A·I·A

November 1959

Journal OF THE AMERICAN INSTITUTE OF ARCHITECTS

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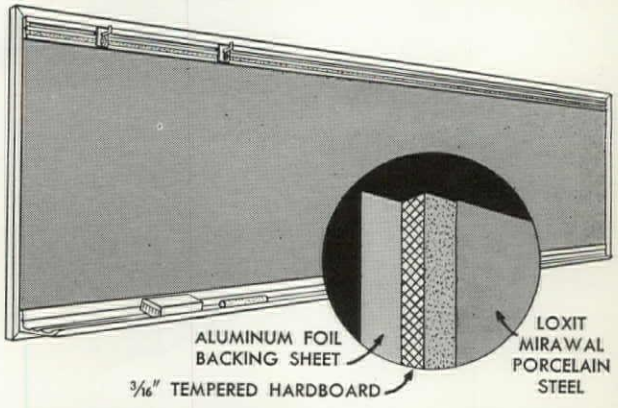

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A·I·A Journal

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THE COVER

We hope the quotation by Thomas Carlyle, designed by Wolf Von Eckardt, will lead you to the First Annual Supplement on Books, page 29.

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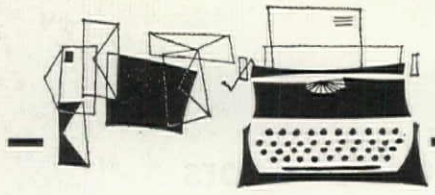


LETTERS

EDITOR, *Journal of the* AIA:

Hearty congratulations on a terrifically absorbing September issue—such "timely" coverage of Research and "ageless" comments on Stunts and France.

JOHN M. MORSE, AIA
Seattle, Washington

EDITOR, *Journal of the* AIA:

You should be very pleased with the reaction of the profession to the *Journal* and your Editorial job. You have created quite a magazine, my friend. I hear nothing but praise and enthusiasm for it. You have, and I am sure, very consciously, filled the gap in architectural literature that was left by the "Big 3." You have sighted it directly to the profession and in areas that are most needed. In fact, I "Read" you and "Thumb the Pictures" in the Big 3.

JAMES M. HUNTER, FAIA
Boulder, Colorado

EDITOR, *Journal of the* AIA:

I have been receiving the AIA *Journal* since its inception and I would like to make a clean breast of it and state here and now, that I often wondered why another architectural journal was necessary; what with the various architectural publications, I find that I am usually 3 to 6 months behind in my architectural reading matter. The AIA *Journal* seemed to add needlessly to this reading load.

Of late, however, I have begun to realize that the *Journal* has something very definite to say to architects, that none of the architectural magazines seem to get around to saying. I have just received the September issue and found it a delight to read.

"Architecture Along The Straw Hat Trail" by Wolf Von Eckardt, was a refreshing bit of architectural reporting. "Notes on a French Horn" by Henry Churchill, was a delightful way of revisiting France. The sketches by William Lacey, the illustrated material on replanning downtown Detroit, and finally, the work of the Rome prize winners, are the kind of illustrations of architects' work aside from their finished buildings, which the professional magazines seem to neglect.

Finally, the article by William Lyman "Day of the Stunt," was the kind of thing that needs saying, but which is never said in our architectural magazines. Many architects, myself included, have developed a deep inferiority complex about our work because of the standards set by the architectural magazines in their editorial policy of published works. Our magazines seem to say—"Conform or else"—and many of us just do not want to conform with what the architectural editors consider the architecture of today. It gave me a warm feeling to recognize a kindred soul when I read Mr. Lyman's article. This is the sort of self-criticism we need, and the AIA *Journal* seems to be the ideal podium from which diverse views can be aired by architects, without the editorial censorship of our fine architectural magazines. The *Journal* has finally worked its way to the top of my reading list where I am sure it will remain.

MORRIS LAPIDUS, AIA
Miami, Florida

EDITOR, *Journal of the* AIA:

I sent you off some limericks this morning, with a footnote saying that occasional jabs were reasonable. I have just read William Lyman's "Day of the Stunt" in the September *Journal*.

If an architect with his background can hit from the shoulder with such trenchant truth my little attempt to shame the modernist by poking fun at him and his foolishness will be in good company.

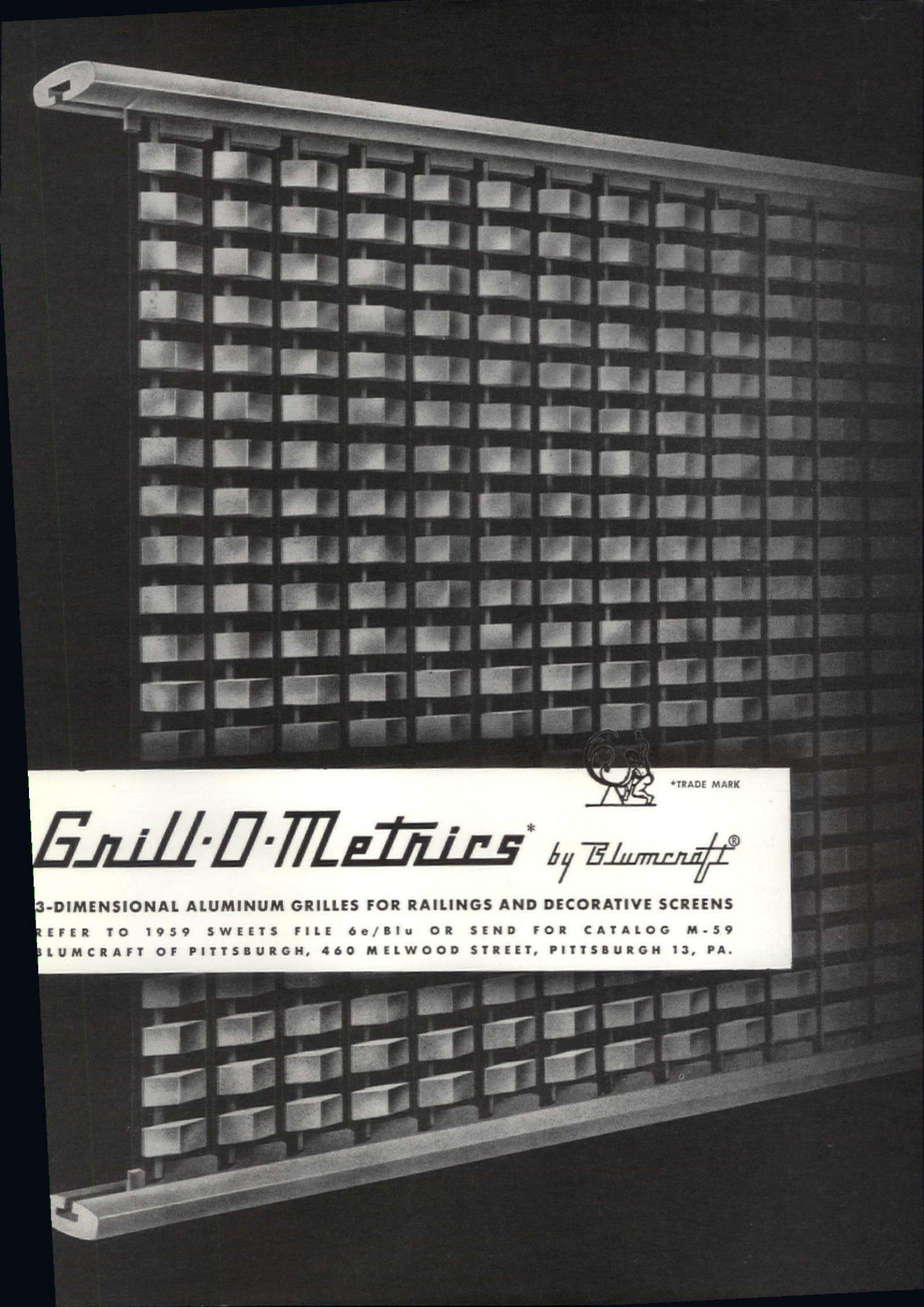
WILLIAM STANLEY PARKER, FAIA
Boston, Mass.

EDITOR, *Journal of the* AIA:

I feel quite humble to appear in such wonderfully good company as Henry Churchill and Landis Gores. Both of their contributions were superb.

Mr. Churchill has real style and that quality of spacious leisure that makes one eager not just to skim the surface of the sense, but to explore the full meaning of every word.

HELENCA
(Helen Cady)
Executive Secretary
Pasadena Chapter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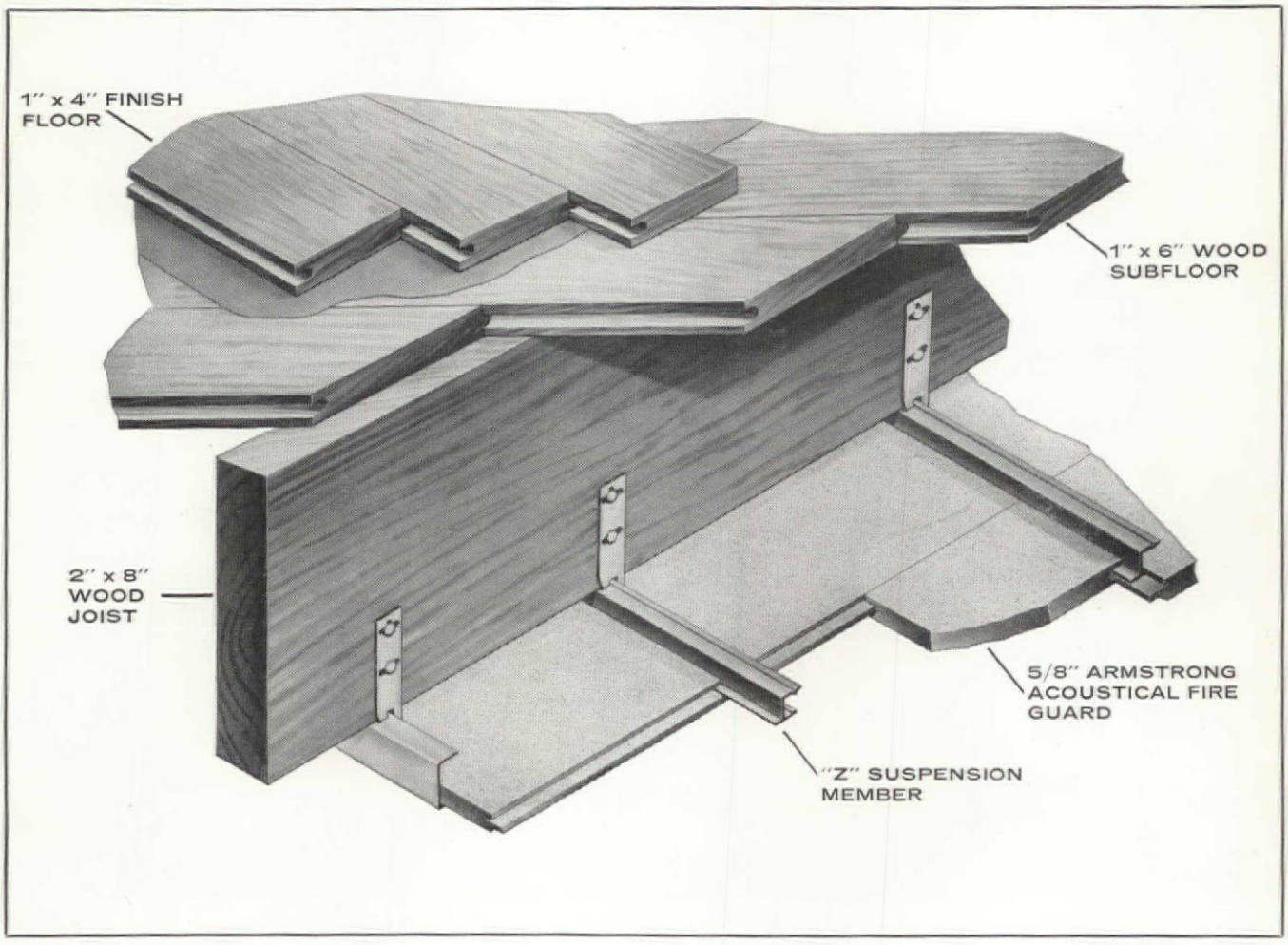

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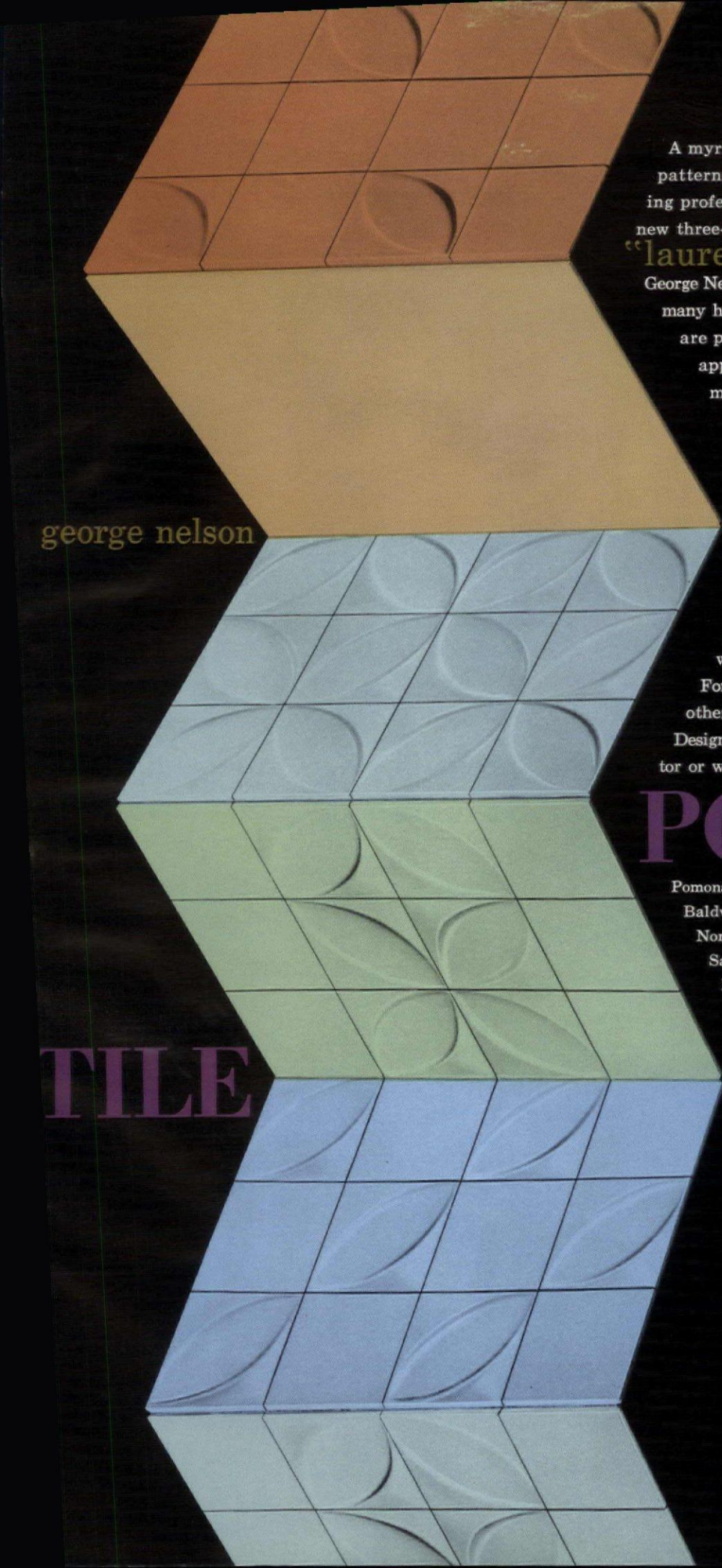

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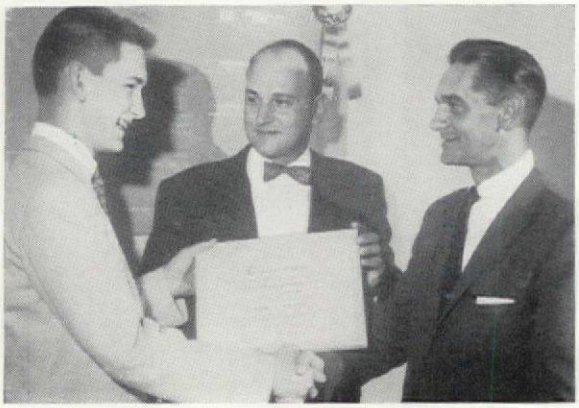
NEWS

Toledo Chapter Sponsors Competition

► Each spring for the past several years the Toledo Chapter, AIA, has sponsored among the high schools of the Toledo area, a competition for the design of a small house. Members of the Chapter act as critics, visiting the high schools weekly over a period of about three months. This year there were seventy-nine entries from twelve high schools.



James Vykopal, left, receives award from Frank Poseler, center, Pres. of Toledo Chapter, and Roy Coss, right, Toledo Edison Co.

The awards were made this year at a banquet, held in conjunction with the Toledo Edison Company. The principal speaker was Philip N. Youtz, AIA, Dean of the College of Architecture at the University of Michigan. President Richards made the introductory remarks. Four awards and four honorable mentions were given through the cooperation of the Toledo Edison Company. The first award was $500. Both the Chapter and the Toledo Edison Company feel that the programs have been exceedingly worthwhile, both from the standpoint of public relations and of public service. Other chapters would do well to consider such a program in their own communities. ◄

French Delegation at the Octagon

► A delegation of French architects and their wives, led by Paul Picot, Secretary of the French Section of the UIA, recently visited the Octagon.

A morning session was held in the Board Room of the Administration Building, with short addresses by Leon Chatelain, FAIA, Edmund R. Purves, FAIA, Joseph Watterson, AIA, and Wolf Von Eckardt.

Following the introductory and welcoming remarks, Frederick Gutheim presented an extended talk on American architecture. At the conclusion of Mr. Gutheim's address, a film on architecture produced by Time-Life-Fortune, Inc. was shown. A luncheon buffet was served after the morning's program.

In the afternoon a tour of the National Housing Center was arranged by the staff of the National Association of Home Builders.

Later in the afternoon the Institute gave a garden party and reception for the French delegation at the Octagon. Members of the Institute staff and their wives and members of the Washington Metropolitan Chapter and their wives attended. ◄

Catholic Property Administration's Sixth Annual Architectural Awards Program

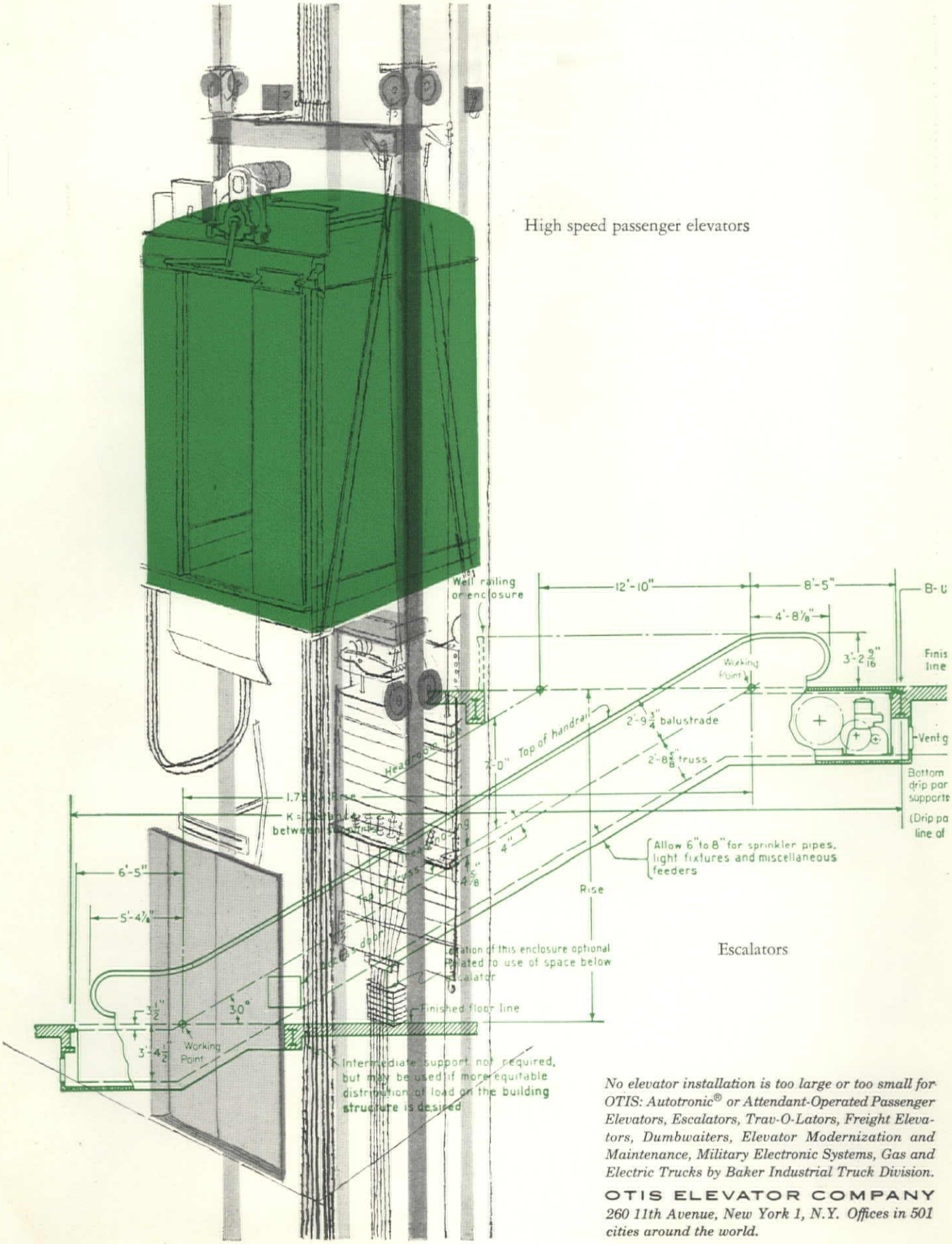
► *Catholic Property Administration,* a magazine of Roman Catholic architecture and administration, announces its Sixth Annual Architectural Awards Program. Last year's program (1959) was under the jurisdiction of the New Jersey Chapter, AIA. The 1960 program is to be guided by the Wisconsin Chapter, AIA. Alvin E. Grellinger, AIA, of Milwaukee, has been selected as Chairman of the jury.

