville, South Carolina. Detail of Entrance. Photo by Ezra Stoller.

Below. Lobby of Esso Building, Rockefeller Center, New York City. Photo by Ezra Stoller.



Studio 6-D, National Broadcasting Company, Rockefeller Center, New York City.



FRANK LLOYD WRIGHT

The long and incredibly productive career of Frank Lloyd Wright ended just two months before his ninetieth birthday. Many eulogies will be written, many books will be printed, many judgments will be passed. But his place in history has long been obvious and secure—as he himself well knew and often said. Here was the man who, fifty and sixty years ago, before many of his critics and admirers were weaned, did most of the basic thinking for the whole modern movement in architecture. He had his teachers, of course, but he synthesized the late nineteenth century philosophies of architecture into a working gospel, which he preached and practiced—against the most fearful odds and hardships in his early years—until he won almost undisputed acknowledgment of the rightness of his thinking. Even his detractors have had to admit the great fertility and creativity of his genius—and genius he truly was, our great architectural genius of modern times. Never a joiner, always the magnificent non-conformist, the Institute paid Mr. Wright its highest honor in 1949, its Gold Medal of Honor. The American Institute of Architects joins the world in respectful homage to a very great man.

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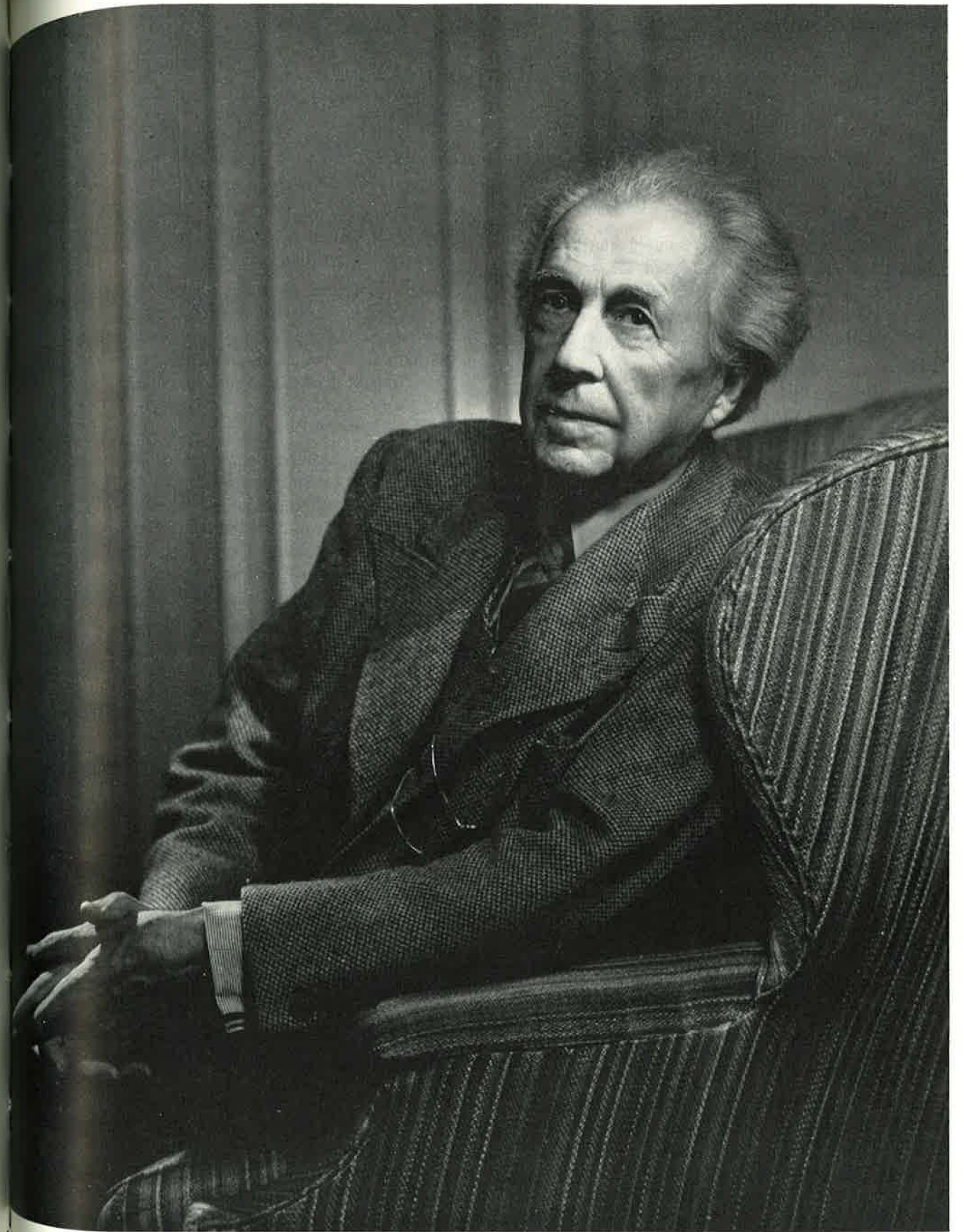


PHOTO BY KARSH

Frank Lloyd Wright's Funeral

APRIL 12, 1959

IMPRESSIONS WRITTEN ON AN AIRPLANE BY JOHN NOBLE RICHARDS, FAIA

IT WAS a bright and chilly Sunday afternoon. Taliesin East appeared saddened, the smoke from its massive chimneys curling lazily up to the sky, as the famous house looked out over and guarded the Wisconsin valley.

Two beautiful horses stood resting in the courtyard, hitched to a little red dray, which was to carry Frank Lloyd Wright to the chapel and his final resting place.

Friends and neighbors gathered, shortly before five o'clock, at the old chapel, which is located on a dirt road about three-quarters of a mile from the entrance to Taliesin East. They assembled quietly and talked in hushed voices.

The walls and roof of the chapel are covered with weather-beaten shingles, mellowed to a warm gray. It nestles in a grove of tall and stately pine trees, which seemed to give forth a saddened tune as they moved in the late afternoon breeze.

The old cemetery adjacent to the chapel on the east and the south, is the burial ground of many of Frank Lloyd Wright's relatives. His mother's grave lies directly to the south of his. Old tombstones bear the names of Lloyd, Jones and Wright. The area immediately surrounding his grave was covered with pine boughs, yellow chrysanthemums, and bird of paradise flowers mingling with the boughs.

The interior of the chapel is extremely simple and plain. It was decorated with pine boughs on either side of the platform. Large candelabra with yellow candles flickered in the twilight. The chapel seats about a hundred and fifty in its low plywood pews. The odor of the pine, the candles and the new wood of the pews was pleasant and relaxing. It is heated by a small pot-bellied stove, which was kept going with some difficulty.

The chapel bell, pulled by a rope at the rear, started to toll about five o'clock. Some of the friends gathered there,

left their seats and stood outside between the road and the chapel.

The funeral procession was now visible as it came down the hill from Taliesin East. The little red dray, drawn by the two horses and driven by two of his students, carried Mr. Wright's casket. It was covered by a rose-colored fabric and a single pine bough.

Mrs. Wright, members of the family and friends followed the catafalque, walking behind it, as the procession moved slowly down the hill toward the highway. The horses seemed to sense their responsibility as they moved slowly along the road.

Turning off the highway and on to the dirt road, the procession moved to the entrance gate of the chapel. Friends lined the east side of the walk as Frank Lloyd Wright was carried up the steps, into the chapel, and placed on the platform.

The minister of the First Unitarian Church of Madison waited until all was quiet before he spoke. His message was simple and thoughtful, and he read portions of the Bible which mention truth and genius.

The six tall bearers of the casket carried Frank Lloyd Wright's remains to the cemetery. As the casket was lowered into the grave, one of his students read from Wright's autobiography. As it was read, Mrs. Wright repeated the lines, to herself, with the reader. The minister read the final words.

The pine trees swayed gently in the twilight, as the relatives, friends and associates of the great man moved slowly away from the chapel toward their homes.

*His place in history is secure.
His continuing influence assured.
This century's architectural achievements
would be unthinkable without him.
He has been a teacher to all of us.*

Do You Know Your Documents?

WILLIAM STANLEY PARKER, FAIA, Consultant to the Institute on Contract Procedure

Following the close of World War II there was a steady upward trend in the cost of construction. An almost inevitable result was a series of Contractors' bids that exceeded, often substantially, the Architect's preliminary estimates and the Owner's anticipation. Doubtless in many cases compromises were developed that permitted the low bid to be reduced sufficiently to let the work go ahead. In many cases the cost was beyond the Owner's means and the work was abandoned.

In many cases the Owner's need was imperative and he felt that the Architect had failed in his agreement to develop a design that could be built within his estimate of reasonable cost, and entered a suit against the Architect to recover what he had already paid his Architect and to be relieved of any further payments. Such suits always required proof that there was a valid agreement to keep within the estimate of cost or an agreed limit to the funds that were available.

In the case of a private owner the terms of the written agreement for the Architect's services controlled the decision. If the agreement had been based on one of the AIA Forms of Owner-Architect Agreement, the provisions of Article 8 of Forms B-101 or B-121 (formerly A-102 and B-102) formed the Architect's claim that he did not guarantee his preliminary estimates. He could claim that he had no control over the trends in the Contractor's costs, the competitive conditions of the construction market at the time the bids were secured, or the general trend of post-war inflation. The provisions of Article 8 were clear as to his refusal to guarantee his estimates and that at no time did he ever state to his Client that he agreed to keep within any cost limit named by the Owner. The Owner might claim that there was collateral evidence show-

For Instance:
*The
Architect's
Responsibility
for Costs*

ing that the Architect did agree that the cost would not exceed a certain stated limit.

Court decisions have sometimes accepted and sometimes refused to consider parol evidence that conflicted with the terms of the written contract. Where the evidence clearly indicated that there had been an agreement that the cost would not exceed a stated limit, the Court has decided the Architect was not entitled to any fee and should return any payments already made. Where no such agreement is shown to exist the Architect was entitled to payments according to the agreement up to the time the work was abandoned.

On public work the decision is related generally to a specific appropriation voted for the project. In such cases the appropriation inevitably controls as it is the legal limit of the funds that can be spent by the public agency involved. In a case involving an addition to a Court House, the scope of the alterations had been gradually increased and the low bid was greatly in excess of the appropriation and the Court held that the work could not proceed and that, therefore, the Architect had not produced plans of any value to the Owner, and was not entitled to any fee. The Owner sued to recover a first payment but later decided not to press this claim.

Parol evidence, involving oral understandings, will generally not be allowed by a Court as against a written agreement. Collateral written evidence would be another matter. Many Architects tend to refrain from sending the Client letters confirming current decisions. Such evidence later on, when some dispute arises, can be very valuable and Architects have often suffered losses because they lacked such clear evidence of the progressive decisions agreed to by the Owner during the development of the plans.



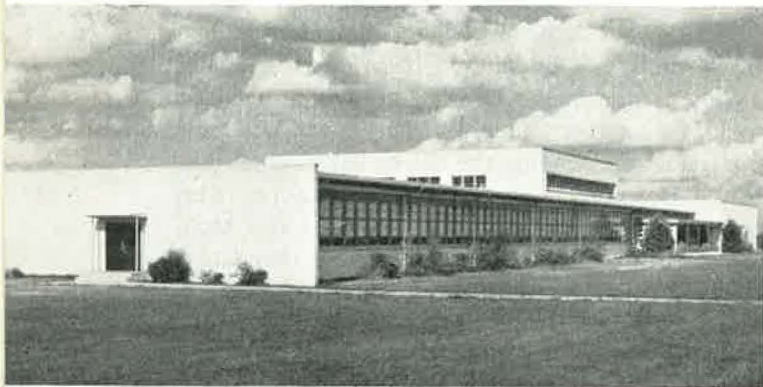
JOHN H. RITCHARD

DIRECTOR OF THE GULF STATES DISTRICT

FOR MANY YEARS prior to the war, while we were living in Washington, D. C., I thought it might be an interesting experiment to try the practice of architecture in an area not yet served by the profession—to be exact, a rural agricultural area between Memphis and Greenville and Greenwood, Mississippi, on the Mississippi River approximately forty miles south of Memphis. I am sure that when I thought of these things I never dreamed that they would ever come to pass. However, when the war was over, I found that I must re-establish myself some place, and so it happened that we finally decided to move back to Mississippi and to Tunica, where I have had the opportunity to put my ideas into practice.

You see, there was no architect at that time in this entire area, and I found I had to undertake quite an educational program, not only as far as potential clients were concerned but also to assure all sorts of people—like manufacturer's representatives and engineering establishments—that we were in a real professional practice in a community of only fifteen hundred people. Actually, the area of our practice

Higgins Jr.-Sr. High School, Clarksdale, Mississippi.



is generally not more than a two-hour drive from Tunica, which indicates that we work in a radius of approximately 100 miles from the office.

Of course, I anticipated many problems and I found many more I was not aware of, so to get myself properly oriented and find out the real nature of the situation I practiced for the first year with a few jobs which served me well in getting the feel of things in connection with the building practices of the area. Of course, I found that one of my major problems, and one that still haunts me occasionally, is that people just cannot seem to realize that we are here and practice as professionals. They apparently have the idea that one has to be in the big city to practice architecture. Well, I have been to the city and don't dislike it, but I have found very satisfactorily that one can practice architecture in a rural community—for to me architecture dwells in the mind of man and it can be practiced anywhere that man happens to be, and he is certainly not limited to the boundaries of large and congested cities.

When we came here I found northwest Mississippi an architecturally starved and illiterate area served largely by the lumberyard carpenter who acted as designer, builder and in some cases financier for the small commercial and residential structures of the community. Of course, one very large and important factor was left out of his little packaged deal—architecture. Over the years, architects had designed the school building, the courthouse and some factories, and this gave credence to the belief that it was necessary to go to the city for an architect, for if he was any good at all he would never be found in a country town. They may be right, but we're working awfully hard to break down this theory. Therefore, to combat this we have had to work twice as hard to get half as far; not only with our design but in our construction methods—for they

obviously cost more money than the poor work that people had been accustomed to. While there has been a big improvement there is still much to be done to uplift, not only the design, but also the structural compliance with established codes.

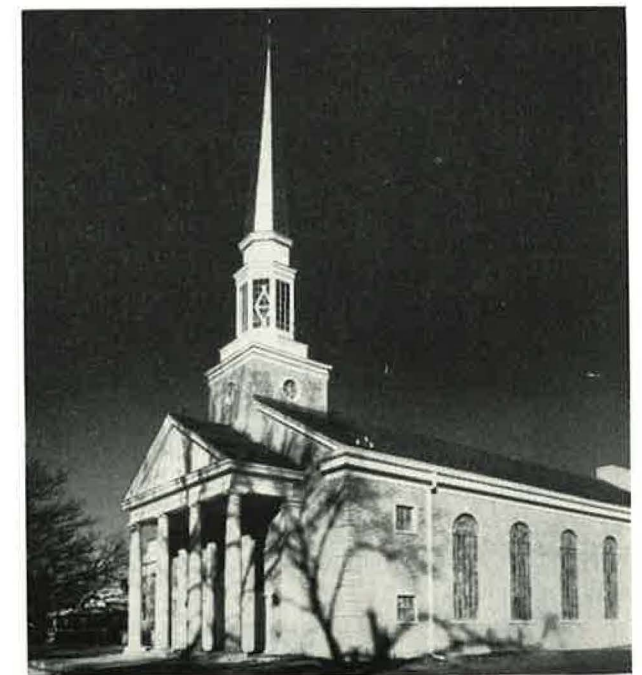
In the development of my practice I found that I had to cover the entire span of Mississippi architecture, from the ante-bellum period, through the various revivals up to the point where we find ourselves today. Only thus could a reasonable amount of contemporary work be accomplished without creating a furor. This is particularly true with schools, churches, industrial plants and commercial work. The residential work in this area is still traditional in the main—at least in spirit. Therefore, to go through this history of architecture in twelve years the client had obviously to be informed and this could only be done by the very slow process of change. By helping to create an informed public, the appreciation of architecture and the growth of a desire for good architecture is manifesting itself in the community.