Architects or administrators may obtain copies of the program and entry blanks by addressing the magazine at 20 West Putnam Avenue, Greenwich, Conn. ◄

Restoration on Mackinac Island

► President John Noble Richards, FAIA, joined Frederick E. Wigen, President of the Michigan Society of Architects, in congratulating Adrian N. Langius, FAIA, on the inspiring job he and his Biddle House Restoration Committee have performed in bringing the famous old house back to life. Funds for the project were raised through the efforts of the entire Michigan building industry, and formal dedication is set for next spring. ◄

The nearly completed Biddle House, Mackinac Island, Michigan, 1959



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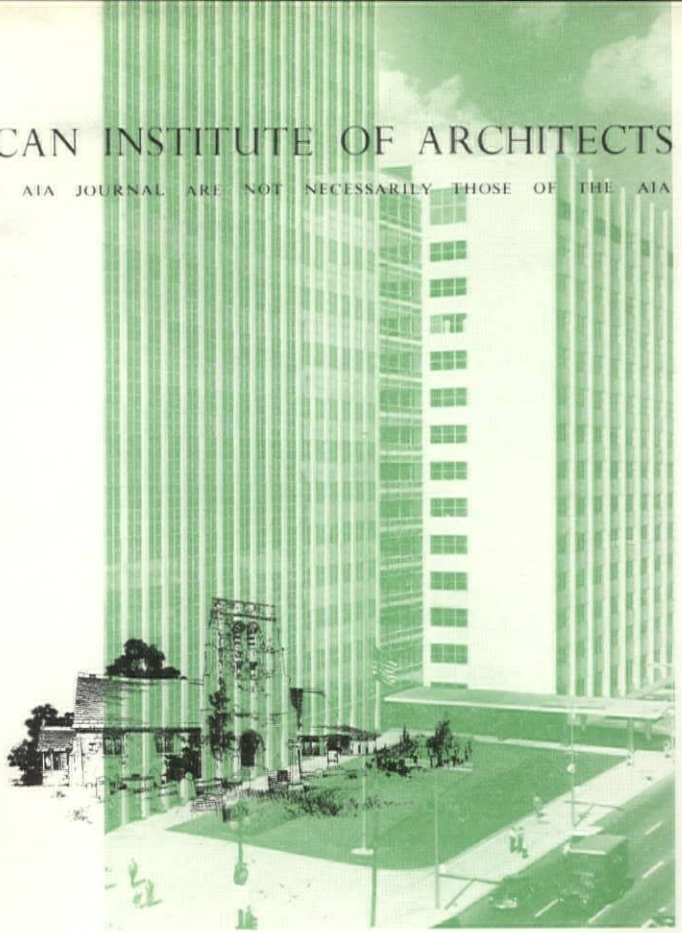

This thoughtful statement by the Dean of the School of Architecture at the University of Virginia is directed toward an exploration of the status of the urban church in our present cities. A review of the changing relationship between the church and the city down through the ages brings into focus the dilemma facing us today. The final thesis presents the argument of the need for re-establishing the symbol of the church in the city of tomorrow.

The Church in the City of Tomorrow

BY THOMAS K. FITZ PATRICK, FAIA

► It would be useless and quite pointless to explore the role of the church in the future urban scene of this country without first searching through the roots of the past to discover the real origins of the present tragic dilemma of the modern city. Concerning the origins of the church we can be reasonably sure of the basic facts, the process of continual change and something of the forces which define its character today. But the true origin of the city, like the origin of civilization, was lost in the misty obscurity of the past. The buried evidence reveals little of this and we have a rather untrustworthy glimpse of the development of the city in recorded history.

The written word has become so magical in men's minds that it takes on an aspect of undeniable truth the moment it has embossed the parchment. Constantly in our present society we uncover areas of untruth in written history when the real facts are brought to light from the dust of the earth or the watery tomb of the ocean. But at least we can observe our own immediate scene and with our limited senses and intuition evaluate for our time the history we create. And this much we can say. The modern city of today is obscene. And its repulsive character is less acceptable because it is a man-made thing. It is at once cruel, hard, and ugly. It is a direct expression of the ruthless quality of modern society and a sad spectacle of man's inhumanity to man. Should we wonder at all that the people currently are fleeing from this man-created carcinoma in the center of the scene to the questionable safety of the suburbs, returning warily at night for social nourishment when the purple shadows of the evening hide its bleeding ugliness and the gay glitter of the lights creates a world of unreality lasting only until the morning's sun reveals the sad spectacle again?

Based upon an address delivered at the 1959 Annual National Church Architectural Conference and Exhibition in Los Angeles in February.

life. The simple spire of the church, the stately town hall and the shopping areas all group appropriately around a common green. Like the medieval town, they seldom outgrew their purpose or resources but multiplied in individual units as the population grew. They never lost their human scale or character. They never became obscene or ugly. Soon, of course, the settlements became colonies and the colonies became states and a new nation was conceived. As the nation grew it expanded westward of necessity. Wave after wave of new groups surged on the shores and soon the Alleghenies were crossed, then the lake territories and the Mississippi, and finally the Rockies were conquered. We are all too familiar with the pattern of destruction which followed.

The forests were stripped bare, the streams were polluted and the earth was burrowed for fuel and metal. The entire countryside was ravished as though by a conquering army. We are still paying the price of this destruction. State after state came into existence and we became a big and brawling nation overnight, borrowing all of the baroque forms of Western Europe and adjusting them to a so-called democratic society. We built our capital cities, our armies and our avenues. We looked constantly over our shoulder for a culture we could borrow easily. The temple, the cathedral, and the palace form, all alien to our newfound society, we imitated in our ignorance and hurriedly assembled these hollow shapes to prove to our visitors that we were a people to be reckoned with. We conceived a dream which established the dignity of man in a common society but we lost our spiritual values in a world of hurried sophistication. The vigor of our natural resources was enormous but our most previous symbols, carefully nurtured at the beginning, lost their meaning as national greed, corruption and bigness replaced the true instruments of social order.

In our modern cities all the evidence is there to view today. Bigness became our watchword as industrial expansion moved forward under new technologies. The smokestack became the symbol of progress in the very heart of the city and the huddled masses crowded into the adjacent slums with all their attributes of disease, poverty, and crime. When the smokestack replaced the steeple, the city was doomed.

Reconstruction and Salvation

Today, halfway through the twentieth century, we find ourselves at a crossroads point of particular significance. It is frightening to conceive that we will continue the senseless unplanned kind of destruction so much in evidence. There are other directions to take and it will demand real courage and great soul-searching to embark on the necessary road of reconstruction. Our cities may not have been damaged physically by the recent war but we must face a period of reconstruction as surely as did London, Berlin, or Stalingrad. For a decade now the pillaging has been going on under the name of progress and expansion. Look about you in Los Angeles; consider the catastrophe of the wasteland called Euclid Avenue in Cleveland. If you must, visit New York and view the destruction of space at a frightening scale. Skyscraper after skyscraper being torn down to be replaced by a bigger and shinier monster. Acre upon acre of glass acting as mirrors to multiply the disorder and destroying any concept of space, slowly driving the population out of the city. The churches lie hidden and even the railroad stations must succumb. Is it any wonder that the little child in New York, kneeling at prayer is said to have uttered, "Forgive us our trespasses as we forgive those who trespass against us and lead us not into Penn Station"? All about us today we see city after city devouring itself at the center like some great volcano and forcing its lava of destruction further and further outward, constantly desecrating the countryside. And the population clutching its precious symbols flees headlong to the safety of the suburbs only to be engulfed again as the molten mass flows by.

This flight from the city is a grim reality but the facts tell us quite another story. Between 1920 and 1930 people tended to leave the city. Philadelphia, Pittsburgh, St. Louis, Cleveland, Boston all lost population. However, they never really left the city. They merely moved to the unincorporated fringe areas. Since 1940 the trend is completely reversed and now masses of the population are moving toward the city. At present over sixty per cent of our population live in urban metropolitan centers. This unprecedented expansion of the city is perhaps the most significant social phenomenon of the twentieth century.

Now, I do not intend that this statement become just a jeremiad of rhetoric. With reconstruction can come salvation. Recently we have read much about so-called urban renewal. To renew may mean to bring back to its original freshness and vigor. As applied to the urban center this is most appropriate. Almost every major city has such a program in operation or on paper. But too often these are timid, ill-conceived plans for removing slums and run-down areas to be replaced by contemporary slums. In this hurried attempt to

erase the scars and to heal the cancerous center of the city, we have utterly forgotten the role of the church in urban life. Because in our democratic society the church has rightfully become a diversified type of denominational concept, its symbols as church forms have become smaller and less significant. But this is no justification for abandoning these forms in our flight to the suburbs.

Too many times we have been frightened into the "suburban solution" by ministers with an "edifice" complex or by the foolish notion that the church must necessarily be as convenient as the country club. We seem to have achieved an Alice-in-Wonderland concept that suburbia with its cute little packages for living row on row, each with its handkerchief-size plot of green, will last forever, forgetting that in twenty years or less it can become Drearyville. I am quite aware of the enormous difficulties one faces in maintaining a downtown church and all of the parallel problems. But the solution is not found in running away. Carl Feiss, one of our important city planners, recently said, "Irrespective of the setting of religious interest within any one city, I am convinced of the fact that any community without adequate provision for places of worship is not an adequate city and that the church as a vital institution must be considered at all times as an integral part of a city plan." We must constantly remind ourselves that the city is not merely a physical fact but is a complex of social institutions, each of which plays a part in the constant drama of man's existence. This total complex exists in its highest sense only in the city, and the church must not allow its role to be abrogated.

Now, there is progress being made. For many years planning for the church was done in isolated procedures with little thought being given to the interdependence of the church and the city. But now the picture is changing. Everywhere church councils are being formed to bring into focus common problems. There are now nearly one thousand such councils and the National Council of Churches represents nearly thirty-seven million members. With such organizations can come about a close liaison with professional and public planning bodies through which the church can exercise appropriate influence in consideration of city space. Such a planning staff exists in Los Angeles. It is my feeling that only by combining resources and acting in concert can the position of the church be re-established properly in what I choose to call the "new city." Our first plea must be for space dedication. The church cannot compete side by side with the skyscraper. It should never have

John Wesley AME Zion Church, Wash., D. C.

to. We know that broad areas will be opened up for garden plazas in the center of the new city. What place could be more fitting for the spiritual symbol? We must have church centers and what better way can there be for entering a church than through a garden? What a wonderful experience it would be if the church center could be the focus for a pilgrimage into the city every Sunday, the one day in the week when there is ample parking. This dream could be realized if we as architects, planners, and clergy acted together to return to the heart of the city the symbol of the church in its proper place.

To define its future form would be mere speculation. But this we know. We can no longer return to the dusty past. In this new age of space exploration our future church forms must be wonderfully imaginative and more spiritually satisfying than anything we have created thus far. As the church is the heartblood of the city and as life itself is the principle of self-renewal so the city must renew itself constantly to meet the surging needs of the growth of man. Although in this great period of exploration which unfolds before our eyes day by day we will probe the heavens searching for the answers to the riddle of the universe, the drama of life will continue to be played in the heart of the city and in the shadow of the church.

"Except the Lord build the house their labor is but lost that build it."

"Except the Lord keep the city the watchman waketh but in vain." ◄

References

PLANNING, 1957

PLANNING, 1955

American Society of Planning Officials

URBAN SOCIETY—1947

Culture of Cities, 1936, Lewis Mumford

American Skyline, 1955, Christopher Tunnard

Joplin, Missouri (looking north from Eighth Street), a trade and service center for approximately 300,000 people

Court is occupying a remodeled grocery store. It is an unusual opportunity to accomplish a grouping that will have a cumulative value in beauty and practical convenience.

In the five years that this plan has been under study some very significant changes have taken place in the downtown area. Main Street in Joplin is sixty-eight blocks long with businesses of varying degrees of importance stretched over fifty blocks of its length. Seventh Street, the principal crosstown artery, also has businesses of one type or another for its full length. But from the beginning of the town the astute merchant and the chain store have tried to squeeze into the three blocks of Main Street between Fourth and Seventh. In this area are a 300-room eight-story hotel, two eight-story office buildings, one six-story and one five-story department store, and along with other businesses, all of the chain stores. Three years ago Sears moved to a location a little less than a mile from this area, where more space was available, leaving a vacant two-story building. Last year Kresge's and eight other businesses moved out alongside Sears, where there was space for one car for each hundred square feet of sales area, and downtown Main Street now has six vacant store buildings in its three-block length.

Also taking place last year was the exodus of twenty-five doctors, mostly from one office building, to a medical arts building two miles out.

Along with these movements, the State Highway Department completed a freeway to the south of the city which connects to the Oklahoma Turnpike and which has, in the one year of its existence, drained off 3,000 cars a day from the once well-traveled Route 66 through the center of town. This has in turn reduced the Main Street traffic by 1,500 cars a day in one year.

These factors were foreseeable five years ago, but efforts to stimulate the public, the merchant, and the landlord were feeble and unproductive, and the citizenry could not be aroused.

Now that the situation is obvious, and with the City Planning Commission and the daily newspapers solidly behind the simple plan of attack, some progress may be expected. There has been talk about the matter this past few months. Most of it is by the man on the street, the people who believe it would be more pleasant to shop, do business, and be entertained in a quiet atmosphere that would be easier to get into and out of. They are talking among themselves over the breakfast table, on the street, at the Woman's Club, Country Club and at the civic luncheons. Even

The proposed Civic Center Plaza, Federal Building and city hall with off-street parking off main street

the "Voice of the People" columnist has contributed the usual opinion that the plan is not good enough—that Main Street also should be condemned and start all over. Most of the favorable comment seems to come from feminine sources, both housewives and business women, who are perhaps more aware of inconvenience than the male animal. The Chamber of Commerce reports that no proposed public improvement has been so favorably discussed in years.

There seems to be no outspoken objection. There are opponents, of course, such as the private parking interests; the merchant who feels strongly about the ancient privilege of having customers stop at his front door; the landlord who is concerned about the expense to himself. But they are not speaking out yet.

The apathy is not on the part of the public, but it seems to envelop the very ones who stand to profit financially: the merchant, the landlord, the public utilities, and the absentee owner. Some of the reluctance stems from the possibility of their being pushed into a higher tax bracket—a factor which may enable the small town architect, who is hardly in a "tax bracket" at all, to see a bit farther into the future than those fellowmen whose vision may be clouded by a tax film.

The wheels of ancient privilege, apathy, and just plain aversion to change are hard to turn. The editor of the daily newspaper is lending a powerful hand in this process.

The daily newspapers have carried complete stories on the proposed plan and subsequent developments. An excellent editorial and weekly feature articles, supplemented with new stories on traffic problems in the business district and the relation of major street improvements to the downtown area have been major aids. Too much cannot be said about the importance of the newspaper's editorial and news policy in carrying the matter to the public.

The formation of a city-wide "Joplin Unlimited" organization originating within the Real Estate Board may provide the nucleus for implementing the plan and the recent Home Show theme of "Dreams of a Future Joplin" has sparked additional public interest.

This project is at the stage reached by most such projects just before they either move forward with enthusiastic support or stop against the wall of public apathy. I am sure that Joplin will adopt at least a variation of the plan and a rejuvenated heart will beat in the city in the near future. ◄

perhaps driving a few others into bankruptcy. Unlike the building of a New Town, which generally displaces a few handfuls, the process of renewing old neighborhoods may move or upset the lives of thousands of families.

And this process *must* be a process of negotiation and persuasion. It touches the intimate life of a wide segment of any community. While it offers the private developer a new avenue for investments, it requires also the investment of a new supply of both political and emotional capital. (The new "capital-formation" among political bodies is something to behold: Hordes of new agencies, departments, governmental organizations are being set up in every major country—new devices, new techniques for the renewal process.)

Furthermore, urban renewal requires somebody with power to adopt and enforce the "injection" theory, where new streams of good wishes, esthetic improvements and public assistance are injected into old neighborhoods.

But above all, it seems to me, urban renewal requires of its practitioners the keenest understanding of the human necessities of urban life. In many parts of the world it is quite apparent that the inhabitants of the most notorious local slum have built up a community life based on friendships, personal dependencies and emotional status which is shattered by the typical slum-clearance tactic. No matter what sort of neighborhood we speak of here, it is built upon "neighboring" and mutual interdependence. Such qualities of life are not easily gained, and can be too quickly lost amid the process of tearing-down and rebuilding.

Hence the processes of urban renewal must be applied with great caution, sympathy and understanding. Professional public housing managers in the United States have now had a decade's experience at building and managing large, soundly-built "projects" which may contain 10,000 persons. But for many of them the new concept of managing groups of remodeled old houses, redesigned as homes for low-income families, has been a difficult one to accept. Yet there is mounting evidence in many American cities that a family moved into a mammoth "project" amid an endless sea of strangers often suffers a traumatic experience, especially if that family has newly arrived from a totally different environment.

Many such great projects, it turns out, have created new social problems as serious as the inadequacies of the old slum housing. The life of their tenants has become over-organized; many new arrivals are terrified by the crowds; and few of them can quickly find the ecological niches which prevailed in their old, familiar, yet insanitary homes. (Which is not to gainsay the process, or to deny the necessity for slum clearance; but to emphasize the needs of people who all too often are swept up and swept out by a careless or heedless official hand behind the renewal process.)

This is a real problem for the professional city planner, architect, sociologist, or "houser," and in its solution lies one of the great opportunities for creating the livable city of the future. The objections being raised in many cities against the "project approach" toward renewal may be nothing more than a reaction against the over-organization of life. But the urban critics in European and North American journals who criticize the "antiseptic city," the "project city," and "the bulldozer approach toward urban renewal," are expressing a deeper unrest. For they see urbanization not only as one of the world's greatest population movements, but as a potential liberalizing force in world history.

These urban critics, a restless and sometimes unreasonable lot, have watched the New City emerging from the planners' drawing boards; they have studied the Project City embodied in many a multi-million-dollar venture; and their disappointments are reaching a wider audience.

Especially are they disappointed at many of the results of renewal efforts of recent years. For it is in urban renewal that many "developers" have shown their weakest sides (or should I say, the weakness of their strength?) Surely one of the less pleasing aspects of urban renewal is the New Brutalism inherent in an excessive dependence on total slum clearance, on carving great holes out of the urban fabric which only time and slow human adjustment can heal over.

Soon, let us hope, the bulldozers will be brought under control; and urban renewal will become in fact, as well as in government phraseology, a part of the community's "workable plan."

Some of these hopes, fears, and intimations of the future permeated the discussions at the 1958 International Seminar on Urban Renewal at The Hague. It is quite true that we neither discovered nor devised a formula which could be thrust into every city of the world. What we sought then, and seek now, with publication in book form is a frame of mind, an attitude. No nation has a monopoly on knowledge or technique; nor is there a Single Wisdom for all of urban life. The attitude we seek is one by which each nation and community can work out its own solutions to the urgent pressures of city life and growth. ◄

THE

AIA JOURNAL'S

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SUPPLEMENT

ON

Books

1959

AIA JOURNAL BOOK SUPPLEMENT

ARTICLES

BOOK REVIEWS

BRIEFLY NOTED

BOOKS—

Design and Contents

BY RALPH WALKER, FAIA, AIA CENTENNIAL MEDALLIST

To Ralph Walker—as to any book lover—a book is more than something to be read. It is a physical thing, which can be fondled and admired—or laid aside in despair, as the case may be. But a good book is an object of design and possibly a joy forever.

I suppose that one might say that he was born with a book in his mouth; that is, if there were no silver spoons—and, if not in the mouth, at least in a becoming awareness as a strong influence in life. I was fortunate in having a father who was an omnivorous reader and who early encouraged his two sons to follow his example. So much have books been a part of my life that I cannot appreciate a prospect where only the thousand-thousand TV pictures take the place of a thousand words — because, while a fairly rapid reader there are times when I like to go back, immediately, and resavor a thought or its manner of expression. Of course there are also those visual pleasures in a well-designed and executed book that enable one to enjoy, in all its aspects, another kind of craftsmanship which, fortunately, still exists.

If I have been interested all my life in a book's content, I have been equally appreciative of a fine letterpress and good paper. I have been extremely fortunate in having been, for almost forty years, in a design and spiritual partnership with a long-held friend, Frank Henahan [1] of The Aldus Printers in New York, whom I think to be one of the great printers in our country. We have designed many books together, each contributing ideas, and both of us either agreeing or fighting like the two Celts we are—he being Irish and I being of Scotch descent. We have many times parted in violent disagreement, but never in anger, and always with minds restive and spurred on to make a more outstanding result. Next to having the design of a book held entirely in the hands of

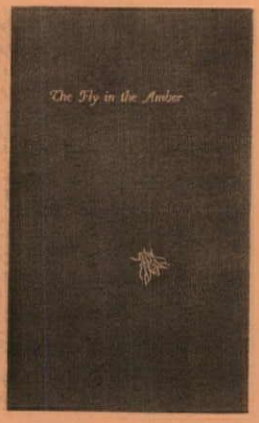
[1] Frank Henahan has printed the beautiful citations that accompany the Institute's Gold Medals.

one person—with all the many advantages in thus gaining a personal distinction and also that sensitive search for perfection which a man like Bruce Rogers, for example, brought to the making of books—an intimate association such as Frank Henahan and I have had is almost as satisfactory. It happens that, granting the exigencies of time, he and I alike are perfectionists at heart; and both of us are in complete agreement that the fundamental reason for a book is the ready communication of ideas, and that a type face must be used only to clarify the means of understanding rather than lead to further confusion. I suppose, using an often misused word, we are classicists.

We both prefer to have a book which finally can be easily read rather than to develop a clever page; nor do we wish to mix it up with the ideas properly underlying posters, needing as they do a quick perception. A page and a book should be so well designed that sentences or paragraphs can be read at a glance, and at the same time read with an understanding that there is more to follow. This has been said many times of course, but there is, in my opinion at least, a great deal of bad printing which assails one in the course of the day, and which might more readily have received interest if it were better designed.

The author's library at Walkerburn

Wastepaper basket mail (whether sheets or volumes) floats in and down all too quickly to its destination without ever having had the opportunity of stopping, for even a brief moment, behind the eyes. This is especially true of poster art in which, very often, the message is so clouded and harried that it is lost in strange aberrations. I have been amused twice in my life, during war times, at the rapid humanization of posters; first they start out with all the benefits of strange Bauhaus abstractions, finally achieving a direct emotional appeal by realism. This is true of newspaper advertising as well, where if clever copy is used it is never permitted to lead one's mind away from the proposed sale of the object considered desirable.



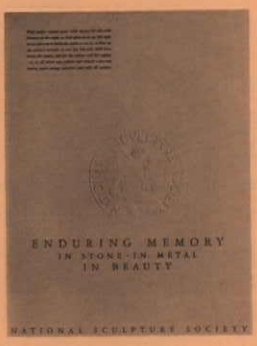
Trying to read a type face through two colors or, as I have often had to do in mailing pieces—the same type face trying to carry a message through two background tones and on each a different color—is one of those things which is supposed to drive chameleons mad, and while I am not a chameleon I get impatient at two things: bad design and the utter waste of money involved.

I have said that my father was a great reader, but he was equally a skeptic. He taught me to take everything, which for the moment seemed to amount to something, and turn it inside out, or if you will "bassackwards," to find out if the reverse also made sense. When Le Corbusier, for example, in "Toward a New Architecture" said: "Our eyes are constructed to enable us to see forms in light," I wrote, years before Ames made his experiments in visual research at Dartmouth: "Our eyes are the agents of our minds, they are instructed in what they should see, and in a world all too vocal they rarely tell the truth; yet our minds comprehend at times that which we do not clearly see."

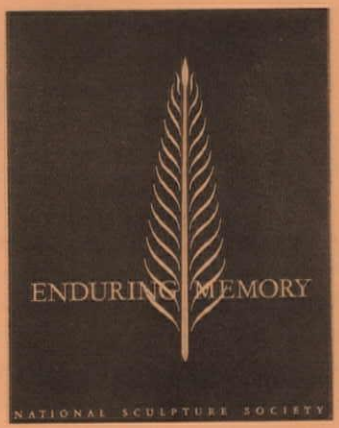
Nor did I find the words of famous American theorists to have much more meaning. Beginning with Horatio Greenough through Louis Sullivan and finally to Frank Lloyd Wright—for as they wrote "the design must be organic" they failed to understand that the word "organic" means a lifetime enduring and expanding within. Frank Lloyd Wright, unfortunately, has had a tragic position in our American civilization. He insisted that he was a lone oak tree in a meadow and refused to become a part of a great stand in a forest. He came, he went—brilliant as he was—because there was no true acorn, no possibilities of internal growth for the tenant so that as a result an American culture might germinate. A natural "sport," he was an illustration to be gathered and remembered as representing the unusual and the curious; and in so many ways he is also our greatest tragedy because we have no one better to offer, no one better to follow.

I think that I have read almost everything that both F. L. W. and "Corbu" have written and, while I admit their wide influence, it has always seemed to me that a thoughtful book read uncritically is somewhat like reading a detective story, something just for the pleasure of a moment, and not for its possible effect upon our thoughts. To read well we must gain a full understanding as to why there had been failures as well as successes. To deny there have been failures is to rise above those gods whom history in its finality so loves to tumble.

A true architect, of course, is interested in all phases of design, and in my early years when most architectural books were collections of drawings and not of photographs the quality of



The author's library at Walkerburn



draftsmanship was as often appealing as was the matter that was illustrated. The first folios of Piranesi, the marvelously beautiful drawings in Letarouilly, developing as they did a desire for the proportions found in Italian Renaissance, the equally exquisite measured examples of Greek architecture by Stuart and Revett—while all of these had been made years, sometimes centuries, before, they still exerted an enormous influence upon the students of my generation; moreover they were books of great beauty.

Unfortunately the book, and architecture as well, has lost the voluptuous frontispiece; and the title page, once so imaginative, has shrunken to loud type badly placed, without elegance, upon an ill-proportioned page. Likewise, many a lovely front, such as that which once housed Sherry's on Park Avenue, has been replaced by the ubiquitous plate glass.

Those delicate mementos of a rich past were examples of a craftsman's approach to the three facets of the architect's way of life—all of which are not quite so evident now—a delight in delineation, a respect for the architectural heritage of the past, and an understanding of proportions in the relation of the humanistic approach to the spaces and forms of the buildings which house man for his many purposes. The books were used, the great folio pages opened and poured over with delight. They influenced not only design, but all of us were better draftsman because of their presence. We not only emulated the delicacies of design but we strove to become masters of line.

In my class at M.I.T. was John Taylor Arms, who later became a famous etcher, a draftsman equal in every way to the masters of the Renaissance, and even greater as a technician than were the acid-biters of the nineties; and within a year or so, in later classes, Samuel Chamberlain and Louis Rosenberg. It became a matter of grave family concern, just after the First World War, when within a two-week period I had an offer to travel through France on a power canal boat and illustrate a book in much the same manner as had Joseph Pennell and Ernest Peixotto, both of whose pen and pencil sketches were also influential on "Tech" men of my time. At the same time I had an offer from two architectural firms for my services as a designer, one in New York, McKenzie, Voorhees and Gmelin (predecessor of my present firm), and another from Chicago there to join one of my friends, John Root, son of one of the great pioneers of American architecture. He, Bill Foster, and other architects, had been comrades of mine in the American Camouflage Section in France. With many a heart wrench I chose New York and the then seeming more prosaic work of an architect doing telephone buildings—and thereafter buildings, rather than sketches for illustrations, became my life work. It was a definite change in point of view because the drawing became a tool and not an end in itself, and the draftsman, by necessity, developed into a personality who as often designed over the telephone as he did with drawings. Words became another method of communication which had to be thoroughly mastered, because a well-written report of a conference was as important as a working drawing and often, in case of a dispute, even more so.

Words, in their marvelous varieties, become increasingly important as one faces up to a profession which meets all kinds of people demanding all sorts of things. When I was asked to design an auditorium for Philadelphia in 1930, and although I had won the Rotch with a design for a concert hall and was not altogether ignorant of the theatre, I spent hours each day getting acquainted not only with architectural form but also with the *why* of the form in the first place.

I read all the Greek plays extant, and later, to judge their qualities, I sat in several of the great theatres—that of Dionysus in Athens, and have dropped a penny to hear the supposedly amazing acoustics in that at Epidaurus. I have read Gertrude Richter on Greek vase paintings, seeking further knowledge concerning the actors and the actual masks they used. The plays seem to be as strongly human as those of Elizabethan times, and when you consider the poignant and ever meaningful words, such as those being spoken to a vast multitude you may wonder how in tenderness you can arouse compassion:

"Lo, I have seen the open hand of God;
And in it nothing, nothing, save the rod
Of mine affliction, and the eternal hate,
Beyond all lands, chosen and lifted great
For Troy! Vain, vain were prayer and incense-
swell
And bull's blood on the altars! . . . All is well.
Had He not turned us in His hand, and thrust
Our high things low and shook our hills as dust,
We had not been this splendour, and our wrong
An everlasting music for the song
Of earth and heaven!

Go, women: lay our dead
In his low sepulchre. He hath his meed
Of robing. And, methinks, but little care
Toucheth the tomb, if they that moulder there
Have rich encerëment. 'Tis we, 'tis we,
That dream, we living and our vanity!" [2]

I wondered and finally found the form of the theatre less than perfect and I think that the play, as well as others, would have been greatly improved in rendition in another architectural form. This would seem to be heresy.

The invention of perspective in the Renaissance, which changed the entire character of painting—and which is so much resented today—rapidly changed the open stage of Shakespeare's time to that of the picture frame, and it, together with the development of adequate lighting so that the theatre became an enclosed space, added mood to emotion.

Nor can you understand the stage which used perspective unless you have read Molière and Racine and the Restoration playwrights in England. There is, of course, another side to all this, and that is the added pleasure given the architect beyond the mere copying of the structures of the past or the quaint ideas of the presently ignorant which have been developed to house the actor and his audience and an added understanding which enables you to stand and ponder as to a future. If you know the past you can then read "Waiting for Godot" or "J.B.," or be angry with Wilson or nasty with Bertold Brecht, with the appreciation that a new theatre form might be possible in frustration if not in plenitude; and, finally, you just do not take the theatre in "a totality" as having other than perhaps a momentary mental titivation.

I plead guilty to being a book collector. I possess a fine library of American poetry, another on modern arts, and outstanding collections of Lafcadio Hearn and T. S. Eliot; and I have been interested in oriental art. I find that the mind changes in its demands for new horizons, and have passed on books for which I have no further or immediate interest. I am about to give away an extensive library on city planning. I, at seventy, am perfectly willing to pass on to others the many frustrations accompanying the growth of cities. Frankly, the Park Avenues of America distress me; so do shopping centers and the nasty ribbons of commercialism to which the automobile has given birth. The imitation of Le Corbusier's megalomania, seemingly, is not to be lightly stopped, because it is to be found everywhere; it is the true indication of our present internationalism.

I think I might now search for a set of books which may help me understand what is happening to the minds of men and the mishmash of their endeavors. Not that I believe you should ever retreat into books; because if you properly digest them they will influence your mind in creation of values which might transcend your times and finally help you to create beauty.

The other day, in my library, I sought books on books to possibly help in getting over some of the satisfactions which they and their contents of words and illustrations, in typography and broad design, have meant to me, and came across a beautiful French edition of "Eupalinos" by Paul Valery, and one which I had struggled through because by chance I had opened the book to the delightful little story of the design of a temple. [3] It reminded me of something I once wrote criticizing Eric Gill, whose book "Beauty Looks After Herself" is full of solid philosophical meat: "Beauty rarely can look after herself, because beauty is truly a hard-earned concept of masculine man. He alone has made beauty. He demands that women adorn themselves; and while he fondles every curvaceous volume, regretting the while that he did not personally sculpt it, he uses these forms and their delight to create other forms—other forms not imagined by woman."

I take with me in my many architectural travels and experiments, and thereby eschew the ready stunt, words like these of André Gide: "Art is always the result of constraint. To believe that it rises higher as it becomes freer is to believe that what keeps a kite from rising is its string . . . likewise art must be supported by resistance in order to rise. . . . Is it not in periods when life is most overflowing that the need of the strictest forms torment our most moving geniuses? Hence the use of the sonnet during the luxuriant Renaissance, by Shakespeare, Ronsard, Petrarch, and even Michaelangelo. Hence, Dante's use of 'tersa rima,' Bach's love of the fugue, and the restless need of the constraint of the fugue in the later

[2] "The Trojan Women", Euripides, translated by Gilbert Murray.

[3] The book is a signed copy and was mint when I bought it. I destroyed its virginity in my eagerness to seed the future.

works of Beethoven. . . . Should we be astonished that the lyrical impulses of power of expansion is due to its compression, or that the weight to be supported is what makes architecture possible?"

Rather strange doctrine in an age when everything is supposed to be weightless—or should it be witless—as a kite at the end of its string.

A book is the personal key to the lock of experience. The door opens, you enter, at best to find yourself anew. One can be as overwhelmed with a meagre thirty-five years as with thirty centuries.

To the theatre, if I may return, and to Molière's "Le Medicin Malgré lui Valere": "Perhaps we are endeavoring to meet with some clever man, some special physician, who would give some relief to our master's daughter, seized with an illness which has at once deprived her of the use of her tongue. Several physicians have already exhausted all their knowledge on her behalf; but sometimes one may find people with wonderful secrets, and certain peculiar remedies, who very often succeed when others have failed; and that is the sort of man we are looking for." [4]

The quiet joy of good design . . . contemplation within a delightful volume.

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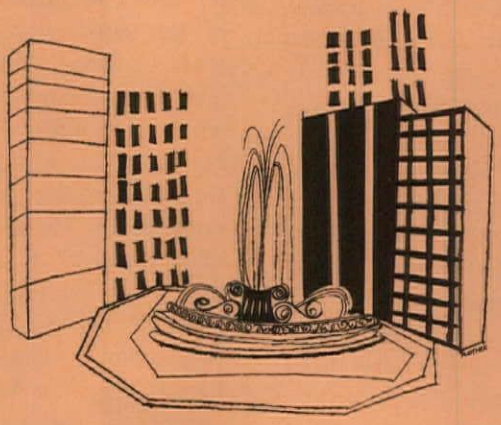
[4] Molière, Modern Library 1924.



History Past and Current

A History of Renaissance Architecture

By Bruce Allsopp, FRIBA. 240 pp. 6″ x 9¾″. New York: 1959: Pitman Publishing Corporation. $13.00

Here is a history for the contemporary reader. The author suggests that there is still a tendency to see all architecture through, as it were, a Renaissance filter, and he claims that his is the first history of Renaissance architecture written from the outside. He sees the period as one of magnificent achievement which is over and done with —dead. He thus writes with an admirable objectivity, yet as one who cannot help but be captivated (as who couldn't?) by its beauty and the splendor of its achievement.

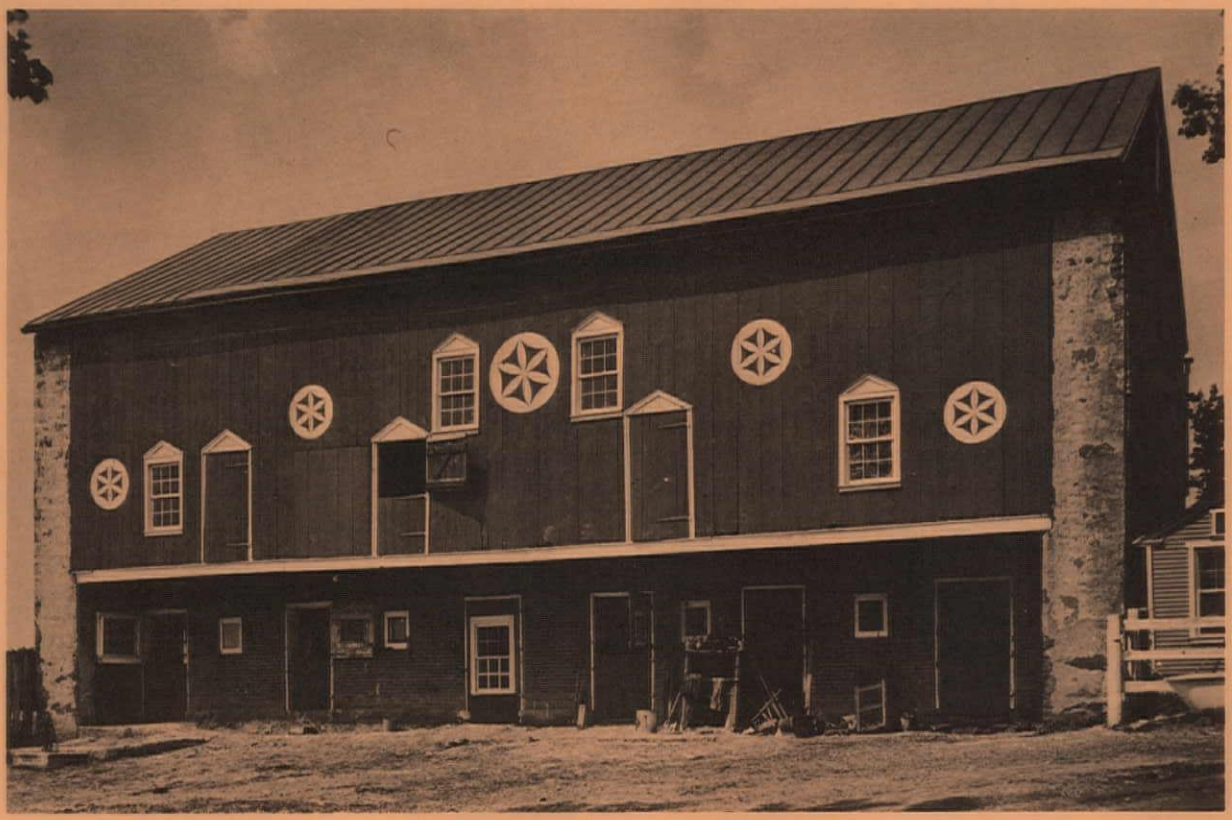
The book has over a hundred plates, some half-dozen of which are in color. It also has an appendix on the five Roman orders of architecture—a wise provision, for many today are not as familiar with them as the older generation, and a bibliography for those who would study further. This reviewer commends this scholarly and readable book to your library shelves.

Masters of Modern Architecture

By John Peter. 228 pp. 9½″ x 12¾″. New York: 1958: George Braziller, Inc. $15.00

This handsome book is already so well-known as to need little introduction to architects. It has been so much admired as a fine collection of photographs of contemporary work from all over the world that it takes all a reviewer's courage to wonder in print at its arrangement—there seems to be no plan or pattern behind it, or if there is, it certainly escapes us.

However, in this day of "picture books," it stands out as one of the finest—and certainly one of the best ways to present architecture to the layman. The photographs are invariably fine examples of architectural photography, and the selection of subject matter is excellent.



ALL THINGS TO ALL ARCHITECTS

Pennsylvania German Barns

336 pp. 6⅛″ x 8⅞″. Emmaus, Pa.: 1958: Pennsylvania German Folklore Society. $6.00

All architects, traditionalists and modernists, look with loving eyes at the barns of "Dutch" Pennsylvania. Here they are, a hundred and fifty photographs of them, of all types—bank, Sweitzer, frame, stone, dilapidated and still in use. Both the historian and the lover of bare-bones functionalism will delight in them, for these structures are true architecture—all things to all architects.

The book is based upon a report prepared by Charles H. Dornbusch, AIA, nearly twenty years ago, while recipient of an AIA Langley Fellowship, brought up to date and edited by John K. Heyl, AIA. The original photographs are in the files of the AIA Library at the Octagon.

Each barn is carefully studied and classified, with a brief description of its construction and characteristics, and a short history when the information was available. All architects will love this book.

A most unusual and fine example of the all stone English barn. Its fine proportions make it an outstanding example of this lesser known architecture

Dick Bennett is of the opinion that the architect should read everything*—and with that the Editor is in full accord.*

AFTER THE BAUHAUS?—BOOKS?

BY RICHARD M. BENNETT, FAIA

Counted among the casualties of the battle for early twentieth century modern architecture was respect for books.

Of course, publications illustrating the new architecture and prophesying the future course of building were sought for avidly, at the same time once-treasured books concerned with the philosophies and experience of the past were suspect as subversive agents for prolonging outworn attitudes and habits. Courses in the History of Architecture in our professional schools were curtailed and architecture was studied as a new cultural manifestation with origins independent of earlier cultures. Positive techniques and individual expressionism buttressed by a mechanistic morality supplanted the tentative sensitivity of humanist aspiration.

That battle is now won, perhaps even over, for there is evidence that its vigor, derived from being against and being different, is waning. The Australian critic Boyd complains that we have abandoned the pure principles of the early modern movement. Henry Hope Reed foresees an imminent return to classicism. Industry eagerly preempts the area of architectural invention whether it be Fuller's domes or the Nelson-Wright Storage wall. Technical innovation is beginning to smell like commercial promotion.

One of our livliest architects has publicly asked, "After the Seagram Building — what?" and apparently finds one answer in what the *Architectural Forum* labels historic recall. Our perhaps most poetic designer uses old Sir Henry Wotton's third criteria for architecture as his present objective — "and delight"; and our probably most popular master unashamedly and happily glories in pointing to the Venetian influence underlying the scheme for his most recent museum.

It would almost seem as if we are in a small Renaissance — rediscovering the past. Let us hope this isn't entirely true because we really should also spend time discovering the present. Of course, there's nothing wrong with reading books about the past. It is reassuring to know that the principles of architecture are always the same and that they can be projected into the future. The real lesson of history is that the visual result of the application of those principles changes with the times, the materials, the place, the need.

Long ago, travelling in Europe with a friend who is now a Professor of Art History, I learned in a most humiliating way how the same words persist through different ages. In what I would now consider a neurotic state due to my love affair with "Architecture Moderne," I attempted to reeducate my highly educated companion and attacked the ancient monuments he found so enthralling. Our

almost violent differences continued until the day he told me he had just purchased an exciting book by an Italian architect confirming my modern theories. Of course I was delighted to think he was changing sides and he promised to translate this newly found author to me that evening. He was right. The book beautifully described the functional basis of design, the moral obligation of using materials in a manner appropriate to their own nature, and the final attainment of beauty by uncompromising truthfulness. Never have I heard a more precise statement of all I believed, nothing more in tune with modern times and I warmly welcomed my friend to the company of those who loved the new modern architecture. My modestly triumphant attitude gradually changed to curiosity about the identity of the new author. Slowly the title page was at last revealed — bearing the name of a not very famous architect — and one who has been dead for centuries.

But a slice of history can't be everybody's source of inspiration any more than can technical literature. We must remember what architecture really is. It is the reflection of the social and economic forces of a time — and these innocent words include just about all there is to know. They mean building techniques and higher mathematics; the remembrance of times past and the hopes of the future; how children are taught and women shop; the trials of taxation and the burial of the dead; medical treatment and epic poetry; fire, murder and pestilence; the growing of plants, the making of pictures and the power of a song. All living, making, doing, and the final dying are proper concerns for our profession.

We have been taught some of these things and we *do* learn from our own observation, but it is mainly through books that our memories can stretch further back, our insights are deepened and our foresight fed.

What, then, are we to read?

Anything and everything.

We never know what phrase may trigger an idea, what sentence illuminate. Even westerns and detective stories can more than entertain, for — like physics and philosophy—they have the power to change our perspective. The real necessity is an open mind. Things and ideas, bricks and books, probably never mean much by themselves. It is their relationship to other ideas and objects that creates meaning and stimulates ideas.

Good architecture never comes about by not knowing, or by rejection, for it has to be big enough to encompass and shelter the infinite variety of man's concern.

"Brise-soleils"

Latin American Architecture Since 1945

By Henry Russell Hitchcock. 204 pp. 8½″ x 9½″. illus. New York: 1955: Museum of Modern Art. $6.50

Although a belated notice, this book should not pass without comment for it presents the record of a decade of Latin American architecture, encompassing a wide range of buildings. Professor Hitchcock was commissioned by the Museum of Modern Art to visit eleven Latin American countries including Puerto Rico to select buildings to be included in an exhibition. Forty-seven buildings are shown in detail in this volume, although others are included as well.

In a short survey Professor Hitchcock reviews the state of Latin American architecture as he found it. He comments on the use of ferro-concrete, sun control devices, the use of mosaics and color as among the elements to be found. In conclusion he states that the buildings shown "should prove that modern architecture in Latin America has indeed, in this decade, come of age."

Of value and interest as a permanent record of an important exhibition. G. E. P.

Administration

Construction Management and Superintendence

By Walter C. Voss. 256 pp. illus. 6″ x 9″. New Jersey: 1959: Van Nostrand. $6.95

Part I: Management of the construction process.

Part II: Detailed superintendence of trades. Sample contract forms and several job meeting reports appear in an appendix.

Management chapters cover: personnel, contracts, proposals, labor records, purchasing and deliveries, job changes (good clear procedure), cost records and payments, job office control.

Superintendence chapters give eighty pages of practical instruction on standard construction trade procedures and items to watch to assure good construction practice.

There are several reasonable and sound pages on labor disputes. There is a strong recommendation for the employment of a clerk-of-the-works and considerable responsibility and authority placed on his position.

If you like Miró, this book* will delight you. The great Spaniard himself designed the jacket in bright splashes of prime color and gay calligraphic wriggles. This alone is worth the price. The reproductions, both black-and-white and color, are vibrant and have convincing nuance. The unobtrusive typography by Susan Draper is just right. The volume was printed in Berlin and shames our own printers who seem no longer capable of such craftsmanship, perfect colorwork, crisp type, and careful, even composition.

It is a joy to thumb through the pages, to unfold Miró's evolution from hesitant, terribly serious self-consciousness to gay, childlike spontaneity. The evolution is quite gradual at first. There is vague academy work, then much of Cézanne and far more of van Gogh and a lot of diligent, dutiful experimentation in Cub and other fashionable -isms of the time.

Then, suddenly, in the mid-twenties, Miró explodes into his own, wriggling liveliness. He opens up his inner vision in uncanny eloquence and his boundless, creative fantasy startles and excites throughout the remainder of the book as it will undoubtedly continue to startle and excite as long as this extremely active artist is able to work. From here on, "dating and classifying Miró's phases is as hopeless as trying to capture water with a sieve," as Pierre Schneider says in his article in the March, 1959 issue of *Horizon,* the hardcover art magazine. Nor are there any bad paintings by Miró just as childrens' art will never be bad.

But if you *don't* feel that our world would be much the poorer without this witchery on canvas, James Thrall Soby's text will, I'm afraid, do little to advance your appreciation or even understanding of his subject. Soby is very scholarly, almost pedantically so. This qualified art historian and connoisseur, who has a number of significant books on modern art to his credit, carefully traces every influence, every current and cross-current in Miró's life. He dates and classifies and accounts for the artist's every significant move. Such works are probably necessary. Having plowed through them, however, you may know more about art history, but you won't know the artist any better than if you had looked him up in "Who's Who."

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*Miro

By James Thrall Soby. 164 pp. 148 illus. (35 in color). 8¾" x 9¾". New York: 1959: The Museum of Modern Art. $8.50.

This is unfortunate for, like him or not, Miró is an important factor in modern art and even modern architecture. His art seems especially suited to architectural uses. As Ada Louise Huxtable points out in this issue of the *AIA Journal* (page 104), "the intricate, often sensuous patterns of abstract art add congenial richness to the austerity of today's building forms. To debate moral justifications becomes suddenly pointless in the face of so natural a union."

Miró's murals in the Terrace-Plaza Hotel in Cincinnati by Skidmore, Owings and Merrill and for the Harkness Commons in the Graduate Center of Harvard University, are often mentioned as outstanding examples of the integration of art and architecture. Miró's latest architectural work, the large, decorative wall he did with ceramist José Llorens Artigas for the UNESCO building in Paris, is, however, apparently quite as successful. Soby, who has included a color photo of the UNESCO wall in his book, reserves judgment on that work, not having seen it. Some of those who have, however, report that it tends to hide rather than enhance the building.