This has brought about an unusual type of public relations, which for many years has been carried on only by myself, partly because we always need new work and partly because I felt in a way that it was our responsibility and ours alone to spread the gospel of better design. To accomplish this I found the best medium to work through was to join everything, so it isn't astonishing to find that I have been president of the Rotary Club, Commander of the American Legion Post, member of the local School Board, established the Chamber of Commerce, member of the Church Vestry, District Chairman of the Boy Scouts and so on. I am glad to say that this philosophy has been taken up by the several young men who left me after having received their certifi-

cates to practice architecture in Mississippi. They have moved to various small communities in the state and have established themselves in the same type of practice. They are all members of The American Institute of Architects and are doing creditable architecture. I find that these men are doing what I tried to do in my community for the recognition of better architecture. When they leave our office to go on their own, my only advice to them is to "do it good and do it honest," for this is the mission I believe we have instilled in them. There is hardly a small village, a community or a plantation in this whole area that has not felt the influence of the architect in the past twelve years. One way that I know this to be true is because so many times, when introduced to strangers, I hear the now familiar phrase "Oh, you're the architect." I love it for it means that my dream of bringing some design into our area is coming true. At least I have proved to my own satisfaction, and perhaps for others as well, that one does not have to live in the city to practice architecture, for beauty—natural as well as architectural, can certainly be abundant in the countryside.

The whole thing has become, as it really was from the start, a creed by which I try to live my life with people, with all things and with architecture. I emphasize this belief because I know that many architects, whom I know well, feel that good architecture can only be conceived in the city—and that it must be big. Well, many years ago I learned that it didn't have to be big to be good.

First Baptist Church, Senatobia, Mississippi.



From the Executive Director's Desk:



Last summer the President of the Institute, John Noble Richards, FAIA, accompanied by Mrs. Richards, Mrs. Shackleton and the Executive Director went up to the Hill to testify on behalf of Representative Thompson's bill—the initial step toward obtaining for the nation's capital what immediately and unhappily had been designated as a "Cultural Center."

The bill was designed only to make it possible to secure a certain piece of ground for the purpose. Funds for the realization of a cultural center are apparently to be raised by any means other than an appropriation from the Congress of the United States.

The hearing was friendly, almost jocular at times, and nothing untoward happened to our witness. The session was enlivened by the pungent testimony of Representative Fulton of Pittsburgh who, with a fascinating combination of the erudite and the earthy, enlightened his colleagues on some of the facts of cultural life, its care and nourishment. Everyone admired the adroitness and wit of Representative Thompson who appeared on behalf of his own bill to be cross-examined at length, not by enemies of culture, for who would eschew culture, but by those who for reasons (some apparent and some obscure) sought to trap and embarrass Mr. Thompson. However, as the Congressman is a clever hand at the game of Capitol repartee, he came through in good style. The boyish-looking Texas Representative Wright impressed the gathering with his sincere conviction that what could be done in Fort Worth certainly should be accomplished in the nation's capital.

For months and months nothing happened. Finally the Administration got around to appoint-

ing a commission. There always has to be a commission and this one, which includes a pleasing array of names, will enjoy the enthusiasm, energy and ability of the Honorable Corrin Strong, our former Ambassador to Norway, and an active gentleman. Both he and Mrs. Strong toil unceasingly in order that the good things of life may be brought to all who would enjoy them. So there is bright promise of accomplishment.

The word "culture" has an unhappy and distasteful ring. We are all for culture, but why do we have to use that ungainly word with its connotations of a more pedestrian pursuit of arts and letters and music? Culture has meanings which I am sure the Congressman never contemplated. For instance, a cultural center could mean a laboratory for the production of fungi and bacteria, or it could even mean a commercial mushroom house in Chester County, Pennsylvania.

Years ago when the parkway was first cut through Philadelphia from City Hall Square to Fairmount Drive, one of the earlier of the drastic city planning performances antedating by several decades the freeway networks and other contemporary major surgeries, the architects for the art museum, Trumbauer, Zantinger and Borie, conceived the general rise at the west end of the parkway as a sort of art center. I am sure the word "culture" was not used. My recollection is that the project enjoyed the title of "the Acropolis of Philadelphia." Now this gesture, though definitely eclectic with its charming Edwardian flavor, is far more enjoyable than to designate an enclave dedicated to music, the arts and other lofty pursuits as a "cultural center."

There is some talk of there being a competition for the design of the Washington center and I

sincerely trust there will be. But before a competition for the design I would suggest a competition for a better title. The happier phrase should be inspirational, intriguing and apt. In any event, it should serve to remove forever the dreary implication that a "cultural center" inevitably connotes—an implication which could be a real detriment.

It is rumored that the Commission may engage to serve as its Executive Director a man well known to us for his imagination, ability and daring, and in this event we could look forward to achieving for the capital city of the United States the cultural center which it should enjoy. Their job will be to materialize a center for a city whose cultural assets are many and tangible and require coordination and emphasis.

Paris, capital of light and of a country which has given much to the world of art and intellect, a city to which it is rumored good Americans will go when they die, is in itself a cultural center of magnificent area and infinite capacity. Its sub-centers are legion, ranging from the French Academy, that peak of erudition with its sonorous pronouncements to that source of entertaining iniquity, the Folies Bergère. Between the two there is opportunity for practice of any form of culture. But Paris no longer is the capital of the world and London is fast losing claim to that title. Like Paris it too has no end of opportunity for the pursuit and enjoyment of the graces of life.

True, there are American cities boasting great collections of art, supreme symphony orchestras, famous libraries and universities whose architectural merits and extent of curriculum exceed any others (but alas whose educational standards fail to measure up to the average small European college). But not a single American city has the opportunity and the obligation that Washington has to become the cultural seat of this country. Some cities cannot detach themselves from their roles as frenetic money markets. Others are too self-centered and insular and others too avid for reputations as centers of commerce, industry and cash wealth.

In Washington there is good theatre, sufficient at least for the average intelligent citizen. There is good music and in fact a great deal of it—a National Symphony Orchestra of no mean stature, a National Gallery Symphony Orchestra capable of competing with the best of the smaller symphonies, and excellent small chamber music groups. There is an opera society backed and led by courageous people of great imagination which has already brought to Washington a higher calibre of opera than many other cities enjoy. There is an abundance of art. There is beauty. There is the atmosphere of high-

powered worldwide political direction such as must have been enjoyed by Rome and more recently by London, bringing with it the dignity which befits the capital city of the greatest country of the world.

Washington is the gathering place for the policy-determining people of the United States and of the world. I am not talking only about the Congress, I am talking about the innumerable associations that have their headquarters here and the major societies such as the National Science Foundation, the National Geographic Society, the American Council of Learned Societies and, if you want to look at the conservative side, the United States Chamber of Commerce which is still a potent factor in perpetuating the American way of life. The labor unions have been moving in here one after the other, building enormous marble and limestone palaces, and, by so doing, creating another facet of the capital structure. The Associated General Contractors of America has just completed a handsome new building for itself and other organizations are following suit.

It can be assumed that within the foreseeable future any profession, vocation, or persuasion which seeks to have its organization maintain its prestige in the competitive world of today, will endeavor to locate itself in Washington, if it has not already done so.

So it remains for Washington to assume its rightful place in the world of arts, letters and science, as befits the leading city in the world of government and, incidentally, in that important adjunct to any democratic government—the home of the American association, professional, trade and labor. It is here that the associations congregate to know each other, to work and deal with each other.

I should like to emphasize to all of you again that the foremost among those organizations which lead the economy in their respective spheres is The American Institute of Architects. It is housed in a structure which it is fast outgrowing. Unless emergency or tragedy strikes us, it will be incumbent upon The American Institute of Architects to increase its facilities and to add to its immediate entourage those other organizations most properly identified with it. So we too may find ourselves forced, not altogether unwillingly, to realize for the architectural profession a setting and an association which of itself will form its own cultural center and thus will contribute to the prestige of our capital city.

Edmund D. Purvis

Library Notes

Landscape Gardening and Gardens

AT THE TIME of writing it is spring and the lovely Octagon garden is nearly ready for its annual display of color. What more natural than a list of books on gardens and landscape gardening? The present list includes the more recent books on the subject with a selection from the older titles in the Library's collection. All are available to corporate members of the Institute on the Library Loan Service—fifty cents for the first volume, twenty-five for each additional.

G.E.P.

AMMANN, GUSTAV

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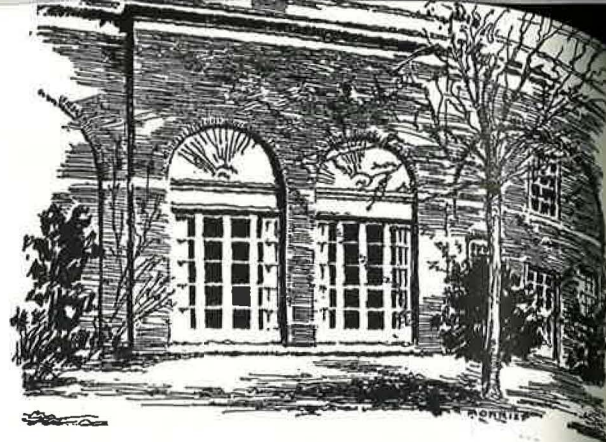
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G.E.P.

BOOK REVIEWS

The Golden City. By Henry Hope Reed, Jr. 160 pp. illus. 7 1/4" x 10 1/4". Garden City: 1959: Doubleday & Co. Inc. \$5.75

The never-say-die Henry Hope Reed, Jr., has really done it this time—a full-fledged book preaching his gospel of the return to Roman classicism. And, in spite of his absurdities, this reviewer cannot but recognize the validity of some of his criticisms of contemporary architecture ("Picturesque Secessionism," he calls it). Yet much of the time he is beating a dead horse, talking about a phase through which contemporary architecture passed ten or twenty years ago, such as the following:

"The rules of the game call for strict obedience to the exigencies of construction, plan, and materials, each one fixed in a special context. Construction must be revealed, the plan must determine the elevation or be 'expressed' on the exterior, and the materials can be employed only 'in their nature.' If some insist on using ornament, it must be timidly present and have no reference to the past; instead of ornament, greenery in the form of bushes, vines, and trees is permitted. It is a game which is played under the closest supervision of editors of art and architectural magazines, museum officials, art critics, professors or architecture, and successful Modern architects."

The thoughtful reader cannot but agree with his appreciations of some of the buildings of the first quarter of the century—Grand Central Terminal, the Cunard Building and the late Duveen's—all in New York, and the buildings of Arthur Brown, Jr., in Washington and San Francisco. There was a willingness to spend money in those days on sculpture and mural painting—in fact the architect conceived his design from the very beginning as including those accessory arts. Now there is a big fuss made over the inclusion of a spot of bas-relief or a mosaic mural.

It isn't just a matter of money, it's a matter of point of view.

So we give Mr. Reed credit for a few good comments; his thinking is good, even though in the wrong direction—like "wrong-way Corrigan's" navigation. But now for his absurdities: He has designs all ready for New York, Washington and San Francisco (apparently the only cities worthy) in the grand Roman manner. Columbus Circle surrounded by a great arcaded Roman structure full of galleries and grand staircases, thronged with people with nothing else to do, apparently serving no purpose but to make work for stone carvers, ornamental plasterers and decorative painters (which the unions couldn't furnish now anyway). The Grand Opera House has a proscenium swiped from Bernini's baldachino over the altar in St. Peter's—and fully as high. The housing sketched for West 125th Street is fully twenty-five stories high, with hundred-foot engaged columns and courtyards like deep pits. The whole conception is monstrous, not human—truly ancient Rome reincarnated.

He includes a 46-page history of "Picturesque Secessionism," tracing its beginnings from Viollet-le-Duc, which is pretty good—from the Roman point of view.

The book jacket says "A Pictorial Argument in the Raging Controversy Over 'Classical' vs. 'Modern' Fashion in Architecture and Other American Arts." No, Mr. Reed, I'm afraid only you are "raging"—although in your pleasant and well-mannered way. And there has been no controversy for many years.

"The advent of the classical is not far off, and we would do well to prepare for it." Devoutly, Mr. Reed warns us to prepare for the second coming.

It is a handsome book, with good typography and plenty of clear offset illustrations. It is to be regretted that the author's style leaves something to be desired. His pronouns often seem to have no antecedents,

and he is given to rambling as thoughts come to his nimble mind. But read the book; it may stimulate your thinking, it may also heighten your appreciation of the "American Renaissance"—certainly it will irritate you, which is a stimulus to something. But don't let yourself be persuaded to put your money on Mr. Reed's Roman horse. It'll never finish.

J. W.

Bridges And Their Builders. By David B. Steinman and Sara Ruth Watson. 438 pp. 5 3/8" x 8". Illustr. New York: 1957: Dover Publications, Inc. Paperbound. \$1.95

Some months ago "Bridges and Their Builders" came my way for review, but fearing pedantic tone and technical jargon, both incredibly tiresome to one who barely scraped through calculus (with considerable aid from the professor), I kept the volume on the back of the desk and in the back of my mind month after month. But there came a time, when facing a long cold train-ride to New England, I put the book in my pocket to relieve the tedium of the Pennsylvania Railroad landscape. I found when I started to read that my apprehensions were unfounded on both counts.

"Bridges" is not only fascinating from cover to cover, full of information for those who think of bridges only as things that go across other things for various purposes, but it is also well and skillfully written. I found it absorbing, even exciting. It was a welcome relief to read of real adventure, real development, real romance and real design in contrast to the synthetic substitutes which engage too much of our attention.

Bridge designers from prehistoric times were men of daring and ingenuity, whose lives were fascinating and whose accomplishments equal, if they do not actually exceed, those of the men who are now reaching out into the void. Perhaps

bridge builders were the first space explorers.

"Bridges" will doubtless make many of its readers decide that were they to live their lives over again the art and vocation of bridge design and bridge building would afford entrance to that world which might have been, and which is, every man's secret love.

Dr. Steinman is probably the world's greatest living bridge engineer, his most recent work being the Mackinac Bridge in Upper Michigan. This book is a paperbound reprint of a book first published in 1941, revised and with additional material added to bring it up to date.

EDMUND R. PURVES, FAIA

The Works of Pier Luigi Nervi.

By Ernesto N. Rogers. 142 pp. illus. 11" x 8 $\frac{3}{4}$ ". New York: 1957; Frederick A. Praeger, Inc. \$10.00

In a moment of clear insight concerning the beginnings of esthetic experience, Herbert Read* realized that two primitive handicrafts aided man's developing consciousness of form and pattern—pottery and basketry. Pottery evolving under the hand from shapeless clay (it is a wonderful sensation) and the varied structural patterns made by weaving and lacing of filaments into self-supporting shapes—this is how our earliest ancestors first learned concepts of volume and intermembering.

Tens of centuries of practice and theory intervene. Pier Luigi Nervi's structural architecture stems from these same two concepts expressed in the plastic form of concrete and his marvelous sense of patterns based on forces—basketry of noble quality and scale.

From Nervi's brief, significant preface, Ernesto Rogers, editor of *Casabella* and with no small reputation as an architect himself, picked out the identical sentence that appealed to this reviewer as the key—Nervi speaking: "... My belief in the inherent esthetic force of a good structural solution was never shaken. . . ."

* *Icon & Idea* (Harvard University Press 1955)

Rogers, from his intimate knowledge of his friend, states that he is an artist against his will "... under the illusion that some of his most brilliant solutions have been reached solely by the disciplined and precise mind of an engineer. . . ." and that he mistakenly believes himself neutral where esthetics is concerned.

We know little about the process of the design of beautiful things. Nervi himself believes in an intuition firmly based on knowledge. This fine collection of all his work is evidence.

There is a structural elegance in some of these buildings: the six great hangars, the Turin exhibition halls, various roofing systems, the stairway of the UNESCO secretariat—an inevitability of design which is almost unique today. Perhaps it comes from the fact that in his most characteristic work the great form can be analyzed. It is a synthesis of meticulously designed repetitive precast units, visually interesting in themselves but subservient to the great form, making it economically possible and eminently buildable. Torroja, the great Spanish engineer, works principally with the great form and this synthesis is not so evident.

Another of Nervi's characteristics reveals itself in the structural form—following-force of the UNESCO conference hall ceiling—those concrete waves—and in several structures for industry. It is a clear exposition of stresses made legible.

E. P.

At Home With Tomorrow. By Carl Koch, AIA, and Andy Lewis. 208 pp. illus. 10 $\frac{3}{4}$ " x 7 $\frac{1}{4}$ ". New York: 1958; Rinehart & Co. \$6.95

This book is more than an engaging and valuable record of certain personal architectural experiences in these transitional years. House-building, as all are aware, is evolving from a process in which craftsmen handfit 30,000 building parts on the site—toward shop-fabrication of larger exponents, many of them, in good examples, blessed with an intelligent degree of interchangeability and capable of yielding practical plan variations.