Miró and other so-called "abstract surrealists" have not only adorned contemporary architecture; they have also helped to shape it. If cubism played a role in launching the international style, the dream-world shapes of Kandinsky, Klee, Arp and especially Miró, have undoubtedly advanced it. "Such painting has no more to say to modern architects in directly graphic terms than most nineteenth century art," says Henry-Russell Hitchcock in his "Painting Toward Architecture." "Yet it gave a serious jolt to all those who saw an immanent artistic synthesis of the twentieth century in purely mechanical and behavioristic terms. . . . The free curves that suggest, but do not directly represent, the shapes of natural organisms . . . [and] appreciation of the vitality of such work undoubtedly played a not unimportant part in loosening the mechanical rigidity of modern architecture in the thirties." Since these lines were written this influence, conscious or not, continues to be evident in the work of Niemeyer, Saarinen and the other masters of what is beginning to be known as "high modern." It includes perhaps even Nervi, although he would vehemently deny it.

Whereas Soby somehow fails to warm up to Miró the man, Schneider, an American free-lance writer and correspondent for *Art News* in Paris, fairly sizzles with articulate enthusiasm.

Miró's native Catalan landscape, which Schneider so well describes — this near-chaotic, bizzare breeding ground of Antonio Gaudi and his archi-

THE DELIGHTFUL WRIGGLES OF Miró

A new book on Miró is reviewed by Wolf Von Eckardt, who is not only the Journal's *Art Director and the Editor of its new monthly page "Allied Arts," but also the Institute's Director for Public Information.*

Collection Museum of Modern Art, N.Y. Acquired through the Lillie P. Bliss Bequest

tecture and Salvador Dali and his steam-rolled watches — seems far more relevant to Miró's art than all the Parisian schools and masters Soby accounts for so diligently. The often brutal, utterly whimsical and grotesque frescoes of medieval Catalonia, are already Miró-esque, harbingers of Miró's childlike fantasies, childlike in their uninhibited delight in the free association of forms, their effuse eroticism but also their sometimes brutal cruelty.

Yet for all this, Miró is an almost solemn, rather introvert man. He works incessantly on his canvases and pottery in the studio near Palma de Majorca which another famous Catalan artist, José Luis Sert, designed for him. Soby tells us that he goes to church every Sunday morning and dresses correctly even on weekdays. Schneider adds a charming twist to the church-going. "Don't worry," he quotes Miró saying to a friend, "We'll go up to the balcony and eat watermelons!"

"Throughout his career," Schneider adds, "Miró has been eating watermelons in the balcony. He has raised the art of affable noncommitment to the point of perfection." Perhaps it is precisely this noncommitment, this tongue-in-cheek quality of Miró's work, which delights so many and continues to puzzle all who see his work.

Understand him? "Why not," as Picasso has said, "try to understand the song of a bird? Why does one love the night, flowers, everything around one without trying to understand it?"

Take Miró seriously? Why should we?

To be amused, literally, means being touched by a Muse.

A plea for more informed and skilled architectural criticism

ARCHITECTS—
Readers, Authors and Critics

BY EDMUND R. PURVES, FAIA

Architects by nature, training and frequently through the happy possession of superior facilities follow to a great extent those pursuits which are generally held out to be the occupation and concern of the true intellectual. Occasionally one comes upon an architect who cannot converse with enthusiasm, gift of expression and often well-founded knowledge on a variety of subjects not necessarily immediately associated with the practice of his profession. But the average architect can hold his own when he finds himself in the company of the literary, the histrionic, the musical and, in fact, of any of the seven lively arts.

An architect generally marries a lady who is an intellectual companion and constant inspiration as well as a helpmeet. Architects' children, as a rule, enjoy backgrounds and foundations which give them at least a speaking knowledge with those arts, crafts and pursuits that are the hallmarks of civilization. Architects, their wives and their families are at home and at ease with almost everyone.

Architects do not feel the need of wealth in order to be accepted in virtually any society of their selection. They do not have to demonstrate superior qualities on the golf course, buy clothes from only the right tailors or have a repertoire for the club car in order to insure acceptability and admiration of the moment. However, like any seekers, who have achieved a certain position, the maintenance of that position is one which requires constant vigilance and even energy.

It is regrettable that encomiums cannot be universally applied. We are not perfect. Sitting as I do, meeting hundreds of members of our profession, I am aware of evidences of insularity that crop up in the architectural profession. I am aware of the overemphasized concentration on the drawing board. Although possibly upsetting our equanimity, it would become us to acquire an intelligent knowledge of the problems and issues that relatively may be more important than those of which we are immediately conscious. So it would be well to take our eyes off the drawing board occasionally and for the Institute itself to consider those events that may not appear to have an immediate impact upon architecture but which may have indirectly a considerable effect on our careers. We might do well to endeavor to gauge the crises that confront us as architects with the crises that confront the country as a whole.

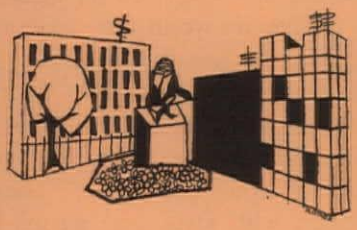
This was rather neatly demonstrated a few weeks ago when the Senate of the United States for the second time failed to override the Presidential veto of the Housing Bill. No sooner had the word gotten out than my telephone rang and I was asked by a highly respected member of our profession what the AIA was going to do about it, for it was plain to him that the failure to override the veto was a catastrophe of

such shattering proportions that the country might be paralyzed. Now the interesting thing was that save for one or two secondary editorials in the local press, I failed to find any particular reference about the Housing Bill in the newspapers. In fact, the *New York Times,* the following Sunday in its "Review of the Week," never even mentioned the issue, so intense was its concentration on the then impending visit of Mr. Khrushchev, the situation in Laos, the Labor Bill and the failure of progress of civil rights, four issues which seemingly loomed larger in the public eye than did housing. I wondered how my good friend felt about these other issues and whether or not he was concerned with them.

I am continually aware that some architects are irked and disapprove that the Octagon does not produce miracles for the immediate financial happiness of the architectural profession. Well, we do the best we can, relying on the intelligence and energy of our electorate.

But despite an architect's training and talent, I have come across evidences, not so much of bad taste in the profession, but of a complete absence of taste. This is found even in the homes of the more successful architects. It is rather startling on going into an architect's house to surmise from the display of literature on the coffee table and from the complete absence of any display elsewhere in his home that he seldom, if ever, reads a book. I have also found in the homes of successful architects paintings and other "decorative bits" which were striking examples of how a man engaged in a profession which likes to call itself a fine art can shut his eyes to the progress of the other lively arts and can content himself with a spattering of gimcracks and chromos which look as if they had been ordered from a mail-order catalogue of some years back. Now I really mind this, for I naturally expect upon entering an architect's home to find myself surrounded by evidences of appreciation of good painting, sculpture, music and literature. I was fortunate in having been raised in a reading family. My foundation in what was then regarded as the classics (but now regarded not at all) was thorough and penetrating.

And then I recall very well my freshman year in the Architectural School in the University of Pennsylvania, where I had the good fortune in English to come under the tutelage of Professor William Harbeson (I believe he was then an instructor), elder brother of John Harbeson, FAIA, of Harbeson, Hough, Livingston & Larson. Bill Harbeson had the happy faculty of instilling in his students a love of reading. To those who may have entered the University ignorant of the most fascinating of pastimes, be introduced a world of delight. To those who had already acquired the affection, he had a way of encouraging you to go. He did, however, lead us to believe that architects were prodigious readers, citing his brother, John, as an example; though I must recall his advice given with a twinkle in the eye to take a good look at John and then decide whether or not to go on with architecture. We looked and went on. John, at that time, was the brilliant young man in Paul Cret's office and devoted a great deal of his energy and time to helping out at the School and eventually became professor and assistant dean in addition to being the senior partner of one of the leading firms on the East Coast. All, no doubt, due to the reading programs established for him by his elder brother.



I, too, came of a reading family. My father was a prodigious reader. But if I came from a reading family, its pursuit of that comforting avocation was nothing compared to the family into which I married. My brother-in-law has a love of reading that eventually led him into the Boylston Chair of English Literature at Harvard University and my wife in turn not only seems to have read and does read everything under the sun but can remember everything that has ever appeared in anything she has ever read. In my wife I have as good a walking reference library as one could wish for. She is an excellent linguist and impresses our French and Italian friends by her knowledge of their writers, and she in turn instilled in our sons a passion for reading since their early childhood to such an extent that one of my sons is following in the footsteps of his illustrious uncle. So perhaps with that background and current atmosphere I may be a little hypercritical of those members of the architectural profession who neglect reading for, to my mind, less rewarding pursuits. Strangely enough with all their passion for good reading and their critical evaluation of books, architects have produced remarkably few books and scarcely any of literary stature.

The late Irving K. Pond, one time President of The American Institute of Architects, wrote a book on of all things, circuses, for he was a consecrated circus buff. I think on occasion he even travelled with one of the bigger tent shows, but his book is most disappointing and it is difficult to understand how a man of his charm and wit could have taken such a fascinating subject and made it so devastatingly dull. I have tried to read Louis Sullivan's much-bruited work from cover to cover only to find in it no indication of the degree of scholarship and profundity and expression that would raise it to the shelf where works of acknowledged literature find their place. It is at best a sort of secondary school reader.

Architects, I am afraid, are inclined to be pedantic when engaged in their own subject, one which is not necessarily fascinating to the world in general. I can think of no architects whose writings were ever recognized as figures of any account in the literary world except George Chappel, who, under the pseudonym of Dr Traprock, wrote some really good humor and George Howe of Washington who for reasons somewhat removed from architecture produced one of the best of thrillers, "Call it Treason." These books, though written with style and gusto, have not been admitted to the classic category.

I find most books on architecture by architects quite dull, uninspired and for the most part so biased in their approach as to render them chiefly of passing interest to those who might share the author's points of view. Their books are sometimes subjects of ridicule or tolerance by succeeding generations.

Now there are those who will take violent issue and cite a list of authors as long as your arm—who I suspect for the most part will turn out to be laymen—like the able Lewis Mumford. And surely the writings of Frank Lloyd Wright will be thrown in my face but the little that I have read of his scarcely weakens my point. Maybe architecture is a subject that does not lend itself to writing—and maybe the architect author is like Dr. Johnson's dancing dog, an animal which although he dances extremely badly, was remarkable for the fact that he could dance at all. I cannot help but question why architects with their background are so inept in an exercise which should be for them an avocation. I do not mean simply to write entertaining and witty essays in architectural magazines, for in all journals we have many examples of that sort of expression, but the architect who can produce a really outstanding work and one whose literary merit would rank him among the best has yet to appear. Maybe it is just as well that architects pursue architecture and leave literature to the professionals of that field. However, I do hope that architects will embark on the one literary field that is ours despite the fact that the evaluation of one's contemporaries presents problems of defiant complexity.

Clifton Fadiman has an interesting chapter entitled "The Bubble Reputation" in his recent book, "This Is My Line." He cites telling examples of the fallacy of the judgment of literary figures by their contemporaries and of course one could go on indefinitely giving examples to support Fadiman's contentions by simply re-reading the reviews of thirty, twenty or even ten years back and by looking at the best seller lists of those days. Whatever has become of those books and their authors? Despite the fact that Fadiman brings out that Shakespeare was ill-thought of for generations, especially in other countries, and that John Donne was held in a sort of contempt by his own people, and despite the fact that Fadiman's approach to the fallacies of literary evaluation can easily be used on architecture and architects, I find myself regretting that he allowed himself to be beguiled into writing his entertaining essay, for perhaps the trouble is that American criticism is simply not good enough, that we have not developed our critical faculties to a point where we can look beyond the taste and

clichés of the moment. But I think we should at least attempt to criticize architecture and architects in a penetrating way and one that might approach infallability. So far I do not feel that we have been too successful.

I am reminded of a man named Lakewood, Lakehurst or Eastlake; at least there is a lake somewhere in his name, who in the last century, I have heard, was looked upon as the one and only architectural genius. I am not sure that he was even an architect, he may have been plying that questionable profession, "arbiter of taste." I have heard that the world bowed to and fawned upon him. I imagine there is only a small percentage of architects today to whom his name conveys anything whatsoever.

We should develop our critical senses, be less avid in our adoration of the self-proclaimed architectural messiahs lest we find ourselves adulating ephmeral Eastlakes. I think our critics too might devote a little more of their energy to exhaustive research in an effort to bring to light forgotten architects whose contributions to progress may have been modest but nevertheless decisive.

It would seem that study and even unkind criticism should precede the production of a panegyric. I think we should recognize that it is only the accurate eulogies that will be accepted by posterity. Evaluation should be impersonal, for it is so easy to be charmed by personal acquaintance and fascinated by the conversation of a gifted man who has the ability to express himself in a way that holds the listener and at the same time builds up the listener's ego. I have yet to meet an architect of contemporary stature whom I did not find engaging, intelligent and fundamentally friendly. Even those who have acquired reputations (generally made up for them) for cynicism, sarcasm and hostility. I find it almost impossible to get mad at architects, even when I have been subject to their invective and I think that is probably because no good architect is a stupid person and I might add that there are few, if any, architects who are not good, despite the size of their practices, and I use the adjective "good" in all of its many meanings.

But let me reiterate my return and reiterate my plea for more exhaustive and more skilled criticisms so that the evaluation of our contemporaries may be sound and lasting and let us take a little time out some day and really identify the architects who have made the major contributions to the progress of American architecture.

Pictures at Random

Architecture of Today

By Udo Kultermann. 236 pp. illus. 8¾″ x 11″. New York: 1959: Universe Books (Wasmuth original). $9.50

While the fifty-page text of this large slick picture book is in a form of non-English that seems to be a product of a Mark I translation machine, the 180 photographs give a view of contemporary architecture from all over the world.

We believe the text on and selection of American architects will irritate the same people who disliked that film with the guttural sound-track at one of our recent conventions. There seems to have been no particularly fine discrimination in selection of examples (no plans, no dates)—just that all had to be edgy and sharp buildings.

On the positive side, there are a number of examples from exotic parts, a few handsome structural solutions—notably by Kenzo Tange of Japan —and a several-page bibliography of books on architecture (1900-1957).

MIT is referred to as the Technical University at Cambridge, Mass.—far too easy to confuse with that diploma-mill upriver. E. P.

Primer Revised

Materials and Methods of Architectural Construction

By Parker, Gay & MacGuire. 724 pp. illus. 6″ x 9″. New York: John Wiley: 3rd edition 1958: $12.00

Revised edition of one of the most useful general, introductory texts. Roughly half of the book deals with materials and common elements of construction: characteristics, manufacture, specification and handling on the job. A few curious slips were noted: wallboards appear only in Part II under construction—crimped and corrugated aluminum, curtainwalls (in the current sense), and vertical siding are omitted.

Part II, methods of construction, includes revised safe-load tables for various materials and members. Structural design calculations for standard conditions in several materials are illustrated by examples worked out in detail.

Books on the contemporary old masters continue to flow, and they are helpful in evaluating their probable place in history. This book on the AIA's 1959 Gold Medallist is reviewed by Leonard J. Currie, AIA, *Head of the Department of Architecture at Virginia Polytechnic Institute, and a former student of Gropius'.*

Although a significant addition to the growing Gropius memorabilia, this little book* will find few fascinated readers on this side of the Atlantic. In spite of its brevity, it is difficult to read. Unquestionably a sincere attempt at a scholarly evaluation of the philosophy of a great architect and an inspiring teacher, it falls short of its mark. It conveys little of the inspirational quality and the essential humanity of Walter Gropius. His lively and vital philosophy of architecture, life, and education deserves a less pedantic vehicle.

I share the author's admiration of Gropius and his ideas and I sense Mr Herbert's laudable intentions, yet in good conscience I must confess my disappointment. Perhaps his essay was intended for a South African audience, and particularly for Mr Herbert's students who may have had assigned reading in "Science and Philosophy" by A. N. Whitehead, and "Holism and Evolution" by J. C. Smuts. Most readers will be confounded by the comparative philosophic references.

To give the reader a taste of Mr Herbert's literary style and an idea of the high task he set for himself, I quote from his introduction, "Gropius was totally unfamiliar with Whitehead's work until his arrival in America in 1937, and at no time aware of Smut's writing; yet the parallel between Whitehead's philosophy of Organism, Smut's Concept of Holism, and the leit-motif of Gropius' work is evident in many respects." The introduction ends with this remark: "The following essay represents the first exploratory steps of that investigation, which having acknowledged Gropius' relationship to Hegelism, Organism, and Holism now proceeds to study his contribution to Unity in terms of his own synthetic vision, as revealed implicitly or explicitly in his works."

Many years ago this reviewer remarked upon the striking parallel between the philosophy of Gropius and that of Whitehead — a relationship that forms an important part of Mr Herbert's thesis. As a graduate student in Gropius' studio at the time of his arrival at Harvard, I missed his first unannounced visit to the drafting room precisely because I had absented myself from our *charette* to audit one of the last series of Whitehead lectures prior to his retirement. Then, and again later that spring, I was amazed at the specific applicability to architecture of Whitehead's educational theories with their emphasis on "creative experience" and upon the need for direct experience as the foundation for theory. Within a stone's throw of Gropius' office in Robinson Hall, I had the urge to rush over and bring Gropius so that he too could hear what the grand old man was saying: Whitehead was summing up the drives of modern architecture and the fresh, new ideas of architectural education so ably advocated by Gropius. Not that Whitehead ever mentioned architecture — or Gropius. My reaction was evidently a common one, as nearly all the listeners felt that Whitehead's remarks were pointed to their own areas of special interest.

It is not unusual that commentators on great men's ideas fail to achieve the simplicity and universality so characteristic of the utterances of such men. Whitehead's communion with his audience was superb. He achieved easy comprehensibility through his aptness in the use of analogy — by relating his concepts to simple things, to the lecture hall, his desk, or the atmosphere between him

*The Synthetic Vision of Walter Gropius

By Gilbert Herbert. 48 pp. 6" x 9½". illus. Johannesburg: 1959: Witwatersrand University Press. 19s 6d.; Postpaid 20s. (About $2.80.)

WALTER GROPIUS — *An Evaluation*

A REVIEW BY LEONARD J. CURRIE, AIA

and his audience. According to my friends enrolled in philosophy, Whitehead's junior colleagues were often utterly incomprehensible, prone to making constant fragmentary philosophic references and cross-references. Gropius too has the knack of conveying ideas in simple terms, of the effective use of analogy and the earthy metaphor. Like Whitehead's erstwhile colleagues, Mr Herbert seems unable to achieve the terse imagery of the Master.

Years later I was delighted to hear from Gropius that he had indeed met Whitehead and that the two of them were great friends during Whitehead's final years. Mr Herbert makes no reference to this friendship and recounts none of Gropius' recollections of conversations with Whitehead.

In the parable, "The Emperor and His New Suit of Clothes," no one wishes to confess his ignorance. Here the reader need feel no shame if he is unfamiliar with Holism and with J. C. Smuts. He will form part of a learned company who fail to perceive Mr Herbert's raiment. In an effort to shed some light on Holism, this reviewer drew three blanks when he queried an architectural professor, a professor of English Literature, and even a college librarian who had recently visited South Africa. Several dictionaries were likewise innocent, but finally Webster's New International Dictionary gave forth a definition of holism in these terms: "the philosophic doctrine of General Smuts that the determining factors in nature, and particularly in evolution are wholes, such as organisms, and not their constituent parts." Still no explanation of what happened to the "w" of "whole"!

Even the book's title tends to obfuscate. As an infinitive, "to synthesize" conveys a desirable and positive quality, but the adjective "synthetic" in popular usage has the unfortunate connotation of something artificial and spurious — a substitute for the real thing. At least this was the unanimous reaction of my unofficial panel of scholars. For an example of typical current architectural usage, the August ('59) *P/A* quotes architect Dean L. Gustavson as saying, "Architecture is not synthetic, but a real thing, to live in, work in, and enjoy. . . ."

Perhaps Mr Herbert's most effective passage is his conclusion, an eloquent, *synthetic* compounding of the entire book. "Unity is the universal ideal of artists. The wholeness of a work of art is the index of its power to satisfy the mind and soul of man. Yet art is but the crystallized essence of our times, part of the greater whole which is life. It has been the contribution of Walter Gropius, through his teaching of younger men, to demonstrate the indivisibility of art and life. He has devoted his life's work to show that unity in art can be accomplished only where it forms part of a greater drive towards a unified and whole life for man upon earth. He has reiterated his message of order across the years with ever-increasing force, clarity and urgency, as a divided world drifts to the brink of chaos. If we are yet to be rescued from the pit of disintegration, it will be through the synthetic vision of such men as Walter Gropius. In analysing the scope and content of Gropius' contribution to the concept of Unity, this study pays tribute to a pioneer who has been called architecture's only modest genius." One almost wishes that the author had said no more and had then rounded out his study with a comprehensive collection of plans and photographs.

Mr Herbert's book is a useful tentative essay, but it is not yet the definitive work about the mind and method of Walter Gropius.

Cities in the Motor Age

By Wilfred Owen. 176 pp. illus. 6¼″ x 4½″. New York: 1959: Viking Press. $3.95

CARS, PEOPLE

Large conferences on big problems seldom satisfy the participants who usually know in advance what every one of the other experts is going to say. Neither do they benefit the public very much which reads little more about them than a few wisecracks culled from the proceedings by well-meaning but usually uninformed newspaper reporters. The powers-that-be have long ago developed an acute allergy to conference resolutions, no matter how immortal their prose. And the conference transcripts generally trail along only when the material is hopelessly dated and are left to gather dust on the "to-be-read-as-soon-as-possible" shelf.

Only when the result is a book like Wilfred Owen's "Cities in the Motor Age," does our current predilection for "group-think" make sense. I suggest future conferences follow the example of the Connecticut General Life Insurance-sponsored Conference "The New Highways: Challenge to the Metropolitan Region" and get a writer of Wilfred Owen's caliber to put the essence of what was presented and opined between the covers of a readable and well organized book. (With this idea and a moderate subsidy we could by now, for instance, have a significant work on architectural design based on the New Orleans AIA convention.)

The subtitle of the Hartford symposium, in which fifty-five persons participated, among them such authorities as Lewis Mumford, Luther Gulick, and Victor Gruen, was "How Can We Increase the Efficiency and Liveability of Our Cities Through the National Highway Program?" But the book goes further than that. You'll find it a handy reference to take along to the next citizens' association meeting, for it presents many of the facts about contemporary urban life and the various solutions so far proposed in a simple and straightforward manner. The overriding fact about urban life is, of course, as Connecticut General Life Insurance Company president Frazar B. Wilde put it, that "The United States is the most prosperous nation in the world, yet a high proportion of the urbanized areas where its wealth has been produced is blighted and unsightly, lacking in adequate facilities for living or working, and hardly a fit environment for realizing our social, cultural, and economic aspirations." A good part of the reason for this dilemma is, in Owen's opening words, that "Americans have made up their minds to live in metropolitan areas and ride in automobiles. This attempt to be urbanized and motorized at the same time has been less than a complete success. The combination is destroying both the benefits of cities and the advantages of the private car."

It is also ruining most architecture, Owen might have added. When actually built most of the beautiful models we admire in the picture pages of the architectural magazines are little more than backdrops for parking lots.

Aside from a measly gesture in the direction of urban renewal the federal government's only answer to this calamity is a national highway program on which we will spend $100 billion in the next fifteen years. To date this program shows every sign of adapting the city to the automobile, rather than the automobile to the city. Instead of helping to relegate the car to its proper role — a servant of man — the highway program threatens to let what Lewis Mumford calls our "mechanical mistress," ruin us much as Lola ruins Professor Unrath in "The Blue Angel." The new expressways have already threatened to destroy a good part of San Francisco. They are slicing up communities elsewhere and dumping more and more carbon monoxide into the city core.