Carl Koch, and his book-collab-

orator Andy Lewis, have produced a freshly-written, well-illustrated account of trial, error and success in house-prefabrication. Examples range from semi-custom houses in cooperative groups in Boston suburbs, thru the folded unfolding *Acorn House*, the brief but educational tie-in with promoters of *Lustron*, that changing porcelain-enamel prattle, to *Techbuilt*, a mature architectural idea—and end with notes on work-in-progress with steel.

If that were all, the book would be of interest and value to many architects, builders and prospective owners. Koch goes further, however, and reveals sincere dedication to solving a social problem. He states it with disarming simplicity: "... how to help people get into good houses. . . ."

This is done without an echo of the meretricious solicitude for the forgotten man which characterized prewar thinking—the social consciousness of the interested party.

Koch sees it as an architectural problem and sees it whole: The architect must concern himself with more terms of the equation if he is to solve it. He calls on him to study and master fabrication-machinery so that its products will not be without the qualities an architect can give them. Most importantly (and almost alone among noted contemporary architects) he recognizes man's needs as an individual and shows how this can be served by recognition of "... the architectural significance of the things which happen in and to a house after it is first drawn and first built; and to forswear the presumption of trying to prescribe them. . . ." "... the complete architectural answers. . . ."

This makes our man grow taller. E. P.

Civil Engineering Handbook. Leonard Church Urquhart, editor-in-chief. 1184 pp. illus. 6" x 9". New York: 1959; McGraw-Hill. \$17.50

Fourth edition of a standard manual. Eleven sections give concise coverage, from routine technical data to advanced methods of current practice.

Thirteen contributor-authorities present chapters on surveying, transportation facilities, mechanics of materials, hydraulics, framed structures, steel design, cement and concrete, reinforced concrete, soil mechanics and foundations, sewerage and sewage disposal, water supply and treatment. Each chapter includes selected references and there is a comprehensive 28-page index. The binding seems light for such a heavy volume.

Toward New Towns For America. By Clarence S. Stein. 264 pp. 8 $\frac{1}{4}$ " x 10 $\frac{1}{4}$ ". Illus. New York: 1957; Reinhold Publishing Corp. \$10.00

Written in 1949 for publication in England, and now republished here, this book tells the story of the development of the modern concept of housing, from Ebenezer Howard and Raymond Unwin, on through F. L. Ackerman, A. M. Bing, Stuart Chase, R. D. Kohn, Lewis Mumford, C. S. Stein and Henry Wright. Its examples begin with Sunnyside Gardens in Long Island City, thence to Radburn in New Jersey, Chatham Village in Pittsburgh, and down through the years to Baldwin Hills Village in Los Angeles.

The final chapter is called "Indications of the Forms of the Future," in which the author reviews the lessons learned from thirty-five years of planning new towns, and points the way for the future. There is an appendix with studies and statistics prepared for the Resettlement Administration while the Greenbelt Towns were being planned; and a very complete Bibliography.

An Investigation Of The Small House. 76 pp. 17" x 11". Spiral bound. Brooklyn, N. Y.: 1957; Pratt Institute. \$2.00

An analysis of the functions, structure and mechanical equipment of the small house, prepared by a team of architectural students at Pratt Institute. It is written for the layman and depends primarily upon drawings, diagrams and charts to deliver its message. It offers no house plans, plugs no "style" of architecture; it should help a client analyze and rec-

ognize his own needs and communicate them to his architect. Every architect engaged in small house work should have several copies on hand to lend to new and inexperienced house clients.

Modern Architecture in Brazil. By Henrique E. Mindlin. 256 pp. illus. 8 $\frac{1}{2}$ " x 12". New York: 1956; Reinhold Publishing Corp. \$12.50

The twenty-page introductory text of this fine book is an illustrated capsule history. In itself it is an exciting experience, spanning 4 $\frac{1}{2}$ centuries gracefully and with adequate characterization of periods, to come to the influences, men and architecture of the important decade 1930-1940. The postwar explosion, the present and future are then indicated by about 30 competition and preliminary drawings and models.

Brazil inevitably means to an architect, intelligent design consideration of the sun, reinforced concrete, and an imaginative freedom in space-planning and building form. The major sections of this book include:

- private houses — apartments — hotels — housing (61)
- schools — hospitals — religious bldgs — sports and recreation —
- museums and exhibition bldgs (28)
- administration — business — industry (15)
- transportation — city planning — landscape architecture (16)

Each example is carefully illustrated and the author has done a remarkable job of organizing hundreds of small plans and adjusting photo sizes for their architectural significance. His thoughtful descriptive notes read well, are commendably brief and objective. They are the comments of a mature architect, always aware of practical problems but seeing over all of them the designer's concern for the beauty of his work. Henrique Mindlin's own professional character is well illustrated by the scrupulous care with which every creative expression shown is credited to architect, painter, sculptor, landscape

architect and photographer. The over-abundant variety of metric scales throughout is mitigated by a bookmark bearing both metric and English graphic scales.

The review of this book is overdue but in that defect it indicates perhaps that this is a work of more lasting value.

E. P.

Modular Number Pattern. By Ezra D. Ehrenkrantz. London: Tiranti: 1956: 82 pp. illus. 5" x 7 $\frac{1}{2}$ ". 25s

HOW MANY architects and designers have struggled with trial and error studies of fitting a given (or any) number of units of fixed dimensions into a space! Basically, that is what this little book is about although it ranges far beyond a drafting tool.

EDE is a young American MIT graduate in architecture who went to England as a Fulbright Fellow, took a master's degree at Liverpool University, worked at the governmental Building Research Station and on the noted Herfordshire schools designed for component prefabrication.

He reviews several approaches to modular coordination (Bemis, Le Corbusier's *MODULOR*, and the Renard series) in developing his 2- and 3-dimensional number pattern. There are notes on its use by manufacturers and in design. Discussion of static and dynamic symmetries leads into mathematical and musical analyses and analogies.

He sees for his system, increased rhythmic freedom over the 4" additive module, more available proportional ratios than *MODULOR* and more adaptability to repetition of units. Number pattern is "... a basis of order providing for the sizes of components and a related flexible framework within which to plan and design buildings. . . ."

In a back-cover pocket are three plastic sheets, carrying tables of doubling, tripling and Fibonacci series, which can be assembled into a cage-gadget for a design-aid, clearly showing interrelations of these elements of the pattern.

E. P.

THE EDITOR'S ASIDES

THIS PAGE is going to be devoted to odds and ends this month—the editor's chair has been whirling too busily lately to permit much consecutive thinking. But I've saved a few items which I want to present to those who may be so brash as to venture to read this editor's side remarks.

PROBABLY a lot of you were present at the Structural Clay Product Industry's closed circuit television broadcast back in February. For what they are worth—and I consider them worth a good deal, or I wouldn't have saved them—I want to quote these words from the first part of Paul Rudolph's talk: "Every sliver of wood, every rolled wide-flange beam, every slab of glass, every cube of concrete and every brickbat has its own unique potential. In a gifted architect's hands these materials are the means to great art. The twentieth century is rich not only in new materials, but new adaptations of the old. The prolific barrage from the manufacturers is sometimes overwhelming. Our buildings take on the look of brochures enlarged to billboard size and pasted together to form the walls of a building.

"For instance, a recently completed shopping center outside Boston had, at last count, no less than sixty-two separate materials on its exterior alone. This is a far cry from Boston's Beacon Hill where a single material, brick, has been used to unify several residential blocks, creating one of the most beautiful series of streets, squares and sequences of space to be found in the whole of the United States. Beacon Hill is never dull and great variety has been achieved. Sometimes the continuous surfaces are smooth as glass with almost no joints visible; sometimes they become very rough, catching the light in a thousand ways. The color range is tremendous — yet subtle, so that one's impression is the color red. Walking through Beacon Hill, one's eye is caught by a brick arch or lintel, then a molded brick cap or coping. But always there is a feeling of serenity, security and unity.

"There are two lessons to be learned from Beacon Hill. First, it is always the whole which is important, never the individual part; and secondly, great variety can be achieved by very simple means."

GOING OFF in another direction, I shall now quote Grady Clay (*Gazette of the Arts in Louisville*, January 26, 1959). What he says of Louisville will go for any city:

"I have a theory about artists and architects. They are at their most effective when they're doing what they're trained to do—design, paint, create. But there are too few of them to go around. When decisions are being made which shape the whole future design of a portion of the city, where's that man with the pencil?"

"He's the missing man on redevelopment and building committees; he's the missing man when a budget committee starts talking about allocation of funds for this or that building; he's not there when some talkative lawyer, or some whiskey executive, begins sounding off about 'this thing we're gonna build.'"

"Louisville building committees, as a rule, are visual illiterates. (Occasionally, a more prescient chairman will insist on an architect's presence; but these are exceptional.) Run down the list of most building committees you know. They will spend hours discussing the future shape of a medical center or a civic center, without once exposing themselves to the catalyzing influence of a skillfully-drawn impromptu sketch."

Thus Grady Clay. I commend to all, sight unseen, the results of his labors of the past few months — editing the proceedings of the University of Pennsylvania-Rockefeller Foundation Conferences on Urban Design Criticism.

AND FINALLY, I quote from the report of the winner of the 1957 Paris Prize, Robert P. Burns, Jr., as it appeared in the *Bulletin* of the NIAE — his impressions after visiting England, his first stop in Europe: "I be-

gan to understand upon viewing these ancient buildings the real history of architecture which an academic survey can never teach. The terms I had been taught, the lessons of history I never quite understood became clearer and more alive when I was able to experience buildings of different centuries side by side and observe their many relationships.

"Modern architecture too rarely faces all of the problems at once as did the Gothic, too often attempts to solve each problem individually without regard for an integrated whole. We indulge in structural exhibitionism with little concern for the architectural aspects; we make an apologetic bow to ornament by placing a single sculpture in front of a sleek building, thereby impoverishing rather than enriching the architecture."

Yes, travel in Europe — or anywhere with a culture older than our own — is still an essential for the young architect who can carry his scepticism with him, and not fall too hard for the romance (not that the romance of ancient architecture doesn't have its place too). But to study the old buildings objectively, understand their frequently brilliant technical achievements, grasp the meaning of their forms from an understanding, right on the spot, of their function and their structure, and to thrill to their richness of texture and decoration and their magnificent enclosure of space — these are experiences every young architect brought up on the meager historical diet offered by most architectural schools for the past twenty years should have, if he takes his mission seriously. And if he doesn't take his mission seriously, he's wasting his time, and ours. Amen.

BTRG

Mr. Cowgill, Secretary for Office Practice, is primarily responsible for the text, and Mr. Pettengill, Librarian of the AIA, is primarily responsible for the bibliography. (Part II will appear next month.)

This guide is for the architect or architectural student with a library to design—not necessarily his first—either now or in the future. It should also aid the librarian, his board, and all of those with responsibilities in connection with a proposed library building.

Building Type Reference Guide, BTRG 3-1 and 3-2,¹ also entitled "The Library Building," was one of the first of a series on various building types. In the twelve years since the original was published, some trends which were noted then have been confirmed and new possibilities have been recognized. This Guide is not so much a revision of the former one as an extension of it. There is an abundance of literature on the subject. A selected bibliography is given which, with references to other bibliographies, is reasonably complete. Abstracts of technical discussions and statements of accepted principles are included, but special attention is given to new ideas.

Important current examples are evaluated in the following classifications:

Classifications of Libraries

- A SCHOOL: (usually units of school buildings)
 - elementary school
 - secondary school

The Library Building PART I

Clinton H. Cowgill, FAIA
and George E. Pettengill

- B COLLEGE AND UNIVERSITY:
 - university, general
 - university, branch
 - college
- C PUBLIC:
 - public, central
 - public, branch
 - small town
 - county and regional
- D STORAGE:
 - book storage
 - archives
- E SPECIAL: (usually units of buildings)
 - industrial and commercial
 - trade association and professional
 - learned society, club and private
 - government
- F MEMORIAL: (usually also B or C)

In the beginning of a library project, the location may need to be considered or reconsidered. Since libraries are important units in urban planning, the relation of the project to the master plan, if there is one, should receive attention. This may involve the relation of the project to the library system of the community, city or region. Most libraries fall into one of three broad classifications, not rigidly descriptive: public, educational and special. When colleges or universities are in small cities, their libraries may in some cases be used by the local population, and school libraries are often served by the staffs of public libraries. In the rare cases

in which special libraries occupy separate buildings their relation to the master plan is similar to that of college and university libraries—their location is related to the institutions which they serve. Storage libraries may have direct relations with either college or university libraries or public libraries, and they usually serve large areas—too large to be included in master plans of cities or metropolitan regions. Relations to urban planning, therefore, are generally pertinent only to the public library system and school libraries. The location of school libraries (usually units of school buildings) should be considered by the proper authorities when schools are located.

The main library of a public library system, it is generally agreed, should be in the heart of the retail section, but possible changes in the character of the area and availability of automobile parking facilities should be considered. While a location which is inconvenient for patrons should not be chosen solely in order that the library might be a part of a civic center, its location in a civic center may be both convenient and architecturally effective. For cities under 50,000 in population with one high school, the main library might well be located near the senior high school. Branch libraries, ideally, should serve areas with populations of 50,000 to 60,000 with common interests, and be located near the

¹ AIA Bulletin, Vol. 1:25-58 July 5, 1947; 27-44 Sept. 1947. Also reprinted for distribution by the American Library Association.

senior high school serving the area, the shopping center and adequate parking facilities. Libraries for children should be much more accessible than this, perhaps as accessible as their schools. Young people's libraries may be housed in junior high school buildings, and children's libraries in elementary school buildings. This would be economically feasible, generally, only if these facilities replaced (or were combined with) school libraries. This is probably the most practicable when the administration of the library system and the school system is one. According to Kenneth Gibbons, AIA, competition for tax revenues sometimes makes cooperation between library officials and school officials difficult. He reports that while libraries receive from 1% to 2% of tax revenues, schools receive from 25% to 50%; but that, whereas not more than 30% of adults use public libraries, 50% of the school-age population does. The school library should not be expected to take the place of public library facilities, he says, and it is unnecessary to locate public libraries near schools. A community library should

be located where it will best serve the people of the community. The cost of library service, including interest on the investment in the land, should be related to the use made of the service. Location on high-priced land may increase use of the services sufficiently (because of accessibility) to reduce unit costs below what they would be on low-priced land. The location of a community library (as well as the location of schools) may be a strong influence leading toward the development of desirable community loyalties.

In addition to considering the relation of a proposed library building to the master plan of the community, city or region, it may be advisable to survey the habits of present patrons in order to determine the best location. Questions might be directed regarding the proportions who:

- walk from their homes or businesses
- come by public conveyance
- drive their own cars and park within ¼ mile, ½ mile and more
- stay less than 1 hour
- stay ½ day, and more
- stop in while shopping

The John M. Olin Library, Washington University, St. Louis, Mo. Murphy and Mackey, Architects.