"The size of the road program has knocked urban America off balance. It has revealed the fact that, after half a century of the automotive age, we still have no community plans to guide the road program or anything else. . . . We have failed to develop an overall strategy for urban areas. As a result our highway efforts not only threaten to be disruptive influences, but may themselves be disrupted by the lack of action," says Owen.

Yet Owen and the conference from which he has drawn his material, make quite clear that there can be no utopian masterplan. The planners themselves have abandoned the idea of trying to play God. Says Martin Meyerson, head of Harvard University's new Center for Urban Studies: Planners "no longer take the position that we can have neat and carefully divided areas for one kind of housing or another and for one kind of industry or another. Instead, we are beginning to accept the fact that our cities are metropolitan areas, crazy quilts, pieces of patchwork, inhabited by some people who like to live in apartments and others who

prefer free-standing houses. The planning job is to see that these various aims are reconciled with one another; that we get some sort of coherence out of the total picture."

With this concept of planning the federal road program must be balanced by slum clearance, renewal, housing, education, recreation and community facilities of all kinds. Only this balance, aimed at meeting human needs, can stop the federal highway builders from being sorcerer's apprentices.

This is about the gist. Along the way I pencilled some of the following noteworthy points in Owen's book:

- Rapid transit is only a partial answer: "The difficulties of moving in the metropolis are as great in New York, with its crowded subways, as in Los Angeles with its freeways."
- "The federal government spends more money on fish breeding and wildlife sanctuaries than it does on conserving human beings through slum clearance." (I'm glad for the fish and deer, though!)
- "We must start thinking about a greater concentration of houses in order to have a more practical concentration of open space."
- "Community purpose generally takes the form of protest meetings. . . . Any rapid education of the public is less than promising." (Shouldn't AIA's community and public relations be largely channeled in this direction, rather than to preach defensively what fine chaps architects are?)
- "Pedestrian areas have reopened the possibility of integrating architecture, art and landscape, and have literally given the pedestrian a new lease on life." (Have you noticed the happy faces in the pictures of Toledo's temporary malls in last month's *AIA Journal?*)
- The core of the city should be girded by a belt highway to delineate and insulate it and to provide circulation around the center rather than through it. Says Victor Gruen: "The belt must be tight if downtown is not to lose its pants."
- . . . the suburbs that are threatened by land pollution must also be designed to perform their most effective function in the total metropolis."
- "The basic weakness in the attack on metropolitan areas today is that it lacks [a] central theme of what people need and what they would like to have. That explains how it is possible for cities to move forward, or backward, without community plans to guide them, and how the national government can move ahead on one front and lag on half a dozen others. The job of building cities is easy if we forget what cities are for."

If any of this intrigues you — and how can it fail — get the book. W. V. E.

The Perspectivist

By R. Myerscough-Walker. 266 pp. illus. 7½″ x 10″ New York: 1958: Pitman Pub. Corp. $15

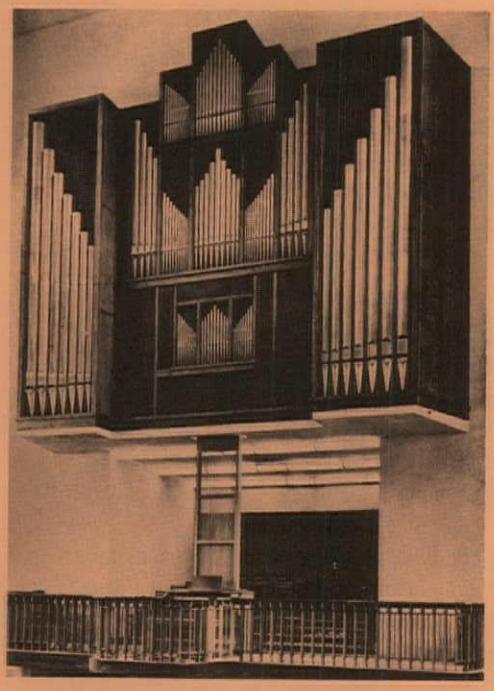
While reading this book we kept asking ourselves, "to whom is this chap speaking?" It's rather element'ry for an architect although filled with bits on the quaint folkways and tribulations of English renderers, *excuse us*—Perspectivists. It became clear at last that it is a vocational guide for those who are considering this career.

There is endless comment on characteristics of the work of, to us, unknown Britishers. We are almost properly introduced to them, however, in the black and white "pictorial reviews" which alternate with text chapters. A few tipped-in color plates are reserved for the author's own work. Although Henry Rushbury, one of England's great architectural delineators, is mentioned there are no illustrations of his sensitive draftsmanship. Whole schools of American delineation are omitted: Arms, Born, Chamberlin, Kautsky, not to mention Rudolph.

The above comment is quite unfair to the author as technologist and at least national historian of this until now unsung profession. He is at his best when describing his own rock bottom "do-it-yourself" approach to the materials and methods of drawing, painting and graphic reproduction. Myerscough is also good at describing the *business* of architectural rendering, with many practical recommendations. (He charges per square inch.)

This is a book about architectural rendering—not a how-to-do-it on geometric perspective drawing, the accurate "setting-up" which is much better left to a skillful assistant (he's right!).

There are six marginal pen and ink sketches per spread — all done in haste and fury as if decided upon after a publication deadline had been set. I fear the man queered himself with this old sailor by much too overconfident sketches of small boat rigging. Many landlubbers will find this book of value—some of those Limeys can draw!



Friedenskirche, Düsseldorf, Germany; von Beckerath Organ

THE REV. ROBERT F. EVANS, PH.D.

THE ORGAN AND THE

The proper treatment of the organ as an artistically integrated part of the whole within the plan and structure of churches has been for over a century a matter of neglect and ignorance, not only among architects but among church building committees, the clergy, organists, and organ builders. It is therefore with an overwhelming sense of joy that one welcomes this large volume* by Joseph Blanton. Although the author writes in his introduction that he is writing for the architect—to acquaint him with the organ as an instrument and to introduce to him the possibilities of its architectural treatment—one must hope that this book will find its way into the hands of all persons who have any responsibility in the planning and purchase of organs for either new or old churches. Mr Blanton is an architect by profession, but he is also an organist and an historian of organs; his book has been immensely enriched by his wide knowledge of the instrument and by his labor in accumulating some 550 photographs of organs from the fourteenth century to the present.

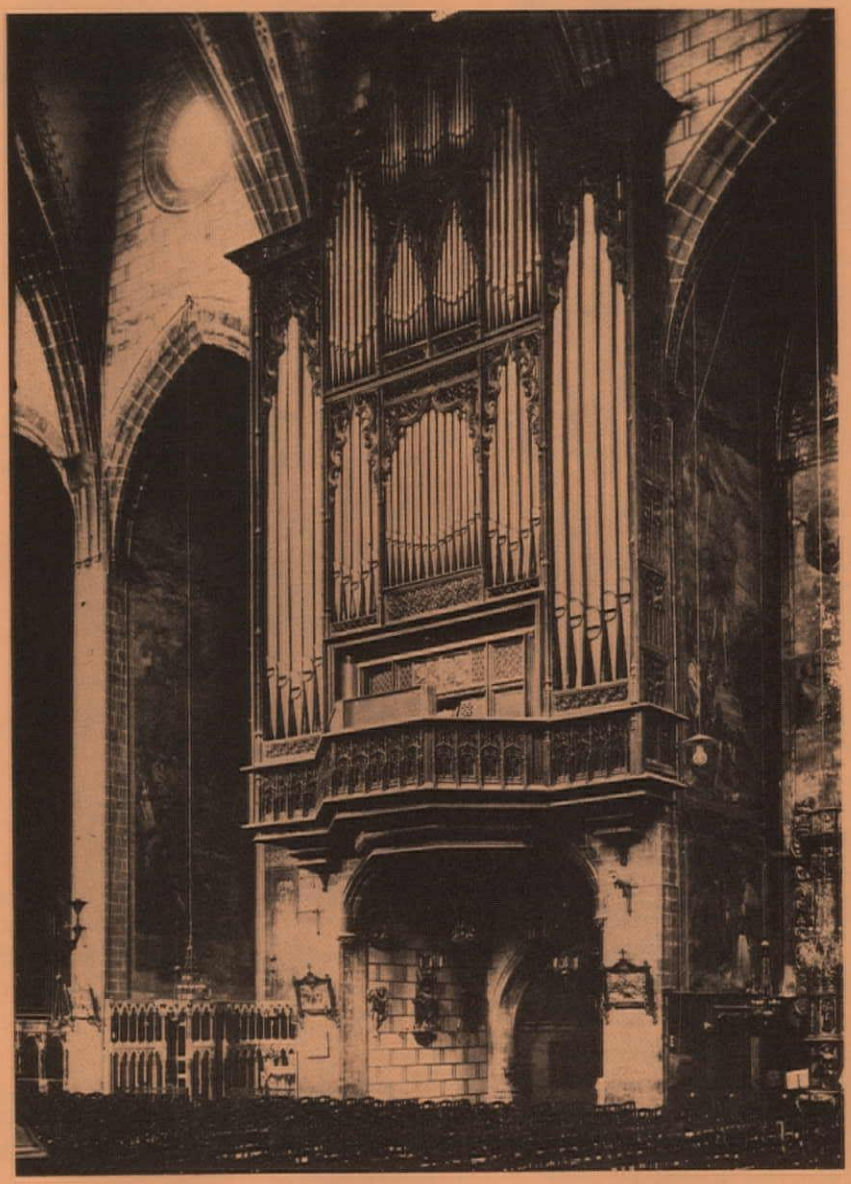
This is such an important book for all concerned because the author has not contented himself with being merely descriptive and historical—he is didactic and polemical, and quite rightly so. His polemic is directed against the emasculation and distortion of the organ as a musical instrument which for a century has characterized the combined efforts of organ builders and architects. Two of the chief hallmarks of this degradation have been (1) the placing of the instrument outside the space in which it is to be heard, burying it in a cavity commonly called an "organ chamber", and (2) the abandonment of the classic tonal structure of the organ and the attempt to produce imitative orchestral sounds at the expense of traditional organ tone. In the interest of combatting the first of these defects and of acquainting us with the riches of the grand tradition in organ placement and design, Mr Blanton provides us with long and detailed historical chapters. These are replete with many photographs which enable us to see in how many different ways the organ, placed in a position within the interior of the church where it can properly be heard, can also provide an esthetically pleasing visual contribution to the total effect of the church interior. With the wealth of this material before the eye, the author challenges the architect of today to experiment with legitimate organ casework and to banish forever the grilles and dummy pipes which continue to provide innocuous fronts for buried and muffled organs. It is to be noted that not all contemporary

*The Organ in Church Design

By Joseph Edwin Blanton. 510 pp. 9″ x 12″, illus. Albany, Texas: 1957: Venture Press. $20.00.

ARCHITECT

This very important book on the history and the proper installation of the church organ is reviewed by the Rev. Robert F. Evans, Ph.D. Dr. Evans majored in music at Yale, studied organ under Paul Hindemith and was a concert organist for several years. In 1951-52 he was a Fulbright Fellow in Church Music at King's College, Cambridge, remaining at Cambridge for his degree in theology.



Cathedral of Perpignan, France

organ builders in America have been equally guilty in contributing to the continued degradation of the instrument, and Mr Blanton is quite right in pointing to Walter Holtkamp of Cleveland as the leader in this country of the movement to lift the organ again to its proper place with respect both to placement and to tonal structure. Many instructive plates are provided of good modern organs by Holtkamp and others in this country, and by German, Danish, and Dutch firms in Europe.

There are some points in Mr Blanton's book which evoke either disagreement or disappointment. In the historical chapters one often has difficulty in seeing the wood for the trees; the very carefully noticed details of particular organs in a given period would well have been preceded by more explicit generalizations on the chief characteristics of the period. The author's desire to eliminate the enclosure of one division of the organ in a "swell box" allowing gradation of tone is needlessly extreme and would eliminate the proper performance of much legitimate organ literature. Occasionally the reader is too much aware that he is overhearing bits of argumentative conversation, the terms of which have not previously been made clear. Mr Blanton's English prose is often not felicitous, and there is an occasional bad and confusing organization of material. More distressing, there emerges from time to time a sudden ejaculation of polemic which has no relevance to organs and their design and which has only the effect of marring a work of scholarship. But I add these critical comments regretfully; this is a very good and much needed book.

Turpin C. Bannister is Dean, College of Architecture and Fine Arts, University of Florida

What's Happened in ARCHITECTURAL HISTORY?

BY TURPIN C. BANNISTER, FAIA

Architects are unique among professional groups in their abiding interest in the history of their art. They believe that great buildings possess immutable values not only as genuine works of creative genius worthy of study for their own special qualities, but also as potent symbols expressive of the times and societies that called them into being. Thus, although contemporary architects have renounced the eclectic use of history, the vast majority have maintained a lively concern for history and have successfully opposed the attempts of dogmatists to eliminate history from the curricula of the schools and from examinations for professional registration.

Despite this wide-spread interest, probably few architects realize the extraordinary expansion and transformation which architectural history has undergone during the past generation. On this assumption these brief comments may help to indicate the amazing growth of this field of knowledge.

The publication of measured drawings of ancient Roman buildings by Italian and northern architects of the sixteenth and seventeenth centuries were intended not as history, but as guides for new designs. Not until the rediscovery of Greek antiquity and the Middle Ages in the second half of the eighteenth century did a true sense of architectural history emerge. Through the valiant efforts of such amateurs as Thomas Rickman and James Fergusson heterogeneous and partially known facts were first organized into intelligible stories, often fraught with error and fancy, but sometimes enlightened by keen intuition. Nineteenth century architects sometimes embraced history as an avocation. Viollet-le-Duc presented in his monumental "Dictionnaire" the encyclopedic knowledge he had gleaned from a lifetime devoted to the restoration of medieval structures. Josef Durm, practitioner and professor, contributed outstanding technical analyses of Roman and Italian Renaissance buildings to the endless series of volumes comprising the "Handbuch der Architektur." Other architects — such as Thomas Graham Jackson, Reginald Blomfield, and Russell Sturgis—reached high levels of scholarship in their historical publications.

Valuable as many of these works were, it became apparent that history could no longer be adequately practiced as a casual hobby. To establish what had actually happened in the past, to unravel the intricate evolution of specific monuments, and to fathom the lines of influence between groups of interrelated buildings demanded thorough mastery and application of many historical and archaeological disciplines. The labors of such professional scholars as Francis Bond, Camille Enlart, and Arthur Kingsley Porter compiled extensive inventories, sought out relevant documents, and prepared detailed analyses. While their works

seldom included interpretative synthesis, their analytical studies nevertheless comprised an indispensable stage of development. For a single period, Robert de Lasteyrie's "L'Architecture Religieuse en France à l'Epoque Gothique" (1926) set up a distinguished model. Covering a more comprehensive range, François Benoit's four volumes on "L'Architecture" (1911-34), in the series, "Manuels d'Histoire de l'Art," provided a copiously illustrated treasury of well-ordered facts from antiquity through the Gothic.

For single buildings, the historian's goal has long been the recovery of their original form. Unfortunately, restoration drawings have often in the past been vitiated by errors and over-enthusiastic romanticism. In 1889, for example, George Aitchison, Professor of Architecture at the Royal Academy, restored the frigidarium of Caracalla's baths with a flat roof, 76 feet in span, constructed of iron girders, thus misinterpreting some simple iron hooks which had been found in the excavations of 1873 and from which an awning had been slung. Nevertheless, if meticulous scholarship is employed, extremely valuable results can be achieved even from seemingly sparse data. Professor Kenneth Conant of Harvard, who is at once a thorough scholar, a trained architect, and a most felicitous draftsman, has been particularly successful in reconstructing lost or mutilated monuments. His "Brief Commentary on Early Medieval Church Architecture" (1942) illustrated the succinct text by a remarkable series of restorations. His fascinating drawings of Constantine's Holy Sepulchre group at Jerusalem were published in *Speculum* (XXXI, 1956, 1-48). Pending his forthcoming definitive monograph on the successive Romanesque buildings of the great abbey of Cluny, the pictorial results can be seen in the same journal (XXIX, 1954, 1-43). As is so often the case, the monuments as actually built possessed a power and significance which could not have been guessed by means of cavalier or romantic approaches.

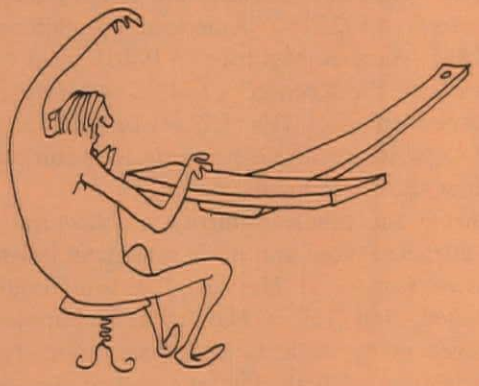
In contrast to the French tradition of strict physical analysis, German scholars, such as Heinrich Wölfflin, began in the eighteen-eighties to apply to architectural history the kind of esthetic analysis which was proving so rewarding in the history of painting and sculpture. One of the first results of this approach was the restoration of the Baroque to scholarly respectability, but all periods benefited from it. Furthermore, the recognition of architectural history as a discipline worthy of academic status along with the other arts gave new vigor to its study. This was dramatically marked by the numerous and excellent architectural volumes in the great series, the "Handbuch der Kunstwissenschaft." This new status also brought prompt expansion in the number of scholars working in architectural history, and this in turn greatly expanded the range of investigations. Close study of the monuments and related sources soon raised speculation as to their iconography and meaning, and, although slender data were sometimes forced to extravagant and unconvincing lengths, this type of interpretation is now proving to be extraordinarily useful.

A generation ago the number of productive American historians of architecture was limited to a mere handful. Few schools of architecture at the time could afford a trained historian and few possessed the resources or atmosphere conducive to this kind of scholarship. An outstanding pioneer was Fiske Kimball, who was trained at Harvard and Michigan, and who taught at Illinois, Michigan, Virginia, and New York Universities before becoming director of the Philadelphia Museum. His volumes — "Thomas Jefferson, Architect" (1916); "Domestic Architecture of the American Colonies" (1922); "American Architecture" (1928); "Samuel McIntire" (1940); and "The Creation of the Rococo" (1943)—were all masterful performances. His "History of Architecture" (1918), written with George Edgell, is still one of the best short treatments.

During the nineteen-thirties architectural history attracted more and more American devotees. Kenneth Conant at Harvard, Baldwin Smith at Princeton, and Talbot Hamlin at Columbia encouraged many students to embark upon fruitful investigations of both domestic and foreign problems. The migration of a number of outstanding German historians in the nineteen-thirties enriched American scholarship, which previously had been largely influenced by French and British points of view. The Institute of Fine Arts at New York University served as a potent center for this new influence and offered many courses in architectural history at the graduate level. The widespread growth of interest in the field led a student group at Harvard to form in 1940 the Society of Architectural Historians. Membership in 1959 exceeds 1250 and includes not only a considerable core of active professional scholars, but a large number of amateurs distributed across the nation. Nine local chapters provide important foci to promote interest in regional, state, and local monuments. An affiliated British group was organized in 1956. A similar society is active in Japan. The Society's annual meeting, held at the end of January in conjunction with the College Art Association, has be-

come the leading forum for important papers and discussions. Summer field trips have become a very popular feature, and, beginning in 1958, foreign excursions have been conducted with great success. The Society's major effort remains, however, its *Journal* which, since its initial issue in January 1941, has won a high reputation among scholars throughout the world. It is a pleasure to note that the AIA has actively supported SAH since its inception and that many architects hold SAH membership. Many more should do so to keep abreast of the rapidly growing field and to support an important area of architectural study (membership starts at $7.50; checks are received by the Treasurer, Dr. Robert M. Walker, Swarthmore College, Swarthmore, Pennsylvania).

The expansion of interest and scholarship here and abroad during the past three decades has produced a large increase in publications of architectural history of all kinds. Those architects whose knowledge in the field derives principally from that ubiquitous late-Victorian textbook, Banister



Fletcher's "History of Architecture on the Comparative Method," which despite many "editions" long ago became hopelessly obsolete in content and point of view, owe it to themselves to explore some of the exciting productions of recent years. The following comments can only suggest some of the varied riches which these new publications have made easily available.

As yet no general text has synthesized for professional consumption the full wealth of new findings and insights. Talbot Hamlin's "Architecture Through the Ages" (1940) is readable and informative, but since it was intended for a lay, rather than a professional audience, it necessarily sacrificed depth. Although dealing only with Western architecture from the fall of Rome to the early nineteenth century, the best brief account exemplifying the newer points of view is Nikolaus Pevsner's "Outlines of European Architecture" (1942; Penguin paperback).

Fortunately, the English-reading public is receiving, volume by volume, the superb *Pelican History of Art,* the sophisticated relative of the Penguin paperbacks. Organized by Dr. Pevsner in 1948, a series of forty-five volumes is planned. Of fifteen already issued, thirteen in whole or part deal with architecture. These are:

HENRI FRANKFORT: "Art and Architecture of the Ancient Orient."

W. STEVENSON SMITH: "Art and Architecture of Egypt."

A. W. LAWRENCE: "Greek Architecture."

KENNETH J. CONANT: "Carolingian and Romanesque Architecture."

GEOFFREY WEBB: "Architecture in Britain: The Middle Ages."

RUDOLF WITTKOWER: "Art and Architecture in Italy: 1600 to 1750."

ANTHONY BLUNT: "Art and Architecture in France: 1500 to 1700."

JOHN SUMMERSON: "Architecture in Britain: 1530 to 1830."

HENRY-RUSSELL HITCHCOCK: "Architecture: 19th and 20th Centuries."

GEORGE H. HAMILTON: "Art and Architecture of Russia."

BENJAMIN ROWLAND: "Art and Architecture of India."

LAWRENCE SICKMAN AND ALEXANDER SOPER: "Art and Architecture of China."

ROBERT T. PAINE AND ALEXANDER SOPER: "Art and Architecture of Japan."

The authors, outstanding scholars in their respective areas, have produced penetrating, yet lucid texts. Each volume is copiously illustrated and the uniform format is distinguished. For architects, the volumes by Conant, Summerson, and Hitchcock have special appeal because they organize fascinating and pioneering syntheses of crucial periods. Promised for the future are other architectural volumes on: Rome by Ward Perkins, Early Christian by Richard Krautheimer, Gothic by Paul Frankl, the Renaissance by John Coolidge, and Spain by George Kubler. It is necessary, though ungrateful, to point out that even on this scale of publication the approach to architecture has been limited primarily to esthetic matters—except in the Conant and Hitchcock volumes. When the series is eventually complete, the English-reading world will possess a wonderful new resource for the study of architecture and art.

The architecture of every period and almost every locality has gained greater appreciation through the efforts of modern scholarship. Where

once architecture seemed to spring full-blown in Sumeria and the Old Kingdom, archaeology has now filled in a long and much more convincing development of buildings during the Neolithic revolution. The general story is well told by V. Gordon Childe's "What Happened in History." (1942; Pelican paperback, 1946). Other Pelicans give up-to-date reports on the archaeology of: Palestine (W. F. Albright); Anatolia (Seton Lloyd); India (Stuart Piggott); and East Africa (Sonia Cole). In the first volume of Charles Singer's intriguing "History of Technology" (5 vols., 1954-58), John Bradford and Seton Lloyd present excellent summaries of primitive building techniques in wattle, wood, turf, brick, and stone. The transition in Europe is traced in Childe's "Pre-history of European Society" (Pelican, 1958) and Graham Clark's "Prehistoric Europe, the Economic Base," (1952). The series, "Ancient Peoples and Places," being distributed in the U. S. by Praeger, offers newly-clarified accounts of many remarkable prehistoric cultures: Sicily (L. B. Brea), Malta (John Evans), The Celts (T. G. E. Powell), Denmark (O. Klindt-Jensen), the Low Countries (S. de Laet), East Anglia (R. R. Clarke), Wessex (J. F. S. Stone), Wales (W. Grimes), Early Christian Ireland (M. and L. de Paor), and Brittany (P. R. Giot). R. C. A. Atkinson's "Stonehenge" (1956) summarizes recent definite explorations.

The change into historical times is dramatically told in Kathleen Kenyon's "Digging Up Jerico" (1957), which describes the successive communities on that famous site. Frankfort's Pelican volume traces the Mesopotamian story, while John A. Wilson's "The Burden of Egypt" (1951) and Steindorff and Steele's "When Egypt Ruled the East" (1942) clarifies the development along the Nile. Alexander Badawy's "History of Egyptian Architecture" (1954) and I. E. S. Edwards' "The Pyramids of Egypt" are recent accounts of Old Kingdom buildings. George E. Mylonas, in his "Ancient Mycenae" (1957) reports the latest discoveries in that famous fortress palace. William B. Dinsmore presented in 1950 his "Architecture of Ancient Greece," a work of superlative scholarship. Ida Thallon Hill's "Ancient City of Athens" (1953) distills from mountains of investigations an exciting picture of that remarkable metropolis.

Strange as it may seem, the architecture of both the Hellenistic and Roman empires still await comprehensive studies. Although D. S. Robertson's "Greek and Roman Architecture" (2nd edition, 1943) is still a useful manual, Eugenie Strong's "Art in Ancient Rome" (1928) offers a better understanding of the evolution of Roman taste. Four recent books give for the first time, a clear view of Roman provincial cultures: Olwen Brogan on "Roman Gaul" (1953), F. J. Wiseman on "Roman Spain" (1956), I. A. Richmond on "Roman Britain" (1955; Pelican paperback), and Mortimer Wheeler on "Rome Beyond the Imperial Frontiers" (1954), which includes the Baltic and India.

Knowledge of early medieval architecture has advanced greatly in recent years, although general synthesis awaits Krautheimer's Early Christian volume in the "Pelican History of Art." Jean Lassus' "Sanctuaires Chrétiens de Syrie" (1947) has given a convincing and detailed analysis of the large group of Syrian churches first surveyed by Howard Crosby Butler at the turn of the century. J. W. Crowfoot's "Early Churches in Palestine" (1941) contributed a less detailed account for those of the Holy Land. Unfortunately, important groups of churches already known in Asia Minor and North Africa, or recently discovered

in the Balkans are as yet accessible only to specialists. Perhaps the most exciting recent study of Early Christian churches has been André Grabar's two-volume "Martyrium" (1946; in French) which demonstrated the impact on church design of the cult of martyrs' tombs and relics.

Although Byzantine studies in general have undergone great expansion, adequate synthesis of Byzantine architecture is still lacking. Emerson Swift's "Hagia Sophia" (1940) described Justinian's masterpiece with thoroughness, but the results of the meticulous structural survey by William Emerson and Robert Van Nice have been only briefly reported. They indicate that the collapse of the first dome in 557 was caused by plastic flow in the supporting masonry. Otto von Simson's "Sacred Fortress" (1948) offers a fascinating analysis of Justinian's political motives in building his churches at Ravenna. For those Byzantine-related styles in Armenia and Russia,

Sirarpie der Nersessian's "Armenia and the Byzantine Empire" (1945) and Samuel H. Cross' "Mediaeval Russian Churches" (1949) present good accounts.

The meaning of key elements in early church design has received considerable attention from German scholars. While architectural iconography is inevitably more difficult to substantiate than that of painting or sculpture, it was nonetheless a potent and purposeful factor. Karl Lehmann's fine article "The Dome of Heaven" (*Art Bulletin,* XXVII, 1945, 1-27) traced the rich symbolism of this motif. E. Baldwin Smith produced a more extensive study of early medieval iconography in his "Architectural Symbolism of Imperial Rome and the Middle Ages" (1956). One of the most important was Krautheimer's erudite article "The Carolingian Revival of Early Christian Architecture" (*Art Bulletin,* XXIV, 1942, 2-38) which proved that the papal-Frankish alliance promoted a conscious revival of what were considered to be Constantinian models.

While Conant's Pelican volume on "Carolingian and Romanesque Architecture" is by far the most significant recent synthesis of medieval materials, several studies of more limited scope deserve wider audiences. Joan Evan's handsome "Art in Medieval France" (1948) offers excellent analyses of diverse building types. In "Crusader Castles" (1950), Robin Fedden gives a fascinating summary of the revolution in fortification techniques impelled by man-power shortages. Walter Horn's pioneering study "On the Origins of the Medieval Bay System" (*Journal Society of Architectural Historians,* XVII, 1958, 2-23) traces the influence of timber-framing systems upon the spatial articulation of medieval masonry churches. John H. Harvey, particularly concerned with the demolition of the mythical anonymity of medieval architects, has issued an unprecedented "English Medieval Architects: A Biographical Dictionary Down to 1550" (1954) which runs to 411 pages. Despite its brevity, Harvey's "Gothic World" (1950) presents an excellent synthesis of the contrasting phases which this style underwent in time and geography. Otto von Simson's "The Gothic Cathedral" (1956) discusses the ideas—philosophic and iconographic —which underlay the invention of the style. One of the most fascinating studies of medieval construction appeared in 1952 in L. F. Salzman's "Building in England, Down to 1540."

In view of widespread interest in Renaissance architecture a generation ago, it is surprising that as yet no adequate text has summarized recent reinterpretations. Rudolf Wittkower's "Architectural Principles in the Age of Humanism" (1949) presents an enlightening analysis of the role of theory in fifteenth century design. Wylie Sypher has outlined the new approaches to sixteenth and seventeenth century currents in his "Four Stages of Renaissance Style" (1955; Anchor paperback). The organization of French architecture in these centuries has been accomplished in the traditional French analytical manner by Louis Hautecoeur in his multi-volumed "Histoire de l'Architecture Classique en France" (1943-57), although Blomfield's earlier work "A History of French Architecture" (1911-21) is still very useful. For the first time Summerson's Pelican volume marshals British phases into a convincing, meaningful story. Summerson's "Georgian London" (1946), "John Nash" (1935), and the excellent collection of essays, "Heavenly Mansions" (1948), on eighteenth, nineteenth, and twentieth century topics, must also be recommended.

Through the dedicated labor of Emil Kaufmann, who produced "Three Revolutionary Architects" (1942) and "Architecture in the Age of Reason" (1955) the significance of the French architectural revolution during the late 18th century is at last recognized.

Hitchcock's Pelican text comprises the first scholarly synthesis of nineteenth century architecture, and, though at times it reads like a catalog in its energetic determination to be comprehensive, it succeeds nobly in defining the manifold currents of this crucial period. It should be studied by all architects, especially those who still mistakenly believe that copyism was the period's dominant characteristic. The same author's "Early Victorian Architecture" (1954) is a masterful exposition of that extremely complex period. The last three volumes of Hautecoeur's work, cited above, presents a systematic account of French architecture during the nineteenth century. Edward R. de Zurko has contributed an important study in his "Origins of Functionalist Theory" (1957). The best account of the development of modern principles is still Pevsner's "Pioneers of the Modern Movement" (1949), in that it employs straightforward scholarship rather than the usual propagandistic approach.

Finally, historians of American architecture have been exceedingly active during the past generation. Hugh Morrison's "Early American Architecture" (1952) gave us the first orderly treatment of the colonial period. Marcus Whiffen's treatise, "The Public Buildings of Williamsburg" (1958) and Thomas T. Waterman's "Mansions

of Virginia" (1946) exemplify the high scholarship which fortunately is becoming more available. We all stand in debt to Talbot Hamlin for his superb "Greek Revival in Architecture in America" (1944) and for the finest biography of an architect ever written, his Pulitzer Prize winner, "Benjamin Henry Latrobe" (1956). "American Skyline" (Mentor paperback; 1955), by Christopher Tunnard and Henry Hope Reed, forms a useful survey of later American building and stresses relationships with the cultural setting. Perhaps the finest work in which these factors are worked out in detail for a single locale is still John Coolidge's "Mill and Mansion" (1942), which deals with the development of Lowell, Massachusetts. The growth of regional and state studies is exemplified by Rexford Newcomb's "Architecture of the Old Northwest" (1950) and Frederick D. Nichols' "The Early Architecture of Georgia" (1957).

While space has permitted citation of only a few representative examples from a galaxy of important publications, it will be easy to recognize that, through the efforts of a growing company of highly competent scholars, all phases of the history of architecture have been, and are continuing to be, rewritten to the end that fine architecture, as a creative art and as indispensable evidence of man's ability to impose beauty upon chaotic environment, can win both wider public appreciation and the firm allegiance of every present member of the great profession.

A Visual Autobiography

I Like What I Know

By Vincent Price. 314 pp. illus. 6″ x 9¼″. Garden City, N. Y.: 1959: Doubleday & Co., Inc. $4.50

This reviewer first met Vincent Price in the part of a suave man-monster in the movie "Dragonwyck" many years ago; since then he has been seen in other similarly unattractive parts. Then a couple of years ago, we all met him practically face-to-face on the "$64,000 Challenge" TV show, in his contest with the astounding little Billy Pearson, and others. There we for the first time became aware of a truly charming personality with a thorough knowledge of the world of art, and an obviously deep love for it.

Since the age of twelve, when he bought a Rembrandt etching with his own allowance money, Mr. Price has been an ardent and informed art collector. This book, called on the jacket "a visual autobiography," is his story of his art collecting, but it is much more than that. It is the story of the people he has known—people of the theater, people of the movie world, people of the art world, and just people; the story of his travels, searching out art treasures ancient and modern, and meeting artists everywhere. As a story, it is rich in color and in incident; as art criticism it is perhaps naive but sincere and straightforward. It is written in a chatty and informal style, and should ultimately turn out to be an excellent popular course in art appreciation. Many people will read it who would never otherwise read an "art book."

Vincent Price, an enthusiastic collector, dealer and lover of art, is shown with a part of his collection in his Los Angeles home

Bob Willoughby

Formation of Stone

By Harumichi Kitao. 139 pp. illus. 8¼″ x 8″. Tokyo: 1959: Charles E. Tuttle Co. $7.25

This is one of a series of books on the use of various basic materials in architecture and landscape design. The bulk of this book, 110 pages, is devoted to 131 excellent photographs showing the diversified and sensitive use of stone, grouped under chapter headings such as Pavements, Stepping Stones, Walls, Bridges, "Dry Mountain and Water" Gardens, Stone Art (garden sculpture).

The titles in Japanese and English are supplemented by sixteen pages of numbered descriptions of plates in both languages, but the short statements beginning each chapter are in Japanese only. However the story is very effectively told by the photographs.

The uses of stone here portrayed, and the text, in occasionally quaint English, convey the sense of reverence toward this natural material, a secular accompaniment of the nature focus of Japanese religion.

JOSEPH WATTERSON, AIA

THE AUTOBIOGRAPHY OF A LOVE AFFAIR OR

Books and Me

I feel like a kid let out of school, for this is the first time since I became editor of the *Journal* that I have written anything other than my usual editorial stint. So I'm going to celebrate it by making a public confession.

I have been carrying on a lifelong love affair. It antedates my love affair with my wife; it antedates my love affair with my mistress architecture. It goes back to my childhood. It is my love affair with books.

Most of my friends have collected something all their lives. Their houses are filled with pictures, furniture and bric-a-brac that they've picked up as they went along. Some go in for porcelains, some for antique glass, some for guns, some for oriental rugs, some for snuff boxes, some for electric trains. Me, I've gone in for books — I just can't resist them, nor do I try very hard. So the collection has grown — though not very large as collections go. Many books have disappeared with time and many moving days, many have been given away, and some have been loaned to "bookkeepers." But no book was ever thrown away, not by me. So now there are about a thousand books looking lovingly down at me from my shelves, every one a friend, some very old and tried and true, like "Uncle Remus" (with the Frost illustrations) and "The Magic Mountain," and others new and just introduced, like "The Towers of Trebizond" and "The House of Intellect."

A book—any book—fascinates me just by the very fact that it is a book. I love the sight, the smell, the feel of them. When I get a new book I first savor it by turning it over in my hands, enjoying its firm compactness and its tempting jacket. Then I remove the jacket to see its binding. Next I gingerly open the book and smell it. Yes, I stick my nose into the middle of it, quickly before the odor can escape—that delicious odor of newly-cut paper and fresh ink. I always think I can tell whether or not a book is good by the smell.

Then I read the publisher's blurb on the jacket and the biographical sketch of the author, or whatever there may be. After that I'm ready to open the book. I turn to the title page and opposite it the list of previous books by the same author; then I turn over to make sure that the book is properly copyrighted in all languages, including the Scandinavian, and that it has been duly entered in the Library of Congress. Thus reassured, I study the table of contents and, if there is any, glance back at the index, appendix, bibliography or whatever there may be in the back of the book. Having the scope of the book now well in mind, I turn to the preface, foreword, introduction, etc. After having digested the author's apologia and his thanks to his contributors and his aids—including his wife, who read the proofs—and the condescending pat on the head by the distinguished writer who was persuaded to say a good word for the book, I am now at long last ready to read it.

A lot of rigmarole? Possibly, but it's fun and by the time I'm ready to read, my literary taste-buds are fairly tingling!

My first memories of books are of Tom Swift and the Rover Boys, and, believe it or not, Horatio Alger and Oliver Optic. A bland diet, but better for a young mind than some of the comic books we have today. There were also "A Child's Garden of Verses" and all kinds of fairy stories. That

was in Cleveland. During the third grade I was transferred to Canandaigua, New York. There I remember haunting the Wood Memorial Library, which at that time was housed in the Town Hall, a fine old piece of Federal architecture. Once I borrowed Ernest Thompson-Seton's "Rolf in the Woods" and left it in the hammock—and it rained. After reprimanding me, my grandfather paid for the book and had it rebound for me. I thought I still had it, but the last time I looked over my old books I couldn't find it.

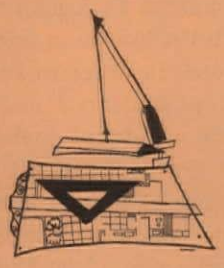
While in the fifth grade I was transferred again, this time to Glen Ridge, New Jersey. The public library was upstairs over the Glen Ridge Trust Company, right next to the station. I stopped there nearly every afternoon on the way home from school, either to read or to pick up an armful. Meanwhile my bookcase at home started to fill up with all kinds of children's books, standards like "Swiss Family Robinson" and "Treasure Island," as well as now forgotten treasures such as "The Would-Be-Goods" and "Mrs. Wiggs of the Cabbage Patch." There were also the "boys' books" of the day, such as the school hero stuff by Ralph Henry Barbour, which I rapidly outgrew. But I never outgrew Hawthorne's "Tanglewood Tales," for the love of the Greek myths is still with me, Barbour's chesty heroes are forgotten.

It was during these years that I first came to know New York City, and I vaguely remember a horsecar, with straw on the floor to keep the passengers' feet warm, and being taken to the top of the highest building in the world, the Metropolitan Life Insurance Company Tower. I also saw my first play (William Gillette in "Sherlock Holmes") and heard my first concert (Josef Hoffmann). But I am digressing; those were the beginnings of *other* love affairs.

In my uncle's house in Glen Ridge there was a set of bound volumes of *Life*—the real *Life,* the old humorous weekly. They dated from the eighties and the nineties and I knew every joke by heart. They were full of fine pen drawings by such old masters as A. B. Frost and Charles Dana Gibson. There were also some bound volumes of the *Century Magazine* from the same period, with beautiful pen and ink illustrations by Herbert Railton and Joseph Pennell. I acquired a love of fine black and white work that I've never lost—an art that is still practiced and appreciated today in England, but which has become debased here. (I still have a couple of those bound *Centuries.*)

My high school years were spent at a boarding school in the Berkshires of western Massachusetts, and happy years they were — in spite of classes. The first two years I was exposed to Latin, which I hated but for which I have ever after been grateful. If you want to know the English language you've got to know Latin. I was also exposed to the most thorough of courses in grammar, composition and English literature. (Remember "Henry Esmond" and "L'Allegro" and "Il Ponseroso"?) Then in my senior year I had one of those truly inspired English teachers (Miss Dewey) who can instill into the heart of even a recalcitrant student a genuine love for literature.

Between school and college I found myself back in Cleveland for a year, where I started learning to be an architect in my father's office and in the local Beaux Arts atelier. It was then that I became afflicted with the bookstore habit. There was, in the Euclid Arcade, I think, a fascinating bookstore which was the hangout of the local intelligentsia (and allegedly of the current "parlor pinks"). So I learned to hang around bookstores, fingering and reading, seldom buying anything, always in the way, and supremely happy.



At college in Philadelphia my book collecting really started. After Christopher Morley's "The Haunted Bookshop" I bought A. Edward Newton's "The Amenities of Book Collecting," full of fascinating talk about books and book people. From it I learned to go to Sessler's, that world-famous bookstore on Walnut Street, where I could seldom afford to buy anything, but I loved to look and to touch. I also acquired the Leary's habit—that granddaddy of all second-hand bookstores — and have never got over the second-hand bookstore habit since. Some of my most precious treasures I picked up for fifty cents. In freshman English my professor was Bill Harbeson, another of those rare and inspired teachers of English — brother of John F. Harbeson, FAIA, who later was my design critic.

In early married years, first in Cleveland and then in New York, my book shelves slowly filled, mostly from second-hand stores and from the "publishers' overstock" tables which at that time flooded the drugstores. Remember "Arrowsmith," Willa Cather's "The Professor's House," Ellen Glasgow's "They Stooped to Folly" and the won-

derful novels of Louis Bromfield? Then on the "heavy" side there were Stuart Chase, Walter Lippmann, Aldous Huxley, Thorstein Veblen, H. L. Mencken, Henry Adams, Lewis Mumford, Lincoln Steffens—and so many others.

A move to Stamford; commuting. More time to read—an hour on the train twice a day. I made the most of it. I borrowed Thomas Mann's "The Magic Mountain" from the library of the Mechanics' Institute on 44th Street and read it on the train in a protracted mood of spiritual exaltation. (I was teaching at the Institute, having taken over Harold Sleeper's course in Architectural Design.) I lost the library's copy and had to replace it with the expensive two-volume edition, buying the cheaper one-volume job for myself. Many books came to my shelves during those days, many still there, some gone.

Then the depression and no more book-buying for a few years, but little let-up in the reading for I had to prepare myself for a new—but temporary—career. I found myself teaching History and Appreciation of Art at the College of the City of New York and at its WPA branch in Garden City, L. I., where I then lived. In order to keep at least one jump ahead of my students I had to do a lot of reading: Pijoan's wonderful four-volume history of art, Wölfflin's "Principles of Art History," R. H. Wilenski's "History of French Painting" come to mind, there were countless others, thanks to the good art book collection at the 58th Street branch of the New York Public Library.

As building started to pick up again I opened an office, then after four or five years came the war, and after that re-establishing the office. Not much time for reading for pleasure, but I got deeply involved in a program of reading for a purpose. During those post-war years I wrote my one and only book. I wrote a sample chapter and to my delight it was accepted by the first publisher I showed it to—they gave me a contract and an advance to finish it. It was published in 1950. I guess the real reason I wrote it was in an effort to carve a niche for myself, however small, in the, to me, glamorous world of books. So when the editorship of the *AIA Journal* was offered to me, out of a clear sky, you can readily see that I was a push-over!

You may have noticed that I've mentioned no architectural books. There have been and are many in my life, but that is another story. I believe an architect should read widely—should read everything, and that is the story I'm telling, the story of the books that have given me a thrill, or deep pleasure, during the past years. No, I don't remember all I read; but I remember the pleasure I've had and I usually remember where to look for it if I want to find it again.

Recently I've been reading about the Greeks. Any historically-minded architect knows Greek architecture fairly well, and with it the history and geography of the Grecian area. I had always had a special interest in Crete and the excavations at Cnossos and Mycenae, but I let it go at that until last year when I read "The King Must Die," by Mary Renault, a wonderful novel about Theseus which brought me close to the lusty and earthy gods of the pre-Greeks, who were forever meddling in human affairs. About that time I acquired C. M. Bowra's "The Greek Experience"—and my Greek binge was on! Next I read "The Iliad," which I found as thrilling as "Anatomy of a Murder" (honest!), so I plan soon to read "The Odyssey." I right away had to get a copy of Robert Graves' "Greek Myths" to update my old Bulfinch, and I bought two books I had long wanted, Edith Hamilton's "The Greek Way" and "The Echo of Greece." That wonderful old lady and great scholar, now 91, is still writing about Greece in her house on Massachusetts Avenue. She doesn't know it, but I bow silently to her every day as I go past on the bus.

How can one tell about all the experiences one has had when they have been so many and so rich? How dull life would be without books! Recently, I have read André Malraux and his "museum without walls" ("Voices of Silence"), Jack Kerouac's "On the Road," Bruce Catton's "A Stillness at Appomattox," Zola's "Nana," Jacques Barzun's "The House of Intellect," and that incredibly realistic bit of fiction, Marguerite Yourcenar's "Hadrian's Memoirs." No one, not even Macaulay, has told the history of Britain as vividly as has Winston Churchill in his four-volume "History of the English-Speaking Peoples"; then there have been Boswell's "Journals," both at home and abroad; there has been Bernard De Voto's "The Course of Empire," the stirring story of the Northwest; and Edwin Way Teale's "North With the Spring" and "Autumn Across America." And in a very special spot on my shelves, Rose Macaulay's witty, wise and wonderful "The Towers of Trebizond" and T. H. White's "The Once and Future King," that retelling of the legend of King Arthur which is at once beautiful, funny, scholarly, absurd and absolutely absorbing!

So enough. If you would live, *read*. Books are magic and can fill one's life with magical experiences. Life without books would be, to me, very dull indeed.

Historic Preservation

AS A PART OF URBAN RENEWAL

BY PAUL THIRY, FAIA

The City Plan Commission of Providence, Rhode Island, has issued in book form a demonstration study of how the city can restore and renew its historic "College Hill" area. The book is here reviewed by Paul Thiry, FAIA, *distinguished Seattle architect and author of an outstanding address at the 1959 convention, "Total Design," involving the architect's responsibility for preservation as well as for renewal.*

"College Hill,"* a demonstration study of historic area renewal in the City of Providence, Rhode Island, is a thoughtful and impressive document, well-organized and clearly presented. The College Hill study was made possible by a demonstration grant from the Urban Renewal Administration, HHFA ($48,533.00), from funds raised by the Providence Preservation Society ($18,530.00), and by advance of staff services by the Providence Plan Commission ($5,735.00) for a total budget of $72,800.00. Blair & Associates of Providence acted as consultants.