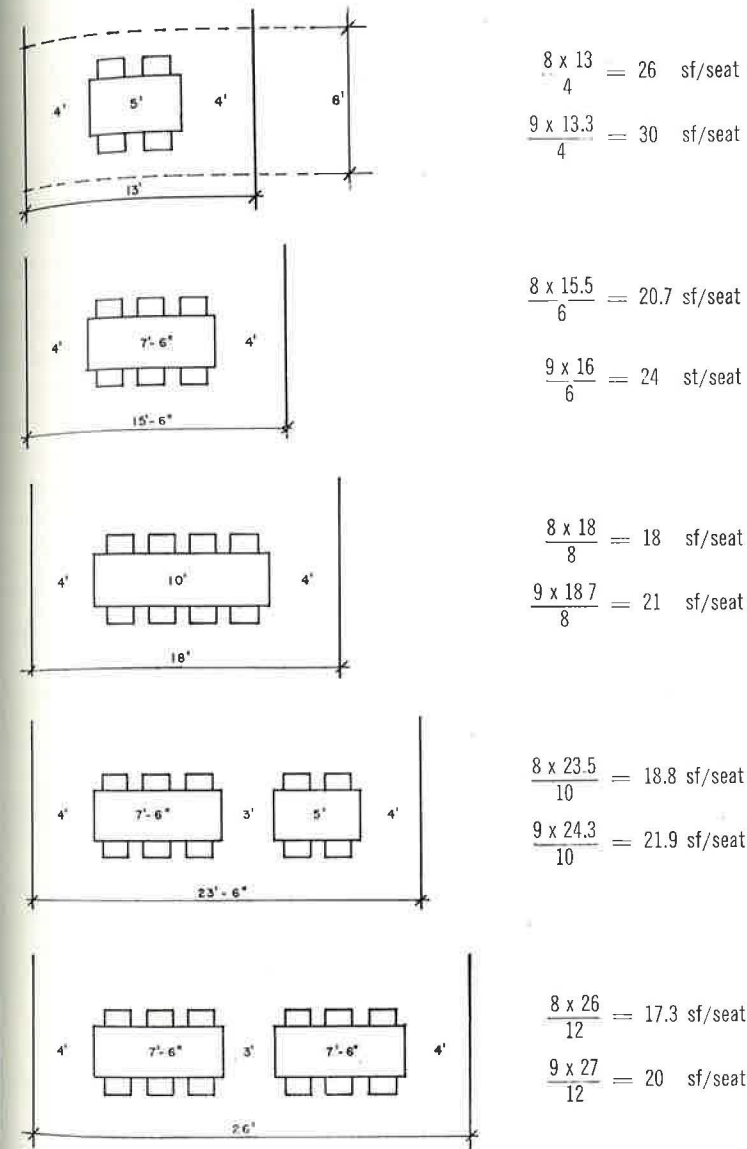
- come in for school work
- are under 12 years of age, 13 to 15, 15 to 18, and older.

Program Requirements:

Before a library building may be designed, there must be a program. Typical elements of libraries are discussed briefly below and classified in the outline of plan elements. The outline may readily be developed into a check list for estimating approximately the required floor area by providing columns headed *Number*, *Factor*, and *Area*. For convenience, it is suggested that 25 sf be allowed for each seat in reading and reference areas, and 7 sf per 100 volumes. These factors are liberal as may be seen from the diagrams below. It is not expected that each of the elements will occupy a separate room. Most of these elements are needed for public libraries and very few of them for some of the other classifications. The capital letters following each element in the check list indicate the library classifications in which it will be most likely to be needed. See *Classifications of Libraries* on page 55.

LIBRARY TABLE ARRANGEMENTS

First figure is for 2'-6" seat spacing along tables, 3'-0" wide.
Second figure is for 2'-8" seat spacing along tables, 4'-0" wide.



With an allowance of 20% for walls, partitions, etc., these areas range from 19 sf/seat to 36 sf/seat.

The principal plan elements of libraries are:

- reading areas
- reference areas
- reserve book
- catalog
- stack areas
- loan department
- public facilities
- auxiliary units
- work areas
- staff facilities
- building service
- auto parking

Reference and reading areas are frequently combined, and in small libraries spaces for adults, young people and children may be in the same room. In large library buildings, there may be separate rooms for:

- general reading
- adults
- young people
- children
- periodicals
- newspapers
- one or many rooms or spaces, each for a different field of knowledge
- documents
- archives
- pictures
- maps
- music
- special collections
- lounge
- outdoor reading spaces
- facilities for the blind.

Only in college and university libraries are reserve book rooms commonly found. In cities, the newspaper room should be near the entrance or have a separate entrance.

It is desirable to maintain only one complete card catalog, and it should be located conveniently to the reading and reference areas, the circulation desk, the technical services department, and the bibliography department.

Many of the books may be kept on shelves in the reading and reference areas, but where the number of books is large in relation to the number of readers, the use of stacks is indicated. Open stacks commonly have reading tables, carrels, conference rooms and seminar rooms interspersed. Whether or not the principal stacks are restricted in use, locked stacks may be provided for rare or expensive books, or little-used items. Many libraries have books which must be kept even though they are little used.

For the circulation of books and other library materials (the loan department), the main desk is the center, although separate desks may

be provided for registration, charging, and return, as well as desks for readers' advisors. Other parts of the loan department are night depository, bookmobile and quarters for extension service to schools and branches.

Among the numerous facilities which may be provided for the public and which should if possible be supervised from the main desk are public toilets, public telephones, display cases, and emergency first-aid equipment. Less closely connected with the main desk are the audio-visual room, microfilm readers, and the bibliography department. In some libraries, also, an auditorium, art gallery and space for library training classes are included.

The work areas for the librarian and his staff and for custodial services are listed in the table which follows.

To make a check list of requirements for a proposed library building, appropriate items may be selected from the outline. For a check list for school libraries, items followed by a capital A should be selected, etc. See Classifications of Libraries on page 55.

For public libraries spaces needed

may be approximated by use of the diagram shown below. For a public library in a city without branch libraries, the total population may be used as a basis. The allowance to be made for branch libraries when computing the area needed in the central library is debatable. It is claimed by some that the establishment of a branch stimulates the use of library facilities in general enough to offset the service rendered by the branch. It is to be expected, of course, that technical services (which would be performed in the central library) would be increased by the expanded use of the libraries.

Outline Plan Elements

READING AREAS

general BCDE

staff

seats

volumes

adult BC²

staff

seats

volumes

young people AC

staff

seats

volumes

children AC
staff
seats
volumes
story telling

periodical BCE
staff
seats
volumes
magazines

newspapers BC
staff
seats

division BC

staff
seats
volumes
pamphlets

division BC

staff
seats
volumes
pamphlets

division BC

staff
seats
volumes
pamphlets

division BC

staff
seats
volumes
pamphlets

division BC

staff
seats
volumes
pamphlets

document room BC

staff
seats
volumes
pamphlets

archives BC

staff
seats
volumes
pamphlets

typing facilities BC

rental typewriters

public stenographers

² Note: If young people and children are isolated, a separate adult reading room may be unnecessary.

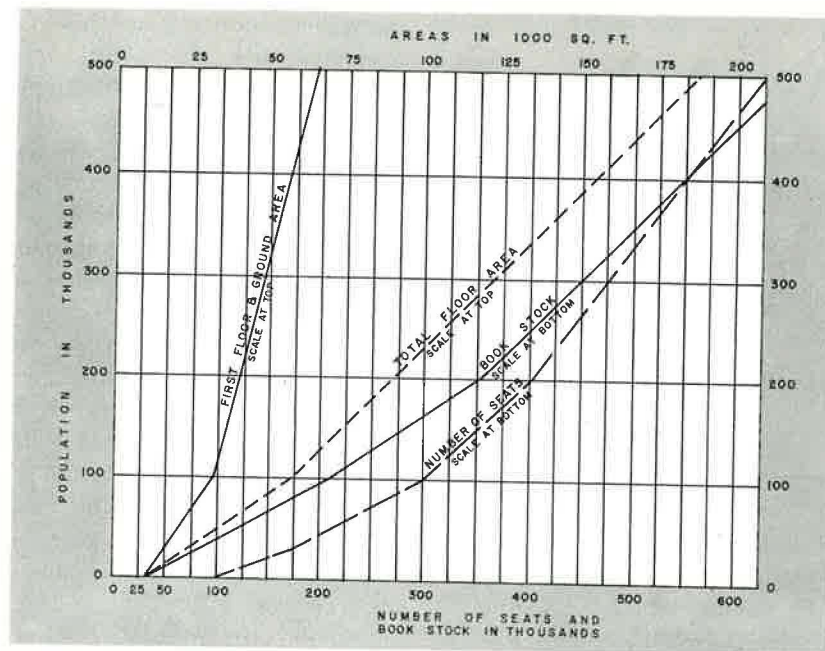


DIAGRAM SHOWING LIBRARY FACILITIES FOR VARIOUS POPULATIONS BASED UPON MATERIAL IN JOSEPH L. WHEELER'S "THE EFFECTIVE LOCATIONS OF PUBLIC LIBRARY BUILDINGS," PUBLISHED IN OCCASIONAL PAPER NO. 52 BY THE UNIVERSITY OF ILLINOIS LIBRARY SCHOOL.

picture collection BCE
map room BCE
music room BC
special collection BC
seats
volumes
lounge BC
seats
volumes
smoking, yes, no
for blind C
other

REFERENCE AREAS

general BCDE
staff
seats
volumes
pamphlets

RESERVE BOOK ROOM B

staff
seats
volumes

CATALOG ABCDE

STACK AREAS

open ABCDE
staff
seats
volumes
carrels (single)
carrels (double)
conference, seats
seminar, seats

locked BCD

staff
seats
volumes
expensive items
little used books

storage BCD

volumes
compact type

CIRCULATION

main desk ABCDE
charging
return
registration
catalog
readers' advisors BC
pages (do not duplicate staff for stack areas)
checking facilities BC
exit controls ABCDE
night depository BC

bookmobile C
school service C

PUBLIC FACILITIES

public toilets BC
telephones BC
display cases ABCE
emergency, first aid BC
audio-visual room ABC
microfilm reading BCE
bibliography room BCE

AUXILIARY UNITS

auditorium C
art gallery BC
library training classes BC

WORK AREAS

technical services ABCDE
acquisition department
order, staff
receiving, staff
processing department
cataloging, staff

other services, ABC

photographing, staff
microfilming, staff
mimeographing, staff
printing, staff
binding, staff
book repairing, staff

offices

librarian, ABCDE
assistant librarian BC
board room BC
department heads BC
purchasing BC
accounts BC
statistics BC
public relations BC
secretaries BCDE
stenographers BCE
conference rooms BC
vaults BC

STAFF FACILITIES BCDE

men
lounges
toilet rooms
locker rooms
women
lounges
toilet rooms
locker rooms
mixed
lounges
kitchen

BUILDING SERVICE

custodial BCD
superintendent
janitors
carpenters
electricians

mechanical equipment

heating
fuel storage
ashes
cooling
aeration (cooling tower)
filters
humidifying
dehumidifying
incinerator
transformer vault and
main switchboard
hot water system
cold water system
compressed air systems
telephone system
elevators, book lifts

TOTAL FLOOR AREA SITE DEVELOPMENT

outdoor reading
entrance court
parking facilities
staff
public

Among conditions to be met, one of the most important is the size of the budget. The capital budget includes amounts available for building, site, equipment; compensation of architects, engineers and consultants; and carrying charges (interest, insurance and taxes during construction, legal fees, financing costs, etc.). If the capital budget is inflexible, and is less than the estimated cost (with an allowance for contingencies), it may be necessary to revise the program, or to delay construction of portions of the building.

The annual operating budget is influenced by the capital budget. In general, fixed charges (insurance, repairs and depreciation) and maintenance expenses (electricity, fuel, water, telephone and reconditioning) vary directly with the size and inversely with the quality of construction and finish. Libraries are

seldom subject to taxation, and interest charges should be included only if there is a bond issue. The number of persons employed (professional, clerical, and service) may be influenced by the efficiency of the plan as well as by the amount of service offered. These items, together with supplies, book purchases, etc., are listed below. If the total exceeds the appropriation or allowance, it may be necessary to revise the program.

CAPITAL:

- building
 - total area
 - unit cost
 - product
- architects compensation
- carrying charges
- contingencies
- equipment

OPERATION:

- personnel
 - professional
 - clerical
 - service
 - other
- fixed charges
 - insurance
 - repairs (minimum)
 - depreciation
 - other
- maintenance
 - electricity
 - fuel
 - water
 - telephone
 - reconditioning
 - other
- supplies
 - book purchase
 - other

Population:

The number and status of the area population, if recorded for the present and future, gives a basis for estimating demands upon the library:

- urban adults
- elementary school
- high school
- college (stud. & faculty)

- university (stud. & faculty)
- rural
- other

If the library is to serve an independent community or rural area, the figures given should be the total population; if a branch library or a school library serving both adults and students, the total population of the assigned area (or that within one mile); if a school, college or university library serving students and faculty only, the average enrollment plus staff; and if a central public library, the total population less an allowance for the number served by branch libraries.

General characteristics of the location chosen should be recorded, as for example, (1) in commercial area, (2) distance from commercial area, (3) distance from center of population served, (4) in residential area, (5) on college or university campus, or (6) in public or private school. Other libraries in the area served should be noted. A small map of the city with possible locations indicated should be included in the program.

Climate may be described as (1) cold, moderate or hot, (2) wet, humid, or dry, (3) windy, breezy or calm, and (4) equable or fluctuating.

The site should be described by a complete topographical map. If tree removal or demolition is necessary, the cost should be added to the cost of the land. If the site is undeveloped, the cost of needed utilities, etc. should be added to the land cost. The character of surroundings should be noted—buildings which may shade the proposed building, trees to be retained, etc. If traffic noises are prevalent, the direction should be noted.

Preliminary Decisions:

Finally, the preferred location of units should be considered: which must be on the main floor, which may be on a second floor, which may be on a ground floor or in a basement, which could be on upper

floors, and which may be in a sub-basement. Also the desired quality of construction and finish should be noted and finally the assignment of staff during rush hours and quiet hours.

A basic decision which may affect the planning importantly has to do with controls. The current trend continues to favor making books and other library materials and services available and appealing to the potential reader rather than the preservation of properties. A few libraries have no obvious controls, but some supervision is almost always combined with proffered help. The greater the extent to which the honor system can be followed, the happier most people will be. For adequate supervision, the supervisor should be responsible for spaces within not more than 55 feet of the station. Many libraries require everyone to leave at the main entrance. By this means, and without obvious checking, some thievery may be prevented or detected. Some librarians may prefer undisguised routine checking as in a supermarket. If secondary exits are necessary, automatic bells may be employed to warn of their unauthorized use, and some personnel should be stationed nearby.

Even with most stacks open, it may be prudent to lock certain shelves, cases, stacks or rooms, permitting use of them only under supervision. Another possibility is the use of uniformed guards (as in art museums) or detectives (as in supermarkets). Strategically placed mirrors are helpful, and the use of closed-circuit television may someday be a practicable means of increasing the area which may be observed from a single point.

In order that a library building may be manageable under the most adverse conditions which may possibly develop in the future:

- establish control stations at strategic points
- provide for future installation of turnstiles or other aids to checking at exits

- it should be possible to lock some stacks

Collection of data for the program is normally undertaken by the client, but for specialized buildings, such as libraries, assistance may be needed from the architect or a consultant. With complete data at hand, the architect is able to explore design possibilities.

Schematics:

While every library presents its own problems, a theoretical exploration of arrangements of spaces which could be supervised by the smallest number of persons during quiet periods may have value. The maximum area supervised by one person may be assumed as the area of a circle with a radius of 55 feet—approximately 9,500 square feet. The area of a square with a diagonal measuring 110 feet is about 6000 square feet. If the control point is on a wall of the room being supervised, the area of the rectangle supervised from that point would be approximately 3000 square feet.

If the entire area were used for reading the number of seats in each of these spaces would be as indicated below. A semi-circular area would accommodate 190 seats. Combining circular areas in plans is difficult, but it is possible to combine octagonal shapes as is illustrated on p. 62. The area of an octagon, the furthest point of which is 55 feet from its center is approximately 8000 square feet and it accommodates 320 readers. If it is assumed that wall cases

and a supervisor's desk will be installed, the seats in rooms of each of the shapes will be:

circle	340
octagon	280
square	220
rectangle	110

The accompanying diagrams on page 62 illustrate possible combinations of octagons, squares and rectangles.

All of these arrangements would require daytime electrical illumination. The theoretical maximum number of readers per floor of a compact plan is 1400 using octagonal units, 1100 using square units, and 660 using rectangular units. If five floors is considered as a maximum, 7000 readers would be the top limit total for octagonal units, 5500 for square units, and 3300 for rectangular units.

Well-staffed libraries would have staff members situated so as to be able to supervise smaller spaces during rush hours, at least. The areas indicated above as supervised from a single station may be subdivided with low cases or with glass partitions as illustrated on page 63.

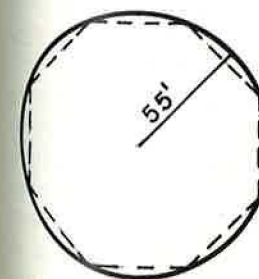
It is seldom that large spaces are used exclusively for one purpose. For purposes of analysis, areas using 50% or more for any of these purposes are indicated as for reading, stacks, or circulation. Work areas and stacks are not differentiated in the diagrams because neither are generally subject to supervision. Offices and staff facilities are indicated as work areas.

If the size of the site dictates a building of several stories, it is desirable to have the principal story midway between top and bottom, as in the Lamont Library at Harvard, the library at University of Virginia, and the John M. Olin Library at Washington University in St. Louis. Since it is also desirable to have the main floor near street level, a site which slopes down from front to back is advantageous.

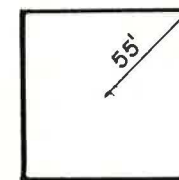
If no attempt is made to supervise reading spaces, or if it is not necessary that the maximum area be supervised from a limited number of stations, it may be desirable to place shelves so that patrons will be forced to pass between them to reach reading areas, or to arrange shelves to form alcoves with reading tables. Stacks for little-used books may be placed in a basement (or a floor either above or below each of the reading areas) thus reducing the number of books to be brought to the attention of patrons. The circulation area is dominated by the main desk (or desks) where patrons register, books are charged out and returned, and visitors are given directions and information. It is usually the principal control point. It is desirable to have space for the technical services as near as possible to catalog.

Mechanical Equipment:

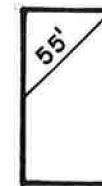
Basic arrangement of a library building may be determined in part by its location. If the climate is hot for long periods in the summer or humid, air-conditioning may be almost necessary. If periods of heat are not extreme and cool breezes are prevalent, natural ventilation may be employed, and it may govern the location and shape of the principal units. In cities where the air carries much sulphur dioxide (which is damaging to paper), airconditioning may be especially desirable. To prevent molding, books should be shelved loosely for air circulation. Relative humidity should be controlled at 50%, temperature 70° F



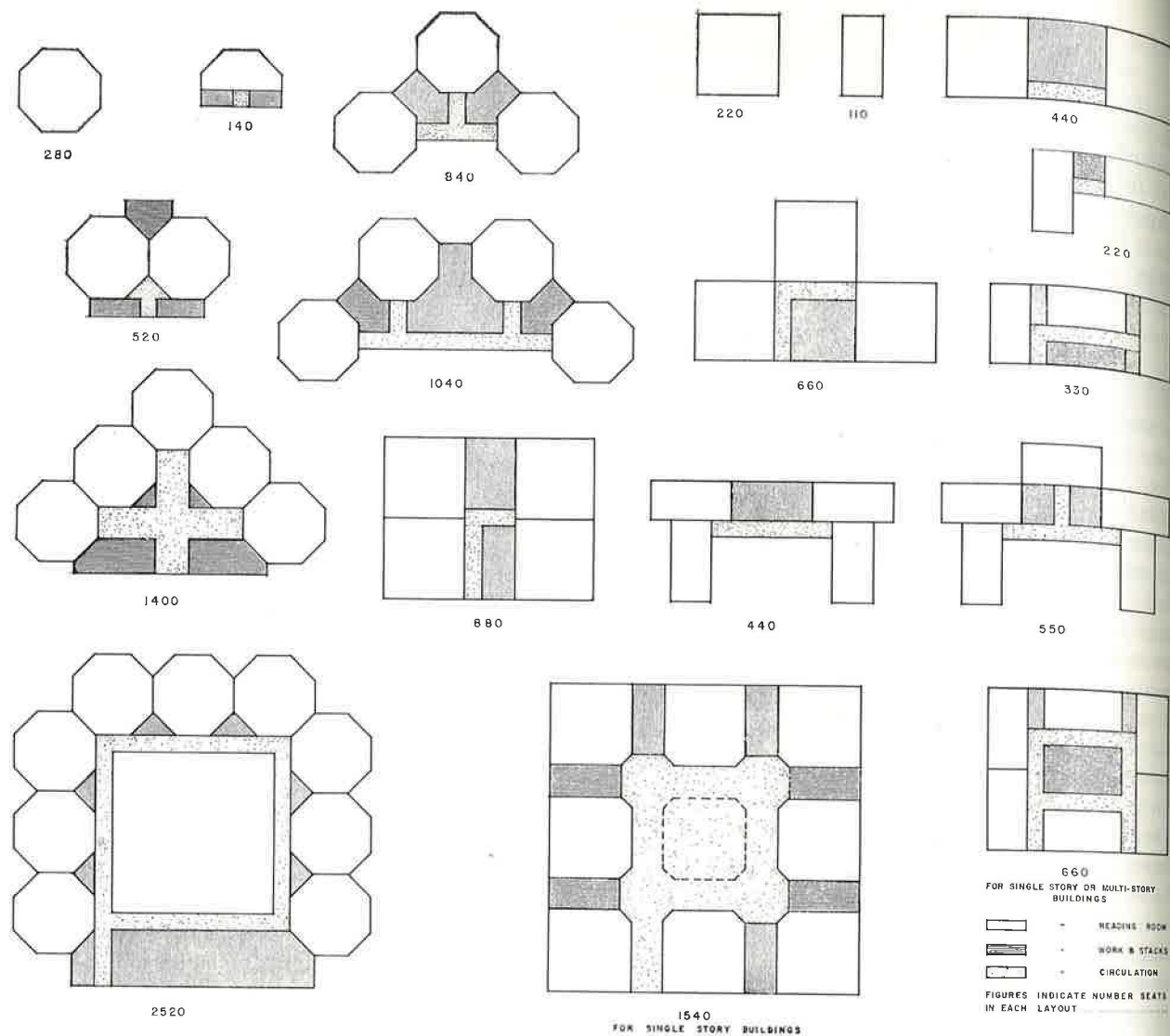
9500 SQ. FT.



6000 SQ. FT.



3000 SQ. FT.



Diagrams of theoretical arrangements for efficient supervision.

in winter and 85° F in summer. Air should be filtered and precipitated, and 75% should be recirculated. Air may be delivered through ceiling and under large windows. Convectors may be placed under windows in stack areas and in carrels. With fixed sash, emergency louvered vents may be placed under windows.

If the building is to be airconditioned, or if winter design temperatures are very low, attempts may be made to design a very compact building, having as little exterior wall as possible. This may lead to a decision to rely upon electrical illumination, at least as a supplement to natural lighting. By this means, the designer is freed from

limitations in depth and enabled to design in larger blocks than was feasible a generation earlier when 50 feet was the practical limit of width of building wings with windows on both sides and ordinary ceiling heights.

Electrical illumination and airconditioning has also led to lower story heights. Except for appearance (and psychological effects), a large room with a ceiling height of only nine feet is comfortable. For esthetic and psychological reasons, however, a room 40 feet by 80 feet should have a clear height of at least 12 feet or even 15 feet. With intermediate floors for stacks, ceiling

heights of 15 feet in the larger rooms of a library are not extravagant.

If planning is modular, and provision is made for the use of interchangeable units, the design of both illumination and airconditioning is complicated. The library stack unit preferred is 3 feet wide and 4½ feet deep (with allowance for aisles). A design module of either 1½ feet or 9 feet is usable in both directions. This may lead to a column spacing of 27 feet. The use of interchangeable units calls for a level ceiling. This may be achieved with a heavy flat concrete slab, or by use of a suspended ceiling. Space above the latter may be used for pipes and ducts. Each 9 foot by 9 foot module

should be served by both airconditioning outlets and lighting units.

The detail design of an airconditioning system for a library is much like that for other types of buildings. The same may be said for the other kinds of mechanical equipment. For the lowest cost year-round airconditioning, however, buildings should not only be compact, but windows should be few and small—just large enough to give visual contact with the outside. A low proportion of glass to opaque wall produces the greatest savings on the south, west and east walls. With a high proportion of glass in these walls, shading devices, such as louvers, canopies, or grilles will reduce cooling costs significantly.

If a building is not to be cooled mechanically, either immediately or later, natural ventilation should be given attention. The direction of prevailing summer breezes at the site should be determined and the longer axis of the building should be perpendicular to it. If possible the long axis should also be in an east-west direction or within 30° of it. The length along the long axis should

be great in relation to the depth along the short axis, and cross ventilation should be insured.

One problem that deserves special attention in libraries is sound control. Sound isolation is most important where street noises are prevalent. To accomplish this it is advantageous to have only a small number of small windows, but other considerations may lead to the use of many large windows. Heavy masonry or walls with air spaces and quilts may be combined with double or triple glazing. Sounds originating within the building may be absorbed by acoustic ceilings, wall coverings and resilient floors.

The acoustical design of listening rooms (and also audio-visual rooms) involves much more than isolation from external sounds. As in an auditorium, sounds originating in the room should not be absorbed except on surfaces from which sound reflections would be disturbing. Too much sound deadening may destroy listening pleasure. For isolation, light-weight partitions, floors and ceilings may be designed through

which little sound will be transmitted.³

Library Types:

Discussions regarding the different classes of libraries which follow are arranged so as to lead from the simple to the complex. Thus children's divisions of public libraries are followed by libraries in elementary schools, and young people's divisions of public libraries are followed by secondary school libraries. Material on college and university libraries, which comes next, is followed by material on public libraries, book storage buildings, and special libraries. Finally, material peculiar to library buildings which also serve as memorials is given.

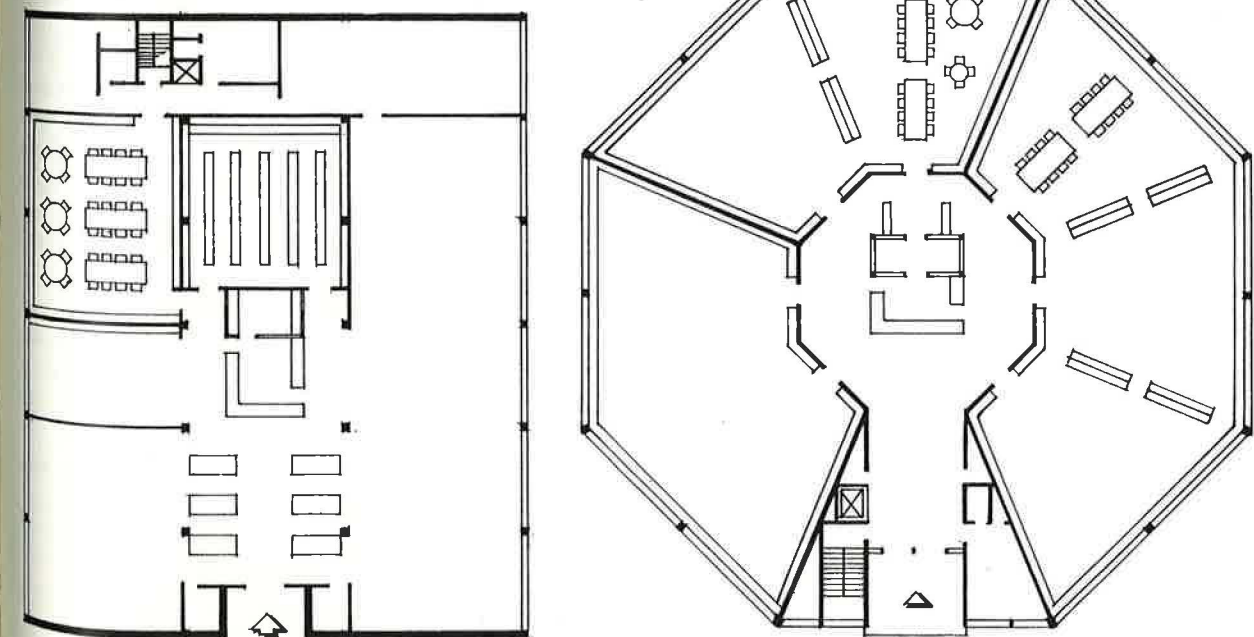
Children's Libraries:

Children's departments of public libraries may be considered supplemental to libraries in elementary schools, serving students through the eighth grade. Services of librarians

³ Acoustics for the Architect; Harold Burris-Meyer and Lewis S. Goodfriend; Reinhold, N. Y., 126 pp., '57; pp. 37-53; and

Acoustics, Noise and Buildings; P. H. Parkin and H. R. Humphreys, Faber and Faber, Ltd., London, 331 pp. '58, pp. 216-7.

Diagrams indicating division of space controlled from one point.



may be either to children directly or to those who work with children, or both. Books may be used in the building or in schools or homes. The ideal location in a public library is on the first floor with north or east exposure. A large window facing a street may attract patrons. On sloping sites, a basement location may be acceptable. A separate outside entrance is desirable. A low charging-desk should be near the entrance but there should be room for a waiting line to form inside. Catalog and reference material should be nearby. Visual control may be attained by use of glass partitions and low shelves. Children's toilets (near the center of the space) should be under control of the supervisor. A work room may double as an office. Ample storage space is essential. A nook for story telling (for 35 listeners), perhaps with a small stage and a puppet stage could be an interesting feature. Much use can be made of displays in glass cases, and a large globe is useful.⁴

Elementary School Libraries:

The few books which may be placed in each class room of an elementary school, while still of value, are no longer sufficient. Library extension service is a valuable supplement, but a library in charge of one or more full-time librarians is now regarded necessary. A nook in a corridor or assembly room or a storage space for books, under control of the principal or teacher, may be a beginning, but a separate room, 50% larger than a class room, is a minimum requirement except for small schools. A reading room may possibly double as a cafeteria lunch room. Pupils may serve as assistants under supervision, if glass apertures in an adjoining room for peripheral supervision are provided. The room should be near upper class rooms—if it is expected to serve the community, it should be near the entrance or have a separate entrance.

Carl Koch⁵ recommends facilities for $\frac{1}{10}$ of the student body. He

claims that record-playing is not distracting to readers. He suggests a room for films and slides. For reference and collateral reading and for recreational reading a relaxed atmosphere is desirable—low windows, furniture in child's sizes (many children like to read sitting or lying on the floor) and light in color, warm floors, and a variety in illumination (different night and day). Colors should neither be distracting nor taken for granted. For flexibility, the card catalog may be movable.

Opinions of those having experience with school libraries are recorded below in abbreviated form:

There should be a work alcove (where it may be supervised) with equipment of size suitable for children. A conference room should have a glass partition. For flexibility, as much equipment as possible should be movable. The atmosphere should be friendly and inviting. Picture books and other books on similar subjects should be grouped together. Students in the 5th and 6th grades use the catalog.⁶

Elementary school libraries should be on the first or second floors and have no steps at the entrance. Acoustical treatment and light colors for furniture are desired—also for storage for audio-visual materials, an office, and a conference room.⁷

Trained library personnel is essential. Of the 351 elementary schools in Chicago, 345 have libraries, 235 full-time trained librarians, and 110 of them share the services of trained librarians.⁸

The American Association of School Librarians gives useful data regarding elementary school libraries, of which the following are most pertinent.⁹

reading room (46 readers at 25 sf each)	1150 sf
work room	150-200 sf
storage	150-200 sf
conference room	120 sf
audio-visual room	120 sf
office	120 sf
Total	1910 sf

Small schools may combine work room and storage in a room from 200 to 250 square feet in area, and office and conference room in an area of 150 square feet. Typical tables are 4' in diameter.

Young People's Libraries:

The planning of a public library, especially one serving a community, involves consideration of student use even though school library facilities are adequate. Complete segregation of the young in a public library is seldom practicable. Even though teen-agers are noisy, and may use a library as a trysting place, they generally need to use the catalog and other facilities in various parts of the building.

Views of a librarian are indicated by the following abstract:¹⁰

A young people's library is a means of bridging the gap between the children's department (and school libraries) and the adult services, introducing the young to the opportunities offered by libraries and stimulating the desire to read. The essentials are: a special librarian, suitable books and a meeting place. Rather than a separate room, a large alcove of the main reading room equipped with lounge furniture and with the librarian's desk nearby is preferred. Shelves equal to from 6% to 10% of those for the adult collection and seats for 35 readers are suggested. Separation by counter-height shelving is appropriate; also an exhibition case with glass doors. Extra folding (or stacking) chairs should be available. Instead of segregating the young, a lounge for mature adults may be provided.