The resultant "College Hill" report is straightforward and refreshingly free from personal viewpoints on planning and from slants which tend to the over-emphasis of statistics, economic or socially directed panaceas. The study is intended not only to establish local objectives, but also to have far-reaching significance:

> "Since both federal and local sources have contributed to the support of the study, its goals, while complementary, are two-fold. The federal government considers College Hill sufficiently typical of other areas in the United States where historic communities have survived. It has chosen to support this particular study so that ideas and techniques could be developed which would prove helpful to other cities in their efforts to renew or preserve historic areas.
>
> "College Hill study area lies immediately east of Providence business district. . . . It contains the original seventeenth century settlement laid out in the time of . . . (Providence's) . . . founder, Roger Williams, and is one of the few communities in the country where properties in close proximity to the central business district have been held in residential uses, and where descendants of the original settlers are still living."

"College Hill" is designed as an intensive city planning study. Specifically, its purpose is to consider the broad range of community problems which beset an old section of a city, i.e., overcrowded slums, neglected, worn-out buildings, heavy traffic, narrow streets, lack of parking and of recreational facilities, etc., and to develop proposals for their solution. These involve a system for rating historic architecture, techniques for integrating areas of historic architecture into proposed redevelopment programs; development of a comprehensive master plan for the future growth of College Hill, in which the plans for the historic area take their place in the framework of the larger neighborhood plans; development of a comprehensive program of historic area preservation by reviewing methods in use elsewhere in the country and combining these with the new ideas developed in the study; and, finally, to demonstrate visually how contemporary architecture

*College Hill

A Demonstration Study and Historic Area Renewal. 213 pp. 12½" x 9". Housing and Home Finance Agency, Urban Renewal Administration, Washington, D. C.

can successfully relate to existing historic architecture, thus attempting to dispel the idea that historic area preservation need foster electicism.

The Report is composed of three major divisions: Part I, Preservation in America; Part II, Survey Techniques; and Part III, Renewal of College Hill.

Part I reviews surveys previously conducted by the Historic American Buildings Survey, Old Dominion Foundation of Virginia, and others. It touches on contemporary uses of historic buildings and communities, on historic area zoning employed by various municipal governments, urban renewal projects and methods of financing.

Part II deals with the history of College Hill and its pattern of development from the first settlement in 1636 to the present time. It outlines the styles of architecture in their progressive stages through the Revolutionary War, the Civil War and through various periods of transition. Criteria for judging buildings and areas of cultural significance is developed.

Part III contains a long-range plan including a plan for the growth of major educational institutions in College Hill, recommendations for community facilities, traffic routing, parking and detailed proposals for private and urban renewal projects employing action on subjects of clearance, rehabilitation and conservation.

The Report is profusely illustrated with excellent photographs, drawings, maps, charts and graphs. The text is supplemented by clever injections of the indicators and colors shown on the maps. Unfortunately, most photographs are not keyed to any reference—street names are not indicated on all maps. However, with some effort, which is worth expending, the north point can be established and the various illustrations related to the maps showing both past and future plans.

As one goes through the text, it is of interest to note the evolution of Providence and to relate it to other communities of similar heritage—the first settlers establishing a place to live along a river—fire completely destroying the village—rebuilding and commercial development—introduction of maritime trade and traffic to the West Indies—followed by such communication expansions as canals, later, railroads, and now the super highway, freeways and the seemingly ever-present parking problem. Confronted with obsolescence and intrusions, our communities must be constantly on the alert. How well they are able to face up to change is a real issue.

For those interested in urban problems, city planning and housing, and the relationship of the historic past to the future, the sound observations, proposals and recommended solutions manifest in "College Hill" should be excellent reading.

Biblionostalgia

No resumé of books and architecture would be complete without a nostalgic backward glance at the days in the twenties when architects bought and read and used books. The era was typified by Abner Symonds, the genteel book salesman, known to every architectural office in New York City, Abner the Shakespearean actor in civies, with a dramatic, eloquent and quavering voice, who could persuade you that the mere matter of money should not stand in the way of acquiring this or that sumptuous portfolio which would become the veritable keystone of your professional career for the next decade.

We don't know whether Mr Symonds survived the Depression, but this demise may have been hastened by the architect-hero of an apocryphal story.

This architect was specially allergic to slang. On this particular morning he was quite annoyed when his daughter answered his parting remarks with "and how." Making conversation about the weather his anger was aroused by the taxi driver's flip response "and how!" By the time the office elevator operator and his receptionist had both terminated his conversations with the same remark, he was fit to be tied.

Before he had time to cool down, Abner Symonds was announced and greeted him with:

"Oh, Mr. Delanopope, I do want you to be the first to see this magnificent four-volume set, just off the press, the complete works of Mellor, Meigs and Howe" — whereupon innocent, unsuspecting, gentlemanly Abner was thrown out into the corridor by the architect, in person. W. A. T.

Briefly Noted

Urban Real Estate Research

David T. Rowlands. 96 pp. 8½″ x 11″. Washington: 1959: Urban Land Institute. Paperbound. $2.00 to ULI members, $4.00 to non-members.

This is Research Monograph No. 1, the first of a series of cumulative research studies planned by the Urban Land Institute. The author teaches in the Wharton School of Finance and Commerce at the University of Pennsylvania. The first thirty pages deal with an exploratory inventory and evaluation of the present state of knowledge in the broad area of real estate economics as revealed by significant research done since the end of World War II.

The balance of the book is devoted to a thorough bibliography of references in the field, broken down into such headings as "Central Business Districts," "Effects of Airports," "Finance," "Highways and Expressways," "Housing," "Industry," "Taxation," etc.

William Buckland, 1734-1774—Architect of Virginia and Maryland

By Rosamond Randall Bierne and John Henry Scarff, FAIA, 176 pp. illus. 8″ x 10″. Baltimore: 1958: The Maryland Historical Society. $7.50

The piecing together of a biography of an early American "architect" must be a slow and painstaking but fascinating procedure. Records are so incomplete, so much must be inferred from references in diaries and documents of other people, buildings have been destroyed and altered beyond recognition—it takes a super-sleuth.

Rosamond Randall Bierne is a native of Annapolis and has long been a student of its architecture, and has authored many articles on historical themes. John H. Scarff, FAIA, has practiced in Baltimore for many years, and knows his local architectural history.

When we call the designer of an eighteenth century American building an "architect" we must remember that we are not using the word in its twentieth century sense. It is doubtful if there were any truly professional architects at that time, no matter how skillful the amateur architect or craftsman-architect may have been. William Buckland was a craftsman-architect. Born in England and indentured to his uncle, a London joiner, he further indentured himself at the age of twenty-two to George Mason of Virginia, in order to obtain passage to a new land and a start there in his trade.

The walls of Gunston Hall were erected when Buckland arrived, but the rest of the construction was under his supervision, and it was he who designed the interior finish. When his term with Mason was up he married and did some smaller work, including working with the much-disputed "architect," John Ariss. But good commissions came to him and he is to be credited with the interiors of Mt. Airy, Whitehall, Tulip Hill and Montpelier. These houses contain some of the finest interiors in America, and the wood-carving shows great beauty of design and skill of execution. Nearly all designs were based upon the standard joiners' handbooks of the day, such as Abraham Swan's "British Treasury," James Gibbs' "A Book of Architecture," "The London Art of Building," by William Salmon, and many others, copies of which were listed in the inventory of Buckland's estate after his premature death.

Annapolis was becoming the scene of fashionable life, as the planters were building town houses to be near the center of both political and social life, and Buckland found he was spending too much time commuting by boat from his home and shop in rural Virginia to his new commissions in the capital. So he moved to Annapolis on borrowed money and was soon busy on his most important works.

He designed the third floor and the interiors of the Chase-Lloyd house, and in the Hammond-Harwood house he apparently had his first opportunity to design a house from the beginning. He did a handsome job of it, and this spreading mansion in the Palladian manner is one of the fine houses of the Chesapeake Bay area. Buckland designed the interiors of the well-known Paca house, and probably the entire design of the Brice house and some interiors in the new State House which was then building.

He died suddenly at the age of forty and at the height of his powers. There is no record of his death, nor was there any plague at the time. Records of a few weeks before show him active in his trade—or, should one say, profession?

Buckland was a sensitive and polished designer in the vernacular of his time, and a skilled craftsman. We do well to study the lives and works of such men in these days when good design is too often the result of fortuitous circumstances and skilled craftsmanship consists largely of bolting together machine-made precision parts. J. W.

The Theory of Architectural Proportion

By P. H. Scholfield. 168 pp. illus. 7¼″ x 9⅝″. New York: Cambridge University Press: 1958. $5.50

Orderly relationships in works of the past, minor arts and architecture, upon which our taste has been trained and in which we take visual satisfaction are founded upon mathematics.

Historical theories and confusions of concepts of proportion are reviewed comprehensively in this book which goes far toward suggesting that in understanding of these matters we are not beyond our earliest artistic ancestry.

Scholfield's objective is to state ". . . a theory of proportion which would explain the history of proportion in terms, not of metaphysical systems, but of simple relationships of form which are apparent to the eye . . ." He sees as a next step the development of systems of application for the designer. This book, then, is a foundation for understanding rather than a drafting-board manual.

The main headings of the contents—Vitruvius, the Renaissance, the Incommensurable—give a deceptive sense of limitation. This study ranges from a fascinating footnote on Egyptian knowledge, through Greek mathematics, medieval and renaissance theories and later revivals, to the Dynamic Symmetry of Jay Hambidge, to Le Corbusier's *Modulor* and to the author's own synthesis as conclusion.

The distillate of central theory from all this involves order created by repetition of similar figures, and patterns of mathematical relationships of dimensions. The author explores at some length and illustrates ratios and progressions (not to be tossed off in an evening, this short book) based upon the two approaches: *commensurable* (arithmetic) and *incommensurable* (geometric—Golden Section, etc.).

Among well-known architects of today are many who rely on what they consider to be their "intuition" or "taste" and who scoff at precision in these matters. Our perception of relationships of architectural areas is necessarily imprecise due to shadows and perspective factors, including plastic character (if any) of a facade. This reviewer cannot help believing, however, that an underlying orderliness in visual design is an essential part of good architecture and that there are secrets to be found or rediscovered in this domain—not magical and not a royal road for the mediocre mind but practical methods, even if intellectual!

There are hints in the last few pages of this excellently-produced book on the relation of a proportioning system to modular coordination and in several places references to human dimensions and proportions. Perhaps better architectural scale — currently disregarded and lost — may be found again by further study of this kind. E. P.

The Architecture of Scottish Post-Reformation Churches, 1960-1843

By George Hay. 299 pp. illus. 6¼″ x 9¾″. Oxford: 1957: Clarendon Press. $10.10

Part I: Architectural development covers the Reformation aftermath, the later Stuart, Georgian and Victorian versions.

There is a chapter on Episcopal and Roman Catholic churches.

Part II is concerned with features and fittings; bells, towers, furniture, monuments, etc.

Appendices include Inventory and Index of 914 churches with dates including alterations, also an architectural and ecclesiastical glossary.

Photograph halftones (102) are grouped on forty-six pages. Sixty line drawings of plans and some elevations and details are interspersed in the text.

Many Protestant groups and individual congregations are seriously reexamining their modes of worship, seeking to avoid liturgical fads and fashions and to recover the Early Christian and Reformation principles and practices.

The principal value of this book to the practicing architect serving these churches is in the historical analysis of the theological and doctrinal principles illustrated by the plan arrangements and provisions for preaching and the sacraments.

W. A. T.

AN ANALYSIS OF ARCHITECTURE AND ARCHITECTURAL EDUCATION

BY JAMES E. ADAMS

Few can quarrel with the main thesis of this article—not to make second-class citizens out of the architectural students who are not great designers. Some may disagree with the author's specific suggestions. Mr. Adams is Associate Professor of Architecture at Tulane University.

Part I—The Architect

There is a growing concern with the inadequacies of architectural education and the inabilities of architects to find outlets for their talents except in an increasingly narrow field. This paper is an attempt to evaluate the situation with respect to the architect and society and thereby to adjust or reorganize the educational system to conform to the findings.

It seems that any attempt to evaluate a situation in our present times runs into the immediate problems created by the fast-moving and ever-changing patterns of our culture. However, of this we may be reasonably sure, that the architect is no greater or less the victim of this age of anxiety than any other person of the many groups and professions. Although it is proper to consider the problem as dynamic rather than static, it seems imperative to determine where we are before we can find out where we are going. The architects, unlike some other professional groups, are at this time faced with a tremendous challenge. They are at once in a position to do the greatest good and also, by not recognizing their responsibilities and opportunities, in a position of doing the greatest harm, simply by default. It is not possible to return to the simple client-architect relationship, as it is not possible to return to the simple life of not too many years ago. We are confronted with the fact that as the world has grown smaller and peoples and nations have become interdependent so have the responsibilities of the architect taken on increasing complexities. He no longer works for one man — even though building this man's private home. He now works for all men everywhere. We must become world-directed rather than individual-directed.

This is an attempt to investigate the position of the architect and architectural education in some framework of reference other than the egoism and individualism that now exists. Apparently the major problems of life in the twentieth century seem to revolve around the loss of a spiritual goal, blurring of limits of responsibility, loss of a set of real values, and loss of a sense of unity and purpose. These same symptoms naturally exist in the architectural profession, resulting in a loss of professional goals, faith, and a sense of aloneness, lethargy and depression. It seems that our values, self-knowledge and aims are rooted in the eighteenth and nineteenth centuries, our defense against the ever-changing field of life and consequently of our profession is either laissez-faire or conversely open aggression.

If this be so then we are operating on completely false notions of what are an architect, his job, his responsibilities and consequently his opportunities. If this be so there should be much questioning and self-examination of such an untenable position; the answers will not be right unless the right questions are asked. There should be many professional truths which are still broadcast and are no longer operative. The one that has stuck most forcefully with me is the "truth" that although architecture is not particularly remunerative financially it is overflowing in deep spiritual satisfaction.

Any practicing architect knows that the moments of deep spiritual satisfaction are rare, and as is well known the financial rewards are anything but great. Your spiritual satisfaction will probably be in some ratio to the number of ulcers you have or perhaps to other psychosomatic reactions to frustrations. However this is a digression. I shall attempt to examine some of the tenets of our so-called conventional wisdom with respect to architects, architecture, and architectural education; and perhaps to suggest possible methods in education so that we may reaffirm our faith in the power of architecture to create good.

We, as a profession, define an architect (in the classical sense) as being a creative individual or artist. This I think would be acceptable if it were not applied to every individual who graduates from an architectural school. Is it possible for *all* men operating in a profession to *all* be creative? Is our present concern with perhaps a half-dozen architects throughout the world an indication of the number of us who are the creators or innovators? Is the main body of architects practitioners? In all other fields there are perhaps two or three men who are leading the rest and supplying them with food for digestion and consolidation. What leads us to think architecture is different?

It would perhaps be more appropriate to divide architects into two categories. First, the innovators, or those among us who can see architecture as a continuum of experience and thus project themselves into the future providing us with a glimpse of the probable development of architecture as related to the developing social, cultural and technological structure. (It is to be noted that this does not remove from the architect's sphere those mathematicians, scientists, and other artists who operate on the same level.) The second and major category is the practitioners or those architects who, seeing the work of the creators, find they can incorporate all or part of it into the immediate total environment without disrupting the social structure. These men are the normal working architects who are able to understand and perceive the idiom of the times and are interested in producing "good" architecture, who should by their concerted efforts shape the general environment.

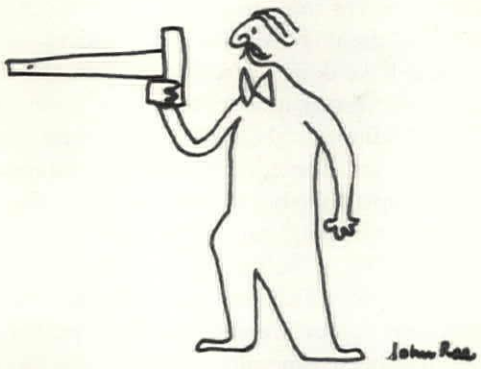
This arrangement of talents does not intend to imply the importance of one person over the other — they are equally important in the overall picture, as they are of one body. One only has to try to decide which part of the body is more important than the other to grasp the meaningfulness of this statement. As any society develops we can do one of two things — grow and change or remain static and die. In our contemporary society the architect is faced with an ever-increasing need for rational thought, to preserve our world from complete chaotic growth. It is perhaps needless to say that for a given problem there is a given ruling limitation or limitations. An example of this is mass housing. If the architect would accept the limitations of budget and work within this limitation constructively he could (by his training) become the greatest ally of those men who are trying to solve this problem. On the other hand, as long as he rejects this basic limitation and insists that his forte is "esthetics" and bemoans the lack of beauty he will forever be shut out of this most important field. It is imperative to recognize that if he could and would direct his talents at the real problem many of the things he now seeks would be accomplished in the process. The largest amount of building is now controlled by other than "esthetic" limitations, and it was ever so.

What then are the responsibilities of our profession as a working part of society? There is only one way to establish this responsibility and that is to ask the right questions. With respect to architecture the first question is: "How can I be of the greatest service?" This search for what our professional responsibilities and limitations are has led to some strange conclusions. One of these is that good and bad taste have something to do with architecture. Consequently, we try to ascribe to ourselves the sole power of determining good and bad taste — this has nothing to do either with design or architecture. Good and bad taste are in the same family as fashion, which depends solely on the time and social moves. If architecture was subject to good taste and fashion then each year we would come out with a new model, which would be the latest mode. In some respects we can see this reflected in our over-concern at various times for orientation, structure, grilles, tile, texture, sunshades, etc., all in themselves worthy of consideration, none capable of creating any timelessness

which is the chief mark of art in architecture. They are all of intense momentary interest and one only has to look at last year's magazine to see what the fashion was. This grasping at straws is an indication of the desperation of the profession to attach itself to something with a firm basis and establish limitations, but in each case we find the "craze" ends and we are left with nothing on which to build until something "new" is discovered. There must be in the minds of architects a clear separation of what is art and what is architecture.

Although they may be at any time one and the same, the need for our services and the nature of this need are not at this point in time solely concerned with art. Art is concerned with order and the variety obtainable within this order. The need is for a firm belief among architects in the efficacy of architecture. The demand for architecture (or building) does not allow for dalliance, you can see the rise of the package building as an answer of this need. A well-trained architect could be of inestimable value in this field, and he should not have to give up his ideals in order to work therein. The ideals that we teach should cover the full range of human activities. The time has come when we must dedicate ourselves to the service of the many rather than the few.

Architects should be primarily concerned with the job of building, and a competent architect in our present culture is not necessarily an artist in the classical sense. Ninety per cent of all our architectural problems could be solved better, in every respect, if we as a profession, would solve the problem on the basis of the limitations of that problem without trying to inject in it "art content" — the chief result being affectation in our buildings. The problem is compounded by the fact that we teach the young architect that by some magic he must be both objective and emotional at the same time, resulting in a constant state of indecision which leaves him completely confused as to where in any problem the importance lies. So on one hand he says that this building must be the epitome of efficiency and on the other it must be a work of art. Art is never efficient and is always extravagent; art does not concern itself with cost. This is amply illustrated in "juke box" architecture in which the architect, in trying to instill art content in the filling station, has it looking like a church and in trying to instill efficiency in the church, has it looking like a filling station. We have established for ourselves an outdated system of values which makes it almost impossible for us to communicate with our clients. This lack of ability to communicate has by and large been responsible for the lack of understanding of which we so bitterly complain. (Perhaps we are understood only too well). This then in turn removes from our sphere of influence all but a few of today's buildings, we have lost contact with the "common man," who is becoming increasingly important. It is true that a part of the business that architects enjoy is still primarily art; however, we must remember that this is only a small part of the actual building done. Much of the rest of the architect's business is his because of traditional influence and by the artificial restrictions of law (which will not remain the same forever). Remove this restriction



and a large number of architects would be out of work. On the other hand if we could face the consequences of "what is an architect" we could operate in much of the field that is now excluded to us, to the real advantage of our whole environment. I have no doubt that if a valuable service is being performed then we have no need to build artificial restrictions but only the need to uphold the general level of competence of those practicing the profession.

The architect himself is often troubled by the thought that he is superfluous, and turns to other fields which give him a greater personal fulfillment. Further, the architect in trying to uphold his false notion of his position and responsibilities bends every effort to be different (mistakenly assuming this to be creativeness), and ascribes all his "failures" to a bad client, the budget, or other external causes. He is most unwilling to be bound by the natural limitations and potentials of the problem at hand. In looking for the causes of these many symptoms one does not have to look far. First, our historical studies are made only of buildings that are of esthetic importance. We study them in relation to their emotional content with none but lip service given to the culture which created them. It would be impossible of course to estimate the total number of buildings, but my guess is that this type of building we study historically, represents a very small part of the total. What then of the remaining

large majority? Is not this the area one should look to for understanding and knowledge of the culture and society from which they sprang? It is perhaps pertinent to say that there is always only a very small proportion of buildings in which there is any need or room for continued emotional content. When this need arises and must be met, only the creative (artist) people will meet it.

Could this then be the story? In a futile attempt to be what we are not, we latch on to every new movement, fad and fashion that passes before us. The problem was intensified by the "modern movement" when great efforts were put forth to provide us with *concrete rules* to follow. I do not wish to negate the great good that the leaders of this movement have done in freeing us from the bonds of static traditional architecture, but having been freed, we did not establish the roots of an organic architecture and consequently we have floundered. Many attempts have been made to supply the basis for a new beginning but so far none has proven successful. This, I believe, is because no answer has been found which accurately defines "what is architecture" in our present society, or perhaps the answer has been generally rejected. We hide behind our ignorance and mumbo-jumbo, and insist that we are misunderstood. This is obviously leading us to extinction. There is no doubt that any body of men performing an important and necessary service in a society shall reap their just rewards. Further, there are at present no criteria for evaluating the merits of a design other than whether it will create some comment. We are besieged and bewildered with this fetish of "design" without knowing what it is we seek.

Looking then at our present building needs we are led to the conclusion that only a very small percentage of buildings are in need of emotional content. These buildings then can be defined as works of art and of a necessity must be conceived as such. They will not be tied down to the factual analysis of cause, function or any other system of evaluation. They shall in fact be creative in spite of natural limitations and shall be the genesis of most of the buildings done by the majority of architects operating under the normal limitations of life.

What then of the remaining vast body of work? Most conscientious architects will try to instill emotional content into every building they do, not realizing that it is beyond their capacity and beyond the capacity of the building to contain it. Let us then recognize that a new and different set of values and criteria should be evolved by which we shall evaluate this work. What should these criteria be? Without getting completely involved, we might say that the most important criteria will be its effects on our total environment and secondarily the economy of means, function, utility, law, financing, workability, use of materials, and other factual limitations that the analysis of the problem may have revealed. This then would give us the basis of evaluation for the major body of building which would be the primary concern of the architect. There are left some aspects of any problem that can only be classified as taste, fashion, or personal whim and can only be assessed with respect to the time at which the design is done. This, by and large, should not enter into serious discussion of architecture, however, this is at present one of our chief means of evaluating new buildings.

Part II—The Architectural Schools

What then of our schools? If so much is wrong with the profession; there must be corresponding troubles in the schools. This is of course the case. The freshman coming in to a class finds that there is no cohesive course that will take him on a path of discovery and knowledge from the time he enters to his graduation. What he does discover (and this applies to all schools where I have taught, studied and visited), is that he is subjected to a series of personal philosophies in which his first year is very much like his fifth. He finds that all his grading is related to the reaction of his instructor and that no criteria exist by which he can evaluate his work against others. He finds that by and large he cannot communicate with his instructors and his instructors cannot communicate with him. He is expected to know everything from the moment he enters each class and that apparently there is no way of saying he should not be expected to know this or that. He is told that architecture must be creative and imaginative and in his last year it is suddenly discovered that he is just not suited for architecture. In short, he is told to be creative but we don't know how to teach creativeness.