A notable example of a separate

⁴ Goddard, Mrs. Francella, *A Living Library*, U.S.C. Press, Los Angeles, '57.
⁵ Amer. School and University, '55, p. 261.
⁶ Hayward, W. George and Kentoph; Amer. School and Univ., '50, p. 293.
⁷ Britton, Jasmine; Amer. School and Univ., '47, p. 124.
⁸ McManus, Mary F., Amer. School and Univ., '56-57, pp. 157-164.
⁹ Amer. Library Assoc., '52.
¹⁰ Watts, Doris Ryder; *A Living Library*, U.S.C. Press, Los Angeles, '57.

building is Carl Koch's Youth Library at Fitchburg, Massachusetts.¹¹ It is distinguished by an unusually successful collaboration between architect, painter and sculptor. An expenditure of \$210,000 in a community of 43,000 was made possible by multiple use of spaces. A social room serves both adults and youth for record concerts and discussion groups; an exhibition gallery serves also as a foyer to the meeting hall; and the meeting hall with a fully equipped stage may seat 204 or be divided to accommodate two smaller groups. The reading room and social room each have movable shelves and open (with large sliding doors) onto a garden court.

Several innovations are worth reporting: including the luminous ceiling of corrugated vinyl plastic sheets hung on metal rails (2' or 3' apart) which are combined with perforated stainless steel fins filled with sound-absorbing fiberglass. Sprinkler heads are placed above the plastic sheets because, with the softening point for the plastic of 150° F, it would drop before the sprinklers went into action. The luminous ceiling with fluorescent lights above provides 50 footcandles without glare on the table tops and the fins give sound absorption said to equal that of acoustic tiles.

Secondary School Libraries:

If a library is considered to be an essential part of an elementary school plant, it must surely be included in plans for a new secondary school. Published statements by librarians are given below in abbreviated form:

The ideal school enrollment to be served by one library is between 1,000 and 1,500 pupils, says one. It should be located near class rooms for social studies, languages, arts and sciences. Seating should be provided for 120 at 30 sf per reader, and there should be two or more librarians. The ideal shape for supervision is square and the desk should be near the center.

Each class room should have its

conference corner with shelves for 300 books. In addition to the usual office, store room and work room, there should be a library class room with some shelves, and a faculty reading room.

General illumination should give 50 footcandles on tables and there should also be table lamps and floor lamps in browsing areas. The library should have from 10,000 to 15,000 books and from 75 to 100 magazines.¹²

A library for a community high school in North Chicago, Illinois, has a reading room 34 feet by 68 feet for an enrollment of 1,200. It provides 70 seats and shelves for 10,000 volumes. The means used to attract readers is commented upon favorably. A display case in the school lobby draws students to the reading room and displays on tops of shelves guide readers to subjects of the Dewey classification system.

An entire class may invade the library at one time, and students may be excused from study hall or from classes for library work. The study hall is adjacent to the library. If future expansion is needed for the library, the study hall may be converted. The office and conference room have glass walls, and the conference room may be divided by means of a folding partition. The audio-visual room (10 feet by 20 feet) is designed for sound isolation. See page 63.¹³

From a 1953 survey of school librarians, the following comments are noteworthy:¹⁴

Location of library in school should be central, first floor, away from shops and music rooms.

Expansion—possibly by classroom conversion.

Adjacent to (but not part of) a study hall.

Librarian for each 65 to 70 users.

Glareless illumination.

Acoustical treatment.

Soft colors.

Books—10 to 20 per pupil.

Space separations by counter height cases.

Card catalog and filing cases.

Intermediate sized furniture; tables 27", 29", or 30" high; chairs 14" to 18" high.

Audio-visual room.

Work room with sink and electric outlets.

Display cases.

If doubling as public library, hours and selection of books should be varied.

College Libraries

Some institutions which are known as colleges or institutes are as large and complicated in organization as others known as universities and are discussed in the section on university libraries. Libraries for small universities are discussed in this section.

College libraries are illustrated by several recent examples. The Julia Rogers Library of Goucher College¹⁵ is the principal feature of a newly designed campus. An approved AIA competition for a master plan was held in 1938, and the winners appointed as architects for the library. A faculty planning committee produced a written statement of needs in terms of activities, emphasizing the desirability of a close relationship between books and students. The functions of the building were listed as library facilities for:

- 1,000 women students (about $\frac{2}{3}$ living on campus)
- faculty for teaching and research
- library staff
- 100,000 books (plus additional 100,000 later).

The report recommended small reading rooms and asked for flexibility for possible expansion and rearrangement, vehicular service access, sound control, adequate illumination,

¹¹ Arch. Forum 95:134-7, June '51.

¹² Douglas, Mary Peacock, Amer. School and Univ., '53, p. 329.

¹³ Other dimensions giving a net area of from 2300 to 2400 square feet may be suitable.

¹⁴ Criteria for High School Library Spaces and Facilities; Amer. School and Univ., '55, p. 267; Amer. School Pub. Co., N. Y.

¹⁵ Amer. School and Univ., '54, p. 338.

and patron control from the main circulation desk.

During the design process, consultations were held both with librarians and architects. The lobby, circulation desk, catalog, reference room, periodical room, one reading room, office and work space are on the principal floor; a room for archives, a rare book room, and other reading rooms are on the second floor; and conference rooms, student-lounges, audio-visual room, book store, and additional reading room and service areas are on the lower level (which, due to the slope of the site, is largely out of the ground). The modular plan has columns spaced at 13'-6". The building cost \$600,000 and accommodates 375 readers.

An unusual example is the library at Florida Southern College.¹⁶ The reading room and stacks are completely separated, but the periodicals are in the rear of the stacks. A single reading room has narrow tables with

chairs on one side only, arranged in concentric circular arcs, each successive row raised one step, and all facing the main desk. The librarian's office is some distance from the main desk.

Quite in contrast with the previous example is the library for the Centenary Junior College¹⁷ at Hackettstown, New Jersey. Like the previous example it has one story and basement. It has a glass wall to the north and a glass partition between lobby and reading room. Its contemporary character is made to harmonize with older buildings by use of the same materials, and it is placed some distance from the nearest building. Charm results from a domestic scale and unpretentiousness. It seats 146 and houses 41,000 books.

The following comments are offered by J. Russell Bailey, AIA.

"For college libraries it might be well to point out that in locating a new library building with respect to

the total campus, the planners should carefully consider the flow of student traffic after classes as well as during classes. Since the college library is used to a much greater extent in the evenings, the flow of traffic would be largely from the dormitories, eating places, Unions, etc. Therefore having the library exactly in the center of the academic group might not be altogether necessary or particularly good.

"The matter of departmental libraries in the smaller schools is often a problem. It might be mentioned that for liberal arts education it would be better to have the main library absorb all of the library functions on the campus rather than spreading them out to science, art, etc., as well as having a main library. The theory in this case, of course, is to get those who are specializing in one field to read more broadly in the other disciplines."

¹⁶ Arch. Forum 88:134-35, Jan. '48.
¹⁷ Arch. Forum 102:138-41, March '55.

Part II of this article will appear in the June issue.

The complete article will be available in reprint form, which will include a Bibliography.

Copies will be mailed to all members and subscribers requesting them.

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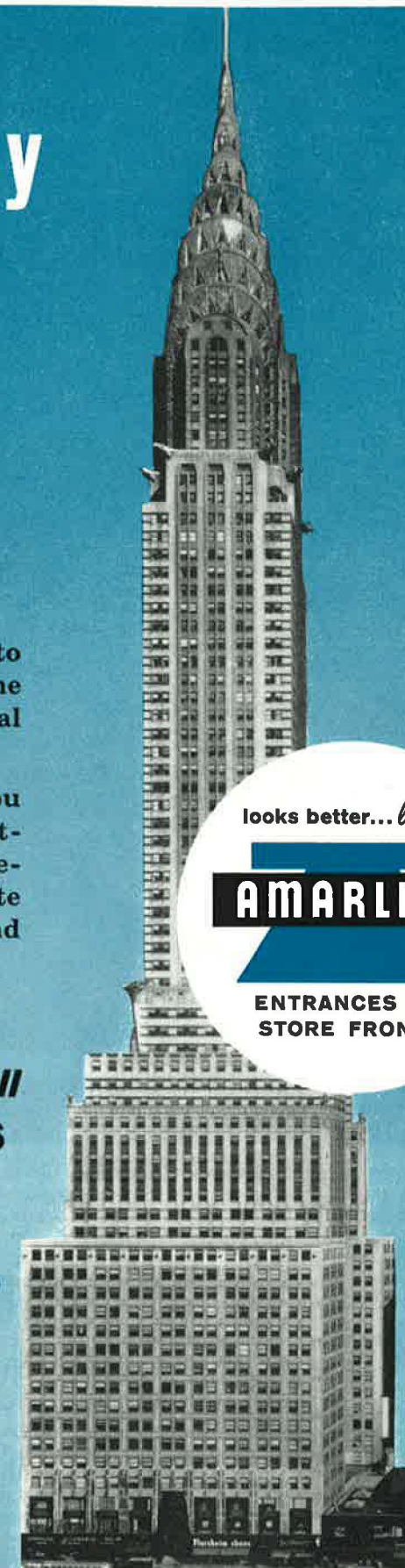
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NEWS

The Producers' Council Roofing Seminar has begun its May schedule of presentations, the program has been enthusiastically endorsed by architects in the eight cities visited.

The day-long program will be held in Milwaukee on May 7, in Indianapolis on May 15, and in Dayton on May 21. After a summer recess, the nation-wide tour will resume in September with a schedule including cities with Producers' Council chapters in the west and south.

The Roofing Seminar, second in a series initiated at the request of the Institute through the AIA-PC Joint Committee, is a comprehensive review of the latest developments in the roofing field. Eleven separate twenty-minute lectures in-

clude information on all aspects of roofing construction. Each type of deck is treated, as well as insulation, vapor barriers and surfacing materials.

At the Kansas City premier in February, John T. Murphy, AIA, immediate past president of the local chapter, said, "The entire program was well done and well named a seminar from the educational point of view." He praised the practical tenor of the roofing review and the value of the group discussion.

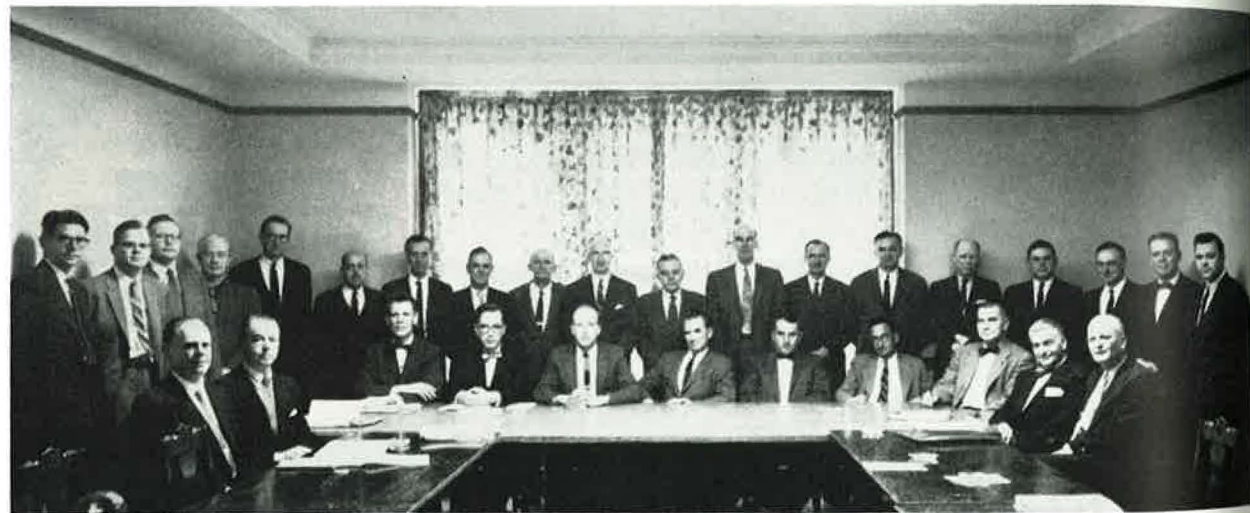
Also speaking at the opening session, H. Dorn Stewart, National President of Producers' Council, emphasized the producers' responsibility to make *quality* the watchword in products and materials available to architects. He advised members

of the profession to check claims to quality with an eye to the manufacturer's research and marketing efforts as well as production control.

The first seminar, on curtainwalls, visited 30 cities, ending in May, 1958. Planning conferences are underway for the next seminar, dealing with air conditioning.

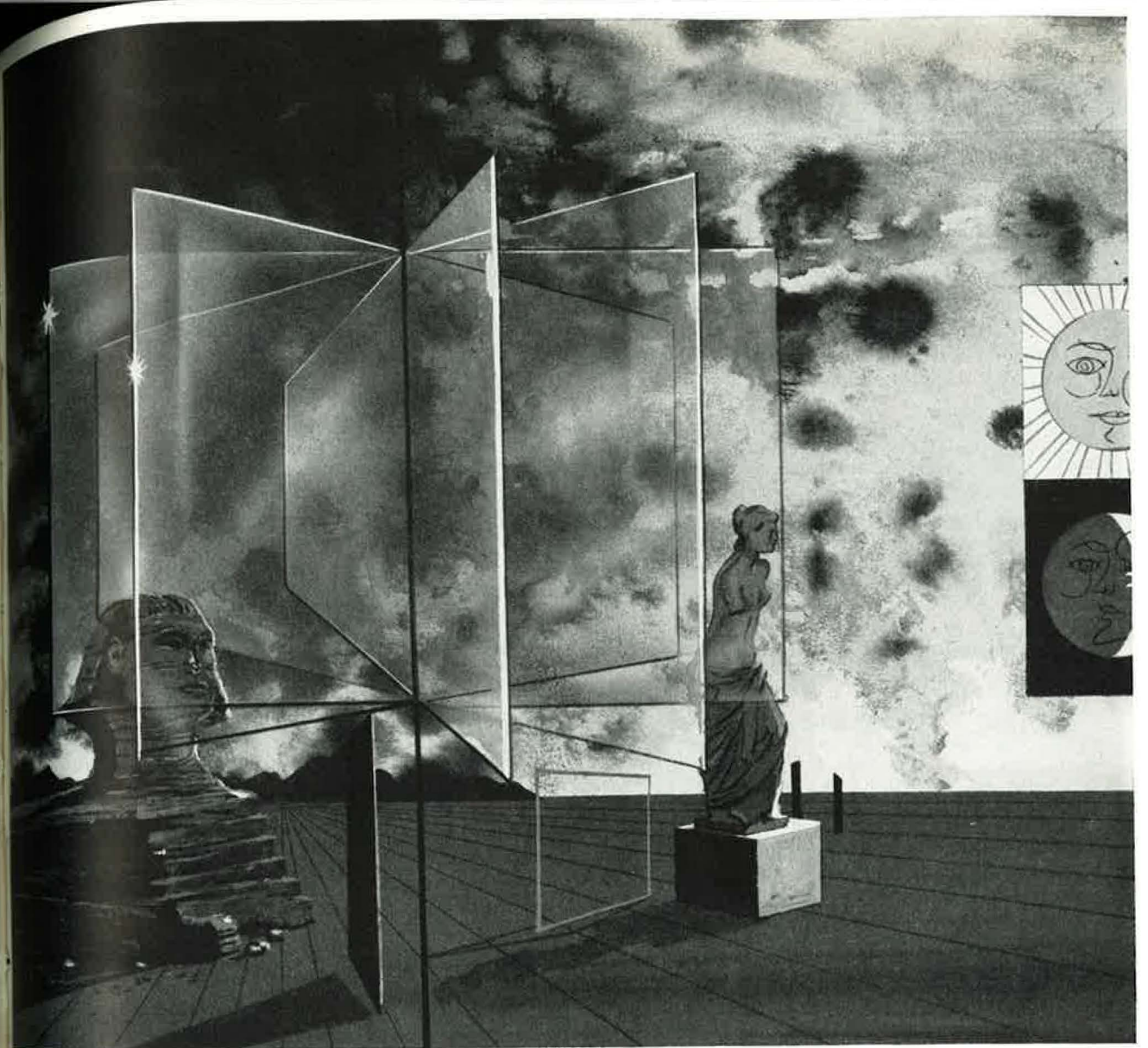
The guiding force behind the series of reviews both planned and in progress is A. M. Young, PC Seminars Committee chairman, Committee member Earl Bennet is supervising the Roofing Seminars.

Besides Kansas City and Washington, D. C., the program has already appeared in Pittsburgh, Baltimore, Boston, Buffalo, Chicago and Minneapolis.



Shown in the photograph above are participants in the AIA-NSF (National Science Foundation) Conference on Architectural Research, held in Ann Arbor, Michigan, in March. Proceedings of the Conference are now being edited and condensed for later publication in the *Journal*. Reprints will be available. *Seated—Left to right:* Eugene F. Magenau, AIA Staff, Washington; Walter E. Campbell, AIA, Conference Chairman, Boston; Burnham Kelly, AIA, City Planner, M.I.T.; Myle J. Holley, Jr., Professor of Civil Engineering, M.I.T.; Donald L. Foley, Professor of City Planning & Architecture, U. of California; Herbert H. Swinburne, AIA, Philadelphia; M. Allen Pond, Department of Health, Education & Welfare, Washington; Albert H. Hastorf, Psychologist, Dartmouth College; Karel Yasko, AIA, Wausau, Wisconsin; Alfred S. Alschuler Jr., AIA, Chicago; Turpin C. Bannister, FAIA, Dean, School of Architecture & Allied Arts, U. of Florida; *Standing—Left to right:* Eugene George, Jr., AIA, Instructor in Architecture, U. of Texas; Gene M. Nordby, Head, Department of Civil Engineering, U. of Arizona; Henry W. Riecken, Representative of National Science Foundation, Washington; Eric Pawley, AIA Staff, Washington; Robert W. McLaughlin, FAIA, Director, School of Architecture, Princeton University; Walter A. Taylor, FAIA, AIA Staff, Washington; Fred N. Severud, Engineer, New York; Douglas H K Lee, Scientist with Quartermaster Research & Engineering Command, Natick, Mass.; L. P. Herrington, Director of Research, Pierce Foundation & Dept. of Public Health, Yale University; George B. Cressey, Geographer, Syracuse University; Harold D. Hauf, AIA, Dean, School of Architecture, R.P.I.; William H. Ittelson, Psychologist, Brooklyn College; Glenn H. Beyer, Housing Research Director, Cornell University; Albert G. H. Dietz, Professor of Building Engineering, M.I.T.; John Lyon Reid, FAIA, San Francisco; Ezra D. Ehrenkrantz, Research Architect, U. of California; Harold Horowitz, Technical Secretary, Building Research Institute, Washington; C Theodore Larson, AIA, Professor of Architecture, University of Michigan; Byron Bloomfield, AIA, Director, Modular Building Standards Association, Washington.

68



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See Sweet's Architectural File—Sections 3e, 7a, 13e, 16a, 16d, 21.



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This advertisement to appear in A.I.A. Journal, December 1958.

MAY 1959

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CALENDAR

May 1-7: Annual Convention, Royal Australian Institute of Architects, Brisbane, Queensland.

May 10: Closing date for projects for Idea Contest for Belgian Congo Cultural Center. Additional information from Centre Culturel du Congo Belge, 28 Avenue Marnix, Brussels, Belgium.

May 11-13: Reynolds Award Jury, The Octagon, Washington, D. C.

May 20-21: BRI Conference on Building Illumination, Statler Hilton Hotel, Cleveland, Ohio.

May 22-27: South Atlantic Regional Conference (Cruise to Nassau), Charleston, South Carolina.

May 27-30: Fifty-second Annual Assembly of the Royal Architectural Institute of Canada, Prince Edward Hotel, Windsor, Ontario.

June 18-20: Library Buildings and Equipment Institute, College Park, Maryland.

June 10-13: British Architects' Conference, Cardiff, Wales.

June 22-26: AIA Annual Convention, Roosevelt Hotel, New Orleans, Louisiana.

June 30: Tile Contractors Association Convention, Chicago, Illinois.

July: Meeting of Housing Commission of the UIA,

Moscow, U.S.S.R. Details of all UIA activities from M. Pierre Vago, 15 Quais Malaquais, Paris.

September 21-25: International CID Congress, Rotterdam, Holland.

September 22-23: North Central States Regional Conference, Milwaukee, Wisconsin.

September 30-October 2: Producers' Council Annual Convention, Chase-Park Plaza Hotel, St. Louis, Mo.

October 7-9: Central States Regional Conference, Des Moines, Iowa.

October 7-14: California Council Convention, Hawaiian Village Hotel, Honolulu, T.H.

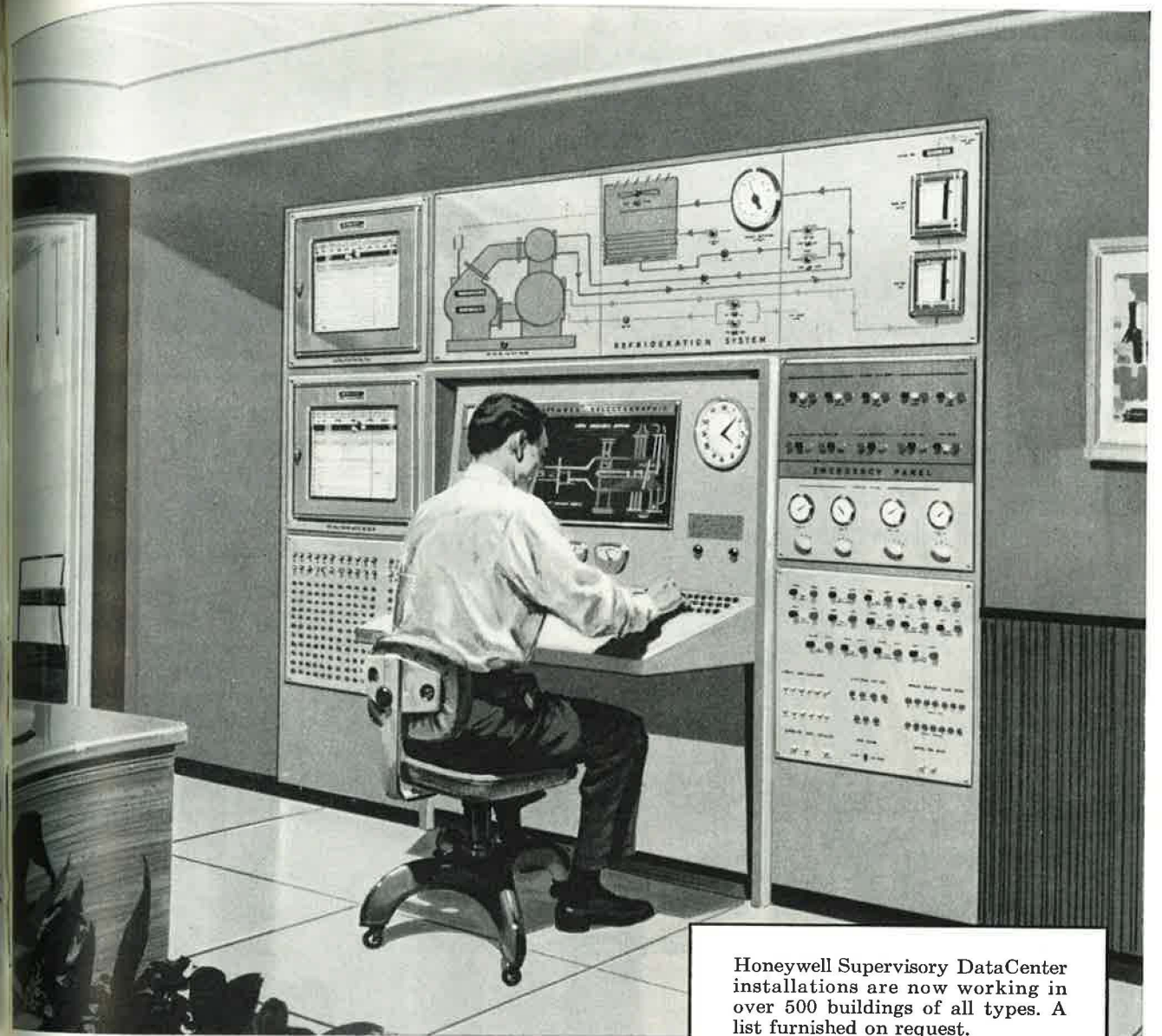
October 9-11: Western Mountain Regional Conference, Western Skies Motel, Albuquerque, New Mexico.

October 13: Fourth Annual Architects' Tour of Japan. For information contact Kenneth M. Nishimoto, AIA, at 263 South Los Robles Avenue, Pasadena, Calif.

October 14-16: Texas Society of Architects Annual Convention, Austin, Texas.

October 20-30: Annual Convention, Architectural Institute of Japan, Kyoto and Osaka.

October 23-24: 14th Annual Meeting and Forum, Pennsylvania Society of Architects, Galen Hall Hotel, Wernersville, Pennsylvania.



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Necrology

According to notices received at The Octagon between February 27, 1959 and March 26, 1959

- BASSHAM, T. E., Fort Smith, Ark.
- BAUMGARTEN, WILLIAM L., Raleigh, N. C.
- FRANZHEIM, KENNETH, FAIA, Houston, Tex.
- HEBRARD, JEAN, FAIA, Ann Arbor, Mich.
- MARTIN, HUGH, FAIA, Birmingham, Ala.
- MCDUGAL, MARSHALL, Houston, Tex.
- WINN, RICHARD J., New York, N. Y.

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DEFINITIONS

WORDS

A. Crowning place of sovereigns, London; highest nave in England; blend of English and French Gothic (2 words).	199	38	203	49	11	189	113	88
B. Room without echoes; reverberation time substantially zero (2 words).	244	52	70	231	208	83	4	31
C. Circuitous; in mathematics, having non-zero torsion.	118	267	78	176	138	34	186	154
D. Point of disagreement with England climaxed by Boston Tea Party (3 words).	180	7	275	93	197	87	130	165
E. God of southeast wind (Gr. & Rom. Myth).	256	73	264	100	129			
F. Opulent apparel (2 words).	183	136	207	37	155	1	91	114
G. Romanesque and early Gothic arched construction; each bay divided into six parts by the diagonal ribs plus intermediate rib on each side (2 words).	14	228	159	276	51	272	299	68
H. Florentine Renaissance structure distinguished by its columnar arcade and Andrea della Robbia's bambini (3 words).	246	223	39	177	288	59	18	133
I. Indians of Arizona, New Mexico, Utah; notable weavers, silver smiths, sand painters.	97	175	44	240	12	105		
J. Clayware of structural character extensively used as building facing and ornamentation (2 words).	56	17	239	112	164	255	79	36
K. Having large hips.	82	253	29	287	224	124	215	
L. First of the three divisions of English Gothic (2 words).	243	42	65	8	170	116	260	81
M. Not contained in vessels (anat.).	162	235	24	74	178	106	13	146
N. One of "Les Fauves" with Matisse, Derain, Vlaminck, Chagall, et. al.	141	268	210	300				
O. A mode of living presented by my favorite feature in the <i>Journal</i> (4 words).	298	290	265	168	214	30	69	148
P. To escort to a safe landing (3 words).	190	19	66	109	245	293	143	50
Q. Démodé, old fashioned, antiquated (3 words).	22	236	173	204	63	188	211	92

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
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R. Hoarse, disagreeable, harsh, strident.	46	296	160	219	5	206	279
S. What the Midnight Choo Choo is when it leaves for Alabama (2 words).	280	182	249	120	67	137	209
T. Author of <i>O</i> (2 words).	169	58	35	194	278	95	237
U. A graduated stick as used in building, surveying.	258	225	271	23	285		
V. The space between columns.	294	289	89	238	147	242	122
W. Court of Audience in Palace at Delhi (2 words).	184	247	270	102	123	232	86
X. Best example of Decorated Style; twin towers over transepts (2 words).	291	248	48	145	274	218	131
Y. Pompeian road of monuments (3 words).	216	196	163	16	41	142	284

INSTRUCTIONS

To solve this puzzle you must guess twenty-five words, the definitions of which are given in the column headed Definitions. Alongside each definition there is a row of dashes—one for each letter in the required word. When you have guessed a word write it on the dashes, and also write each letter in the correspondingly numbered square in the puzzle diagram. When all the words are filled in, their initial letters spell the name of the author and the title of the work from which the quotation was taken. Black squares indicate ends of words; if there is no black square at the right of the diagram, the word carries over to the next line.

Solution next month

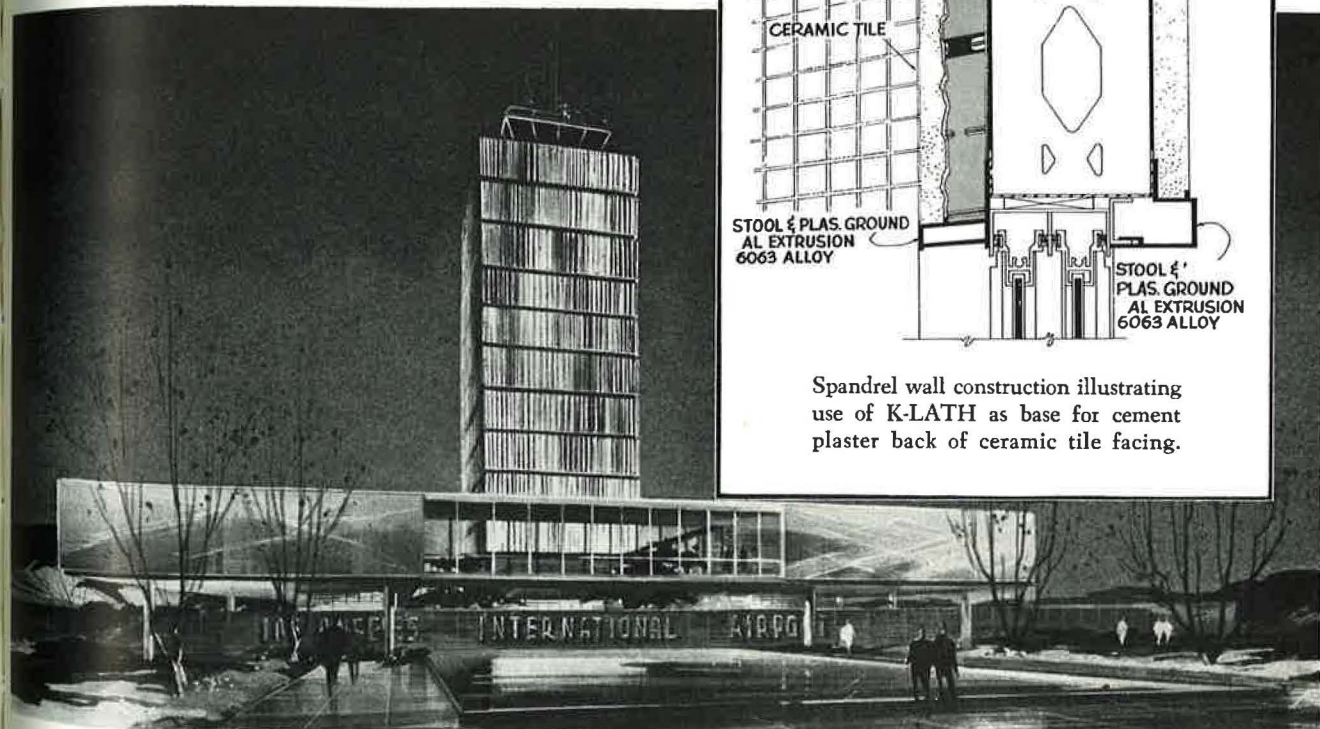


The 13-story Los Angeles IBM office building with K-LATH spandrel walls. Pereira & Luckman, architects.

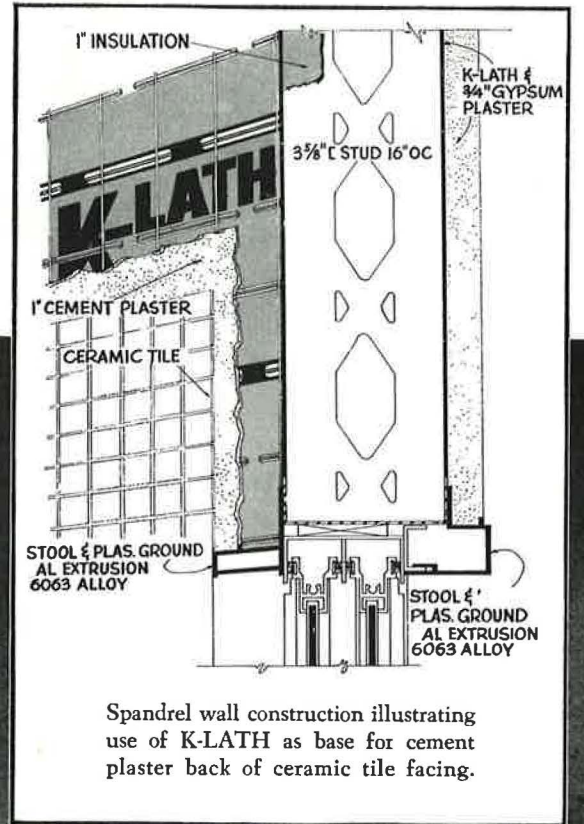


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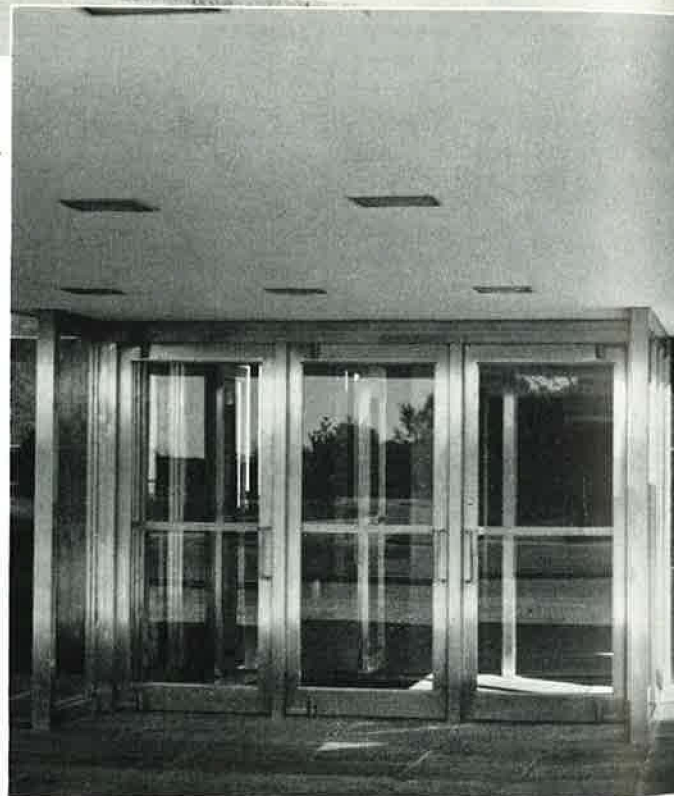
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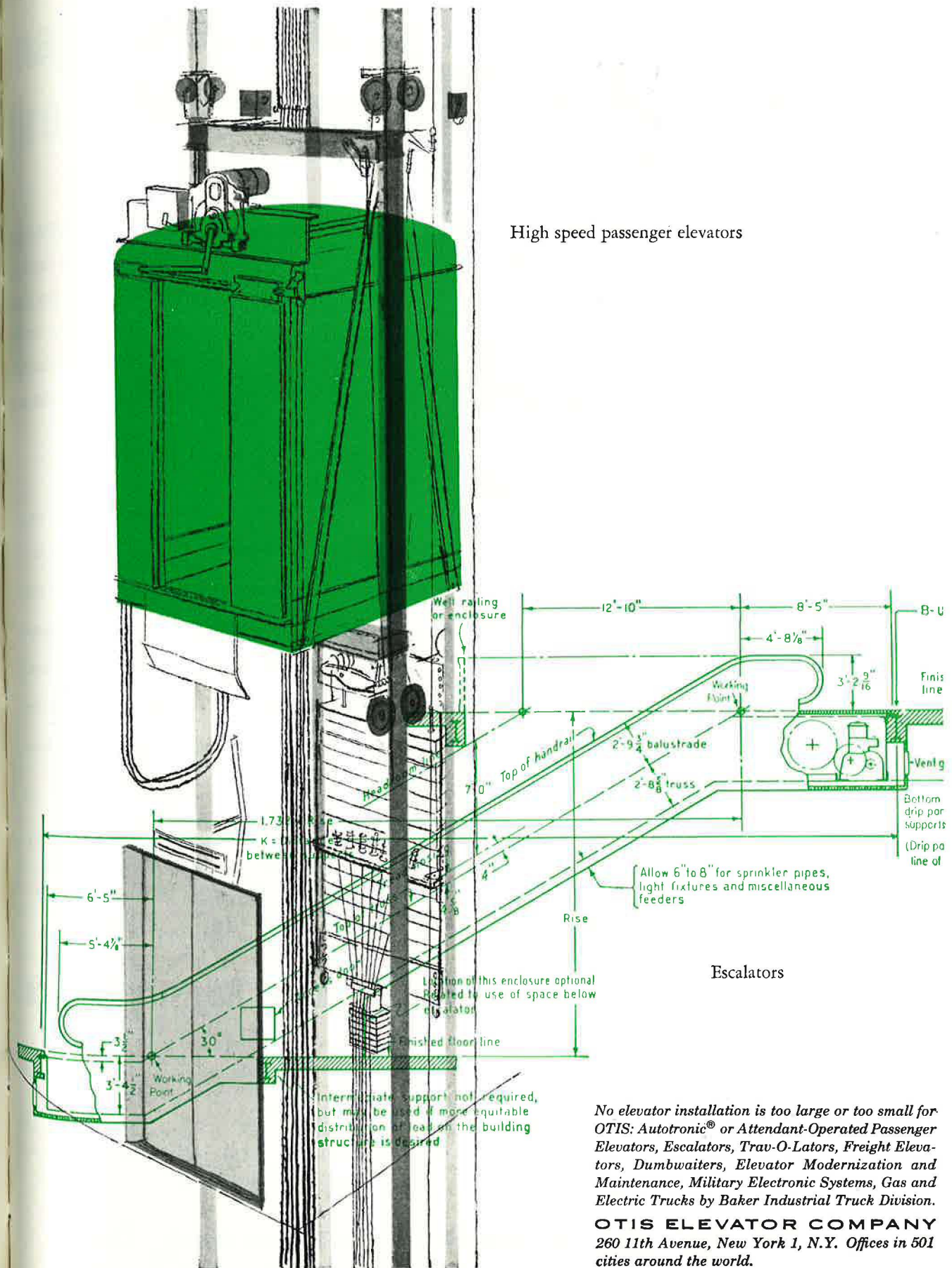
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the BALANCED DOOR

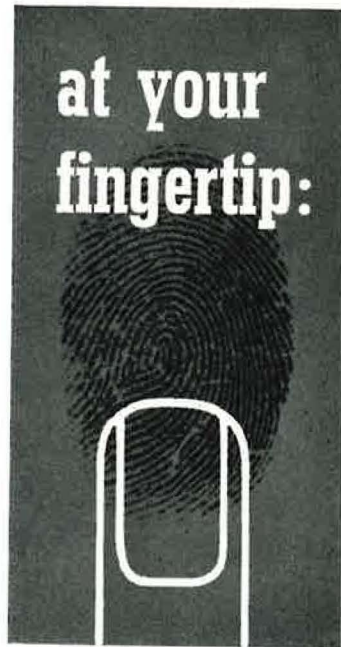
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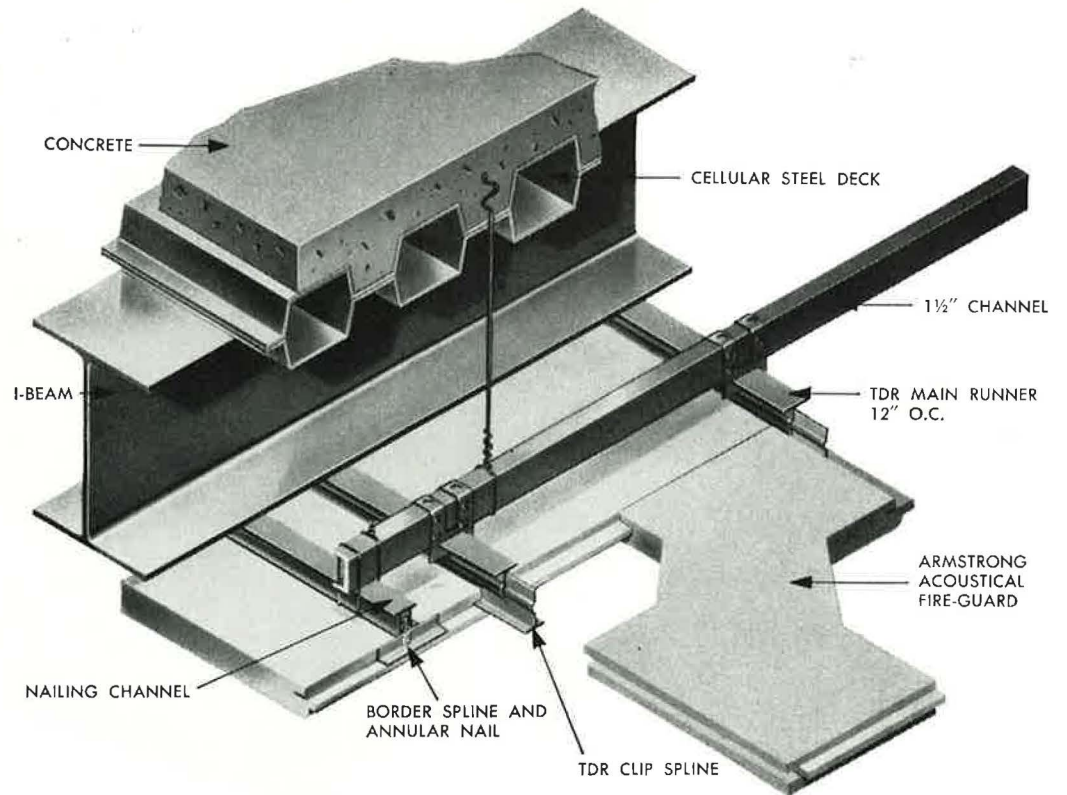
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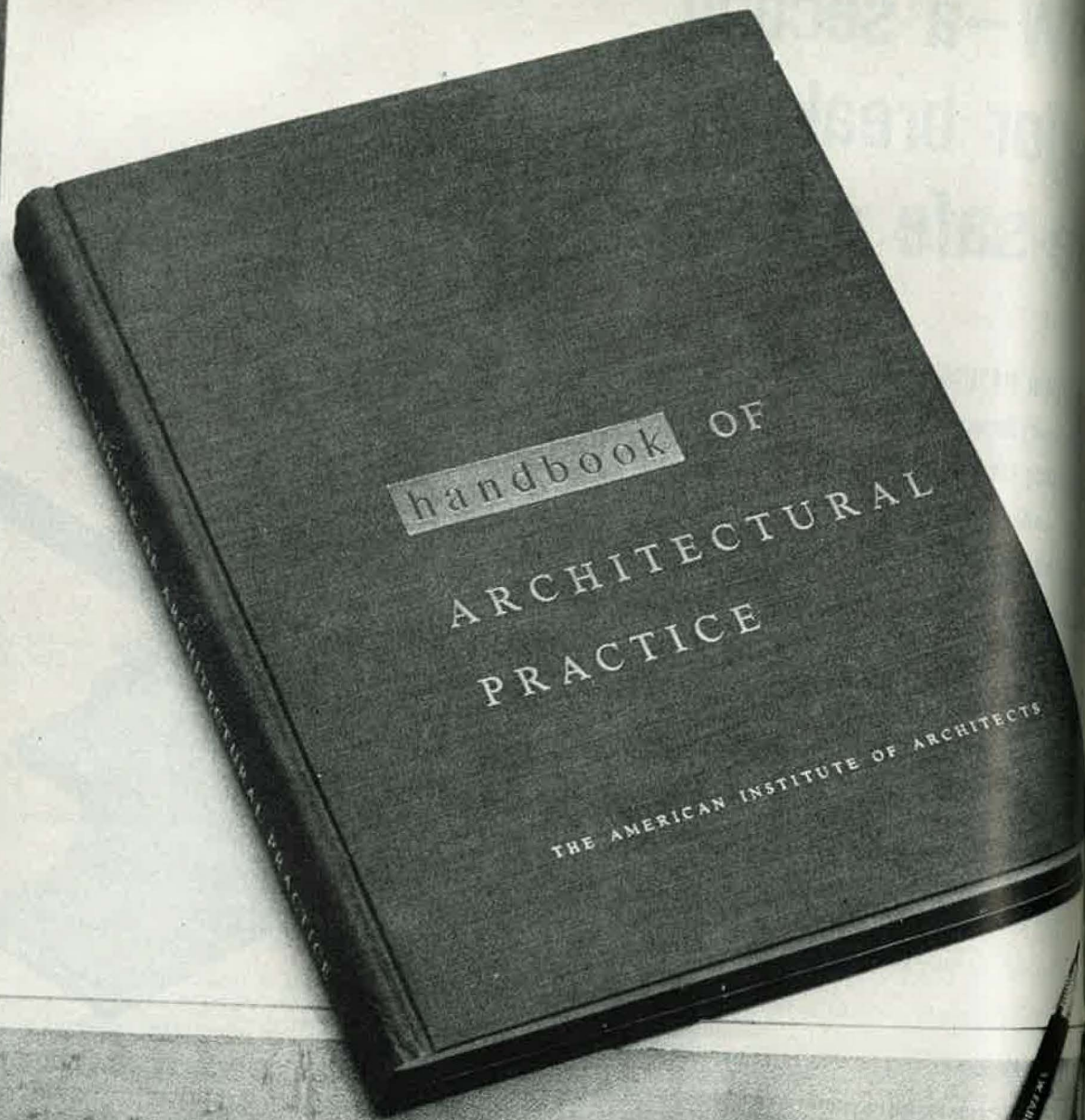
Armstrong Acoustical Fire-Guard ceilings are applied by a completely dry method. There are no costly "wet" operation delays. No extra moisture is introduced into the building.

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New Bissell, Inc., plant features durable, hand-crafted vitreous china by Briggs



Briggs Milton Lavatory is carrier-mounted, provides 5" back, integral front overflow and anti-splash rim.



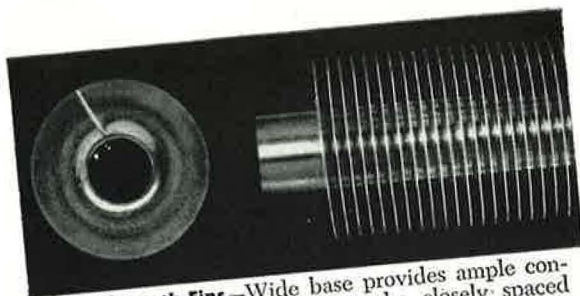
Briggs Lawton Urinal specified for Bissell's new plant displays cleanly sculptured design. All 14 are wash-out, include integral extended shields, flushing rims, integral china strainers and trap with cleanout. Six colors and white.



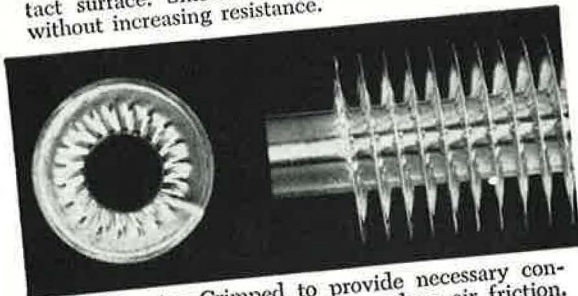
Briggs Noble Water Closet in durable vitreous china gives wall-mounting convenience with blow-out operation.

Vitreous china plumbing fixtures, superbly hand-crafted by Briggs experts, will add both stylistic beauty and functional efficiency to Bissell's new Grand Rapids plant. Architects J. & G. Daverman Company sought fixtures that more than met the codes, found them in the extensive, carefully coordinated line of Briggs Beautyware. Balanced design, functional features, pure eye-appeal all led to their selection of a total of 84 Briggs fixtures. In your own industrial, commercial and institutional work, you too will find decided advantages in this easy-to-work-with line. Styled by Harley Earl, Inc., for Briggs, in high-density vitreous china, it is manufactured under the strictest standards of quality control. For fixtures that can make a beautiful difference, specify Briggs Beautyware, the brand that makes the difference.

BRIGGS
BEAUTYWARE



New Smooth Fins—Wide base provides ample contact surface. Smooth fins can be closely spaced without increasing resistance.



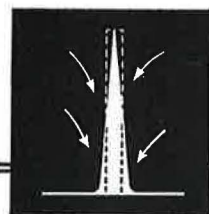
Old Type Fins—Crimped to provide necessary contact surface, widely spaced to reduce air friction.

NEW *Smooth-Fin* Aerofin Coils for Greater Capacity Lower Resistance

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