As for the instructors, they are equally perplexed and confused. Nowhere does there seem to be any continuity in what they are trying to teach. If they teach first-year students they feel that it is too soon to completely separate those who are suited from those who are not. In the fourth and fifth years we find that there seems no rhyme or reason to suddenly refuse to graduate someone who has come this far. A large portion of this confusion and disorganization is the direct result of a lack of definition of "What

is architecture?" and consequently "How do we teach it?" We are still trying to make *creative geniuses* of every student who enters the doors of our schools and when he does not come up to this standard we are obviously unable to cope with him. We are obviously asking the impossible and we are obviously unable to assign to him the fault when he does not measure up. Many a student who stands this five years of confusion and graduates, goes into an architect's office only to find that he is not a design genius, and to make matters worse has little understanding or knowledge of what architecture consists of and the problems he has to face. He is an unsatisfactory and unhappy employee, because he feels he is untrained and unqualified for the job. He expects that his creative talent (which he generally does not have) will open great opportunities to him and is naturally disappointed when such is not the case, or is so disillusioned that he never enters the field of architecture.

Many schools are concerned with this problem and have tried piecemeal solutions, but still predicate the curriculum on the creative genius of each individual student. They have tried more fine art, less fine art, more engineering, less engineering, more of this and less of that. They have tried to split the main body of students into specialties such as landscape, industrial design, planning, architectural engineering, and many other fields, but always operating on the premise that all the remaining students are capable of generating "new thought." I do not wish to imply that these other pursuits are not worthwhile and legitimate; however, the problem is not how to get the student out of architecture but how to teach them architecture. My belief is that of the students who are capable of higher education, almost all of them are capable of becoming architects, and perhaps fifteen or twenty per cent are capable of becoming designers. The few truly creative people do not need schools.

This then is my suggestion: We should first define what it is we are trying to teach and then organize a curriculum that will teach it in a logical, cohesive manner. Design may be defined as the integration of the various facets of any problem toward some desired goal, and architecture as the design of our controllable environment.

Without going into specific suggestions for subjects, I would say that the first three years of the curriculum could be retained in somewhat the same manner that they now exist but with one important difference—a new attitude should be developed to conform with the real meaning of "what is architecture" and "what is design." At the end of the third year there would be perhaps twenty per cent of a class which would be allowed to take a design option. The design option would encourage the student to exploit to the fullest his design talents. The remaining eighty per cent would continue with the study of architecture but with an entirely revamped curriculum. This would be the main body of the school and the subject matter would cover such fields of knowledge as building types (i.e., mass housing, office buildings, etc.), structural techniques, law, working drawings, codes, administration, office practice, specifications, etc. At the same time problems would be assigned to illustrate and discover how well the student understands and thinks in regard to these

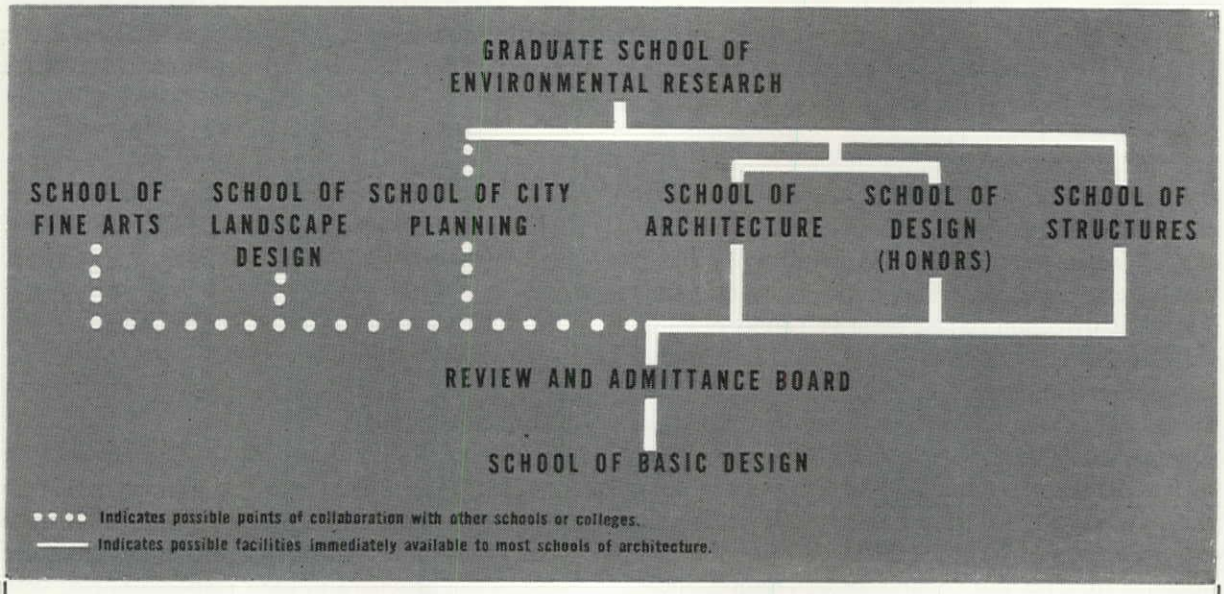
matters. It does not take much imagination to realize that each of these men would then be a valuable member of any firm, being able to solve most of the problems in their respective fields with a high degree of proficiency, and a proper concern for the whole environment.

With such a curriculum the design student would (after the third year) simply be graded as pass or fail for any problem or course. The architectural student would be studying the kind of work that could be graded with an alphabetical symbol or numerical grade, since much of his work would be within defined limitations. Each of these students when graduated would know that he has a capacity that is needed in our social structure, and by their proficiency in their respective fields, be honored in the profession and society. This by no means pretends to be a complete coverage of the total issue involved and perhaps some of the points have been overstressed, but it does give a general picture of what could be accomplished in the way of total concept toward the problem of architecture and education.

Delving more deeply into specific suggestions, I outline below what the general graphic structure of our school should be. All students entering the school would be required to complete the

certificate course. Upon receiving such certificate they would meet a review and advisory board and all of their work be examined. The board (made up of faculty members) would then make specific recommendations as to what branch of study the student would pursue. If the student wished to leave school at this stage he would be able to do so with no stigma attached to him. Thus we would supply to many branches of the building industry people who are sympathetic to the general aims of architecture. A student completing any of the other three courses offered at the school would then be awarded the Bachelor's degree and would have the option of completing an additional year of study for the Master's degree. The Master's degree would be earned by completing the sixth year of study in either one of the other two courses offered. Thus if in the architectural school a student would develop a noticeable talent for design he could very easily obtain the necessary scholastic training with an additional year of study. I feel that with this general organization we could have a greater control of the development of the student, while not placing him in a position of being so far into a course of study that he cannot withdraw without great social and financial loss.

Having thus set up the general administrative procedure let us take a look at the kinds of students with which we may be expected to deal. The democratic process almost assures us that the general level of students entering college will be a closer and closer approximation to a cross section of our population. Our past history has indicated that the general level of college students is dropping and that much concern has been voiced by almost all the colleges in the country. Much ado has been made about the lack of adequate preparation of students by the high schools and many schools have instituted entrance examinations. This can only provide a minimum of intelligence. It is impossible to have a public school system and stop any student from entering a



THE SCHOOL OF ENVIRONMENTAL CONTROL AND DESIGN

The School of Environmental Control shall incorporate the facilities and curriculum necessary to provide an educational process leading to a Doctor of Philosophy in Environmental Research.

The School of Basic Design shall be a three-year course providing the fundamentals necessary for more specialized study in one of the various schools. This course of study leads to a Certificate in Basic Design.

The Schools of Environmental Design shall be two-year courses leading to a degree of Bachelor of Architecture, Structures, etc. It is apparent that most schools of architecture are not now in the position to offer such a wide range of facilities and are in no position to expand to this desired end. It would be possible to collaborate with other schools or universities and provide an integrated program which would accomplish the desired end.

The Graduate School of Environmental Research shall invest two degrees. Master in Environmental Design; (Pre-requisite, Bachelor degree in one of the following schools: City Planning, Architecture or Design [Honors], Structures). The course shall consist of one year of study in one of the remaining two fields of study. The second degree shall be Doctor of Philosophy in Environmental Design (Pre-requisite, Master's Degree in one of the above fields. This course shall be for a period of two or more years and shall be spent as follows: The first year shall be spent in the remaining of the required fields of study, City Planning, Architecture, and Structures, the remaining year or years shall be spent on an original thesis or project approved by the faculty.

The Review and Admittance Board shall review all the work of the certificate and transfer students. The Board shall admit such students as they find capable to the Schools of Environmental Design and shall recommend a particular school on the merit of each student's work. All students wishing to enter Design (Honors) must possess a minimum B average in all subjects.

school if he has completed the generally accepted minimum standards. (Notice how reluctantly we institute entrance examinations and the low level of the examinations.)

Let us then agree that the level of students that we may expect *will* be a fairly close approximation of the cross section of the population. This means that we may generally expect that the number of students dropping in the first three years will be somewhat reduced; however, this should not be disturbing as the positive control of the certificate and review and admittance board will control the quality of the student in the upper years. Our specific curriculum in architectural studies will be ordered to do two things in the first year—first a complete re-education should be undertaken with the students to acquaint them with architecture and the allied fields.

Since it is our experience that the average student is already in possession of certain erroneous notions of architecture the process will be one of tearing down and rebuilding his concept of this field—the process must be simultaneous. He should be instructed in the communicative skills in architecture (the primary of these being his ability to draw); obviously there must be at the same time instruction given in the basic skills of the use of the drawing instruments, both mechanical and non-mechanical. Toward the end of the first year efforts should be made to acquaint him with a concept of the articulation of space through problems that are within the range of his previous experience. Presuming that these several basic requirements are met, the second year can be more strongly directed at specific architectural application of these basic skills. His experiences should be arranged so that he is made familiar with the general problems of construction (i.e., how to put things together), and some beginning experiences in architectural form. This may consist of workshop practice as well as studio work. Much effort should be made to keep the experiences within the general range of previous experience pushing outward in as smooth a circle of complete architectural knowledge as is possible.

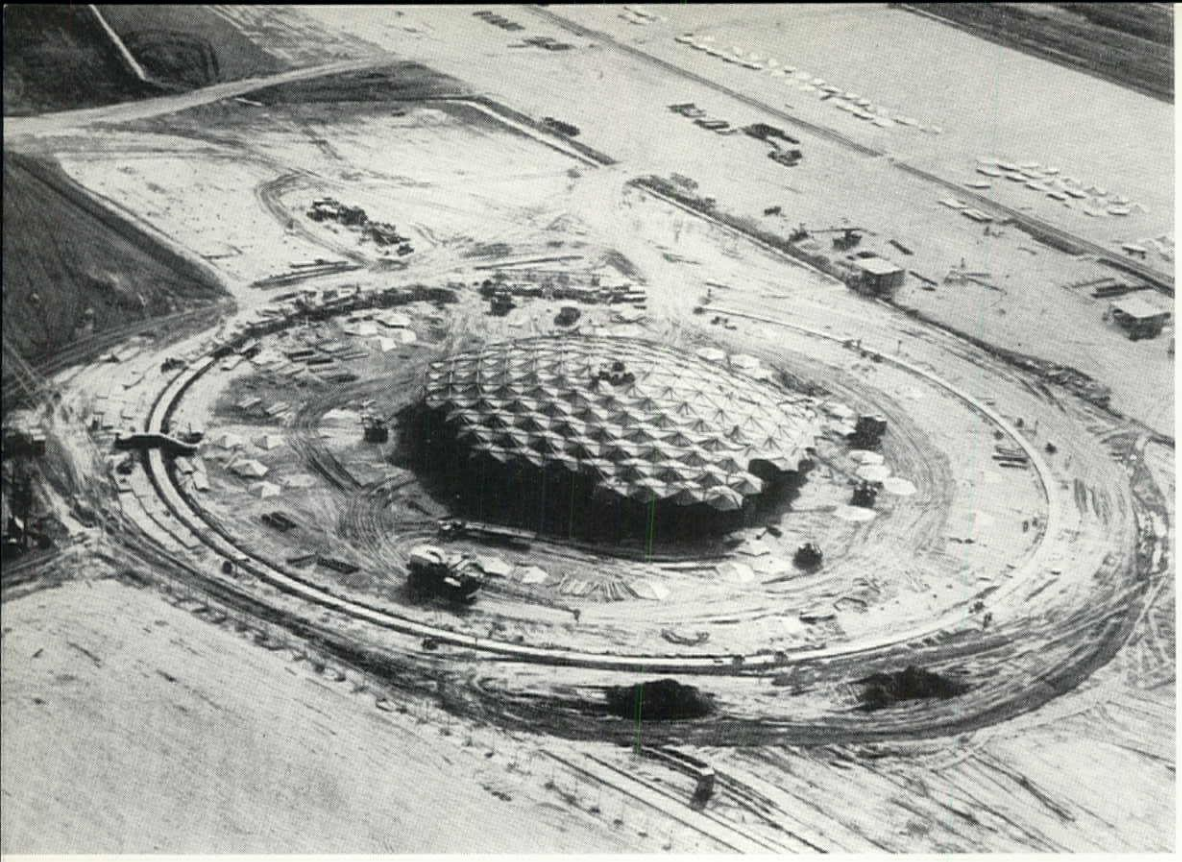
When the third-year student returns to school he should be a fairly competent draftsman and ready for simple architectural problems, which would increase in complexity and depth as the year proceeded. It is my general opinion that by this time the *average* student will have developed his design talents to the maximum. If the two remaining years were a repeat of third year, as is now the case, he would be polishing some of his basic skills but would not learn very much more. At the successful completion of the third year the certificate student would go before the review board and be advised to enter one of the schools, or perhaps be advised not to proceed further or to enter another allied field where he might advance his particular talents to a greater degree.

Let us now examine the general attitude that might be developed in the fourth and fifth year of the architectural and design honors students. Let us take a hypothetical problem of an apartment house. The architectural student would attack the problem in the light of present limitations that exist with respect to it. He would research the

growth of apartment buildings and try to understand the reason for their development, the solution to his problem would be predicated on the actual possibility of it being built. He would be cognizant of the social, legal, financial, and structural possibilities and limitations and his solution evaluated upon these grounds. The design student, taking the same problem, would be required to exhibit an understanding of possible *future* development of these same limitations and possibilities and his problem evaluated on the probability of the changes being developed in the manner that he predicts.

I would like to suggest that the true designer is the researcher in the profession of architecture and so his education and attitudes should be developed to provide us with this nonexistent branch of our profession. In all aspects the curriculum for each student would be formed to help him to approach problems in the manner in which he is expected to solve them. The fourth and fifth year of study in all schools would be, on the whole, a continued expansion of a full circle of experience so that the development of a student in his respective school would fit him to take a place in the normal working world at graduation.

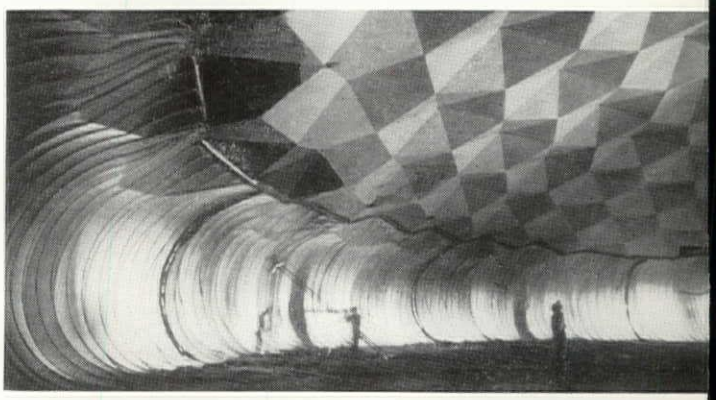
Perhaps in the final analysis all our problems would be simplified if we could all dedicate ourselves to the creation of the best total environment, rather than to the building of super-egos and super-salesmen.



Black Star

1

First portion of dome was erected on scaffolding 30′ high. Outer ring is foundation, showing ultimate diameter



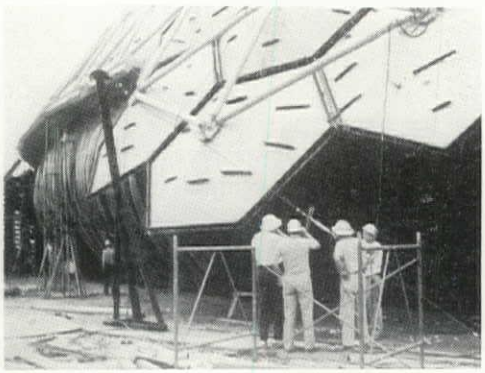
Black Star

2

Bag was cemented to under side of panels and secured by ropes lying on ground to steel ring set at center. Fabric was 1/32″thick vinyl-coated nylon. Air was continuously forced in by blower at rate of 20,000 cubic feet per minute through a 4′ diameter underground steel pipe 225′ long which also served as manway, entering through a double airlock. Air pressure of 1.45 ounces per square inch achieved distribution of weight 90% on bag and 10% on jacks—for stability

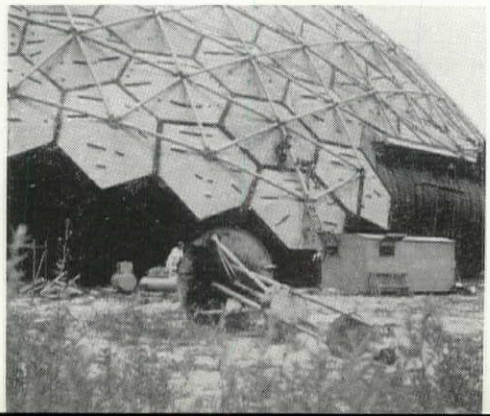
3

The hexagonal panels are 11-gauge hot-rolled sheet steel, ranging from 12′ to 17″ across; the struts are 6″ schedule 10 steel pipe. All are welded together



4

The dome was lifted twenty-six times by slackening the guy wires and ropes holding the bag on the ground, and slackening the cable to the automatic vent at the apex of the dome causing the vent to close. The air pressure almost instantly built up to 1.6 ounces per square inch, which was all that was needed to cause it to rise at the rate of 1″ every 30 seconds

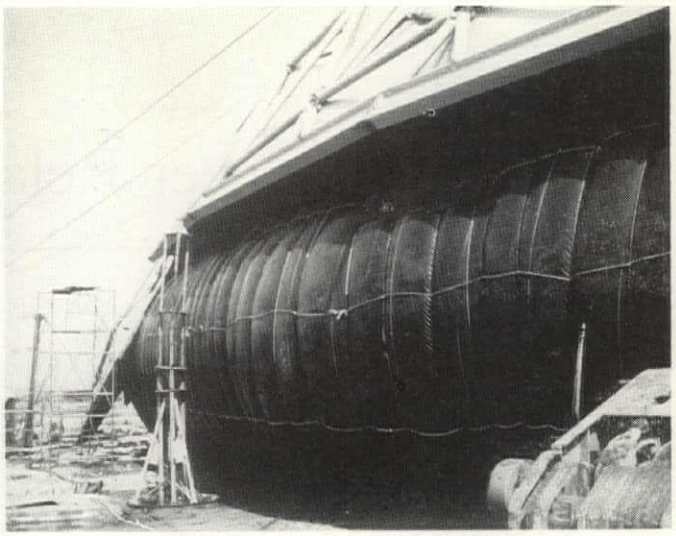


5

This photo was taken while the final lift of about 2′ was being made, raising it sufficiently that the specially-formed bottom panels could be placed and welded to the steel ring embedded in the concrete foundation

Photos by the Editor except where otherwise noted

Building a Dome from the Top Down



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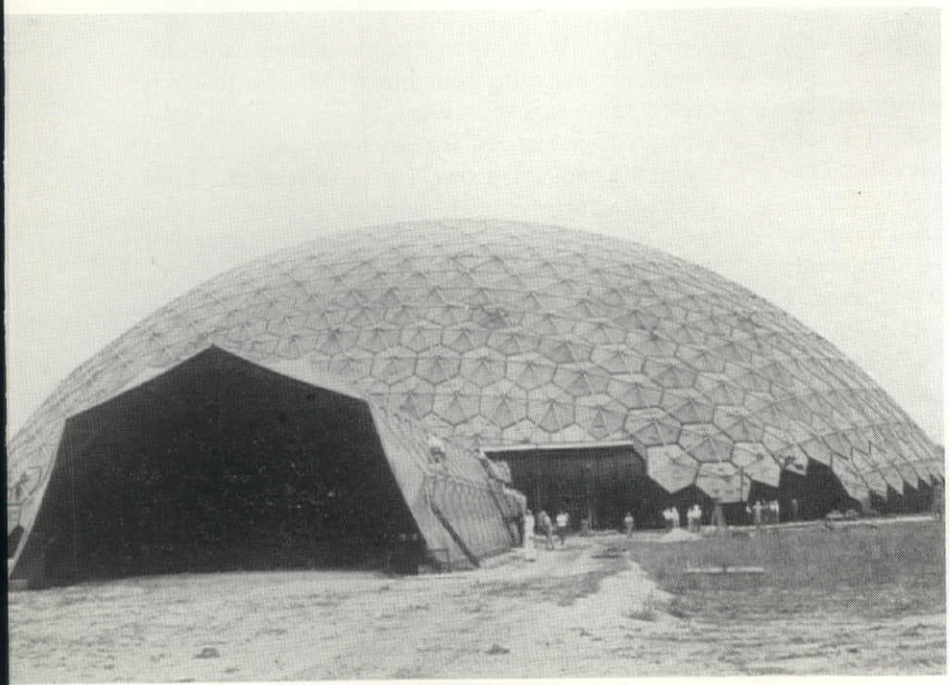
A heavy steel frame encloses the opening where the tank cars will enter and leave. The photo shows one of the jacks that supplied enough support to keep the dome rigid. When lifted free of the jacks, the giant steel dome floated and jiggled like a bowl of jelly turned upside down. Only 1.45 ounces per square inch of air pressure kept the bag bulging—you could hardly push it inward with your hand.

► The Editor was invited to see the final stages in the erection of a 380′ diameter geodesic dome at Wood River, Illinois, twenty-five miles north of St. Louis. The dome was designed and built for Union Tank Car Co., by Graver Tank & Mfg. Co., a division of Union Tank Car. The design is based upon R. Buckminster Fuller's patents. The unique feature of the structure is that its total weight is only 560 tons, even though it is 120′ high and covers 110,000 square feet. Furthermore it was erected from the top down, by being supported on an inflated plastic bag. The building will be used as a "round house" for maintenance work on railroad tank cars. ◄



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The nearly-completed dome, with the paint-spray exit chamber in the foreground. When finished, the dome will be painted lemon yellow and its pipe struts bright blue.

Architect-Engineer Relations

By Clinton H. Cowgill, FAIA, *and Andrew Wilson Green*

► Are relations between architects and engineers deteriorating? Should discussion of this delicate subject be avoided so as to not stir things up? Can professional societies do anything to improve the present situation? If there is friction, an examination of reasons for it should do no harm and it might be beneficial.

The two professions do have much in common. In antiquity, the engineer, as well as the science upon which his work is based, was unknown, and the architect was both designer and builder. Later, when engineering work was undertaken, all engineers were classified as either civil or military, and the architect continued in his role of master builder. The development of engineering was marked by the establishment of specialized branches—mining, mechanical, electrical, structural, chemical, ceramic, automotive, aeronautical, agricultural, highway, railway, electronic, concrete, timber, etc. During this time, the design of buildings became increasingly involved with engineering, and architects were expected to be competent to design the structure and equipment of many of their buildings. Some architects proved to be able even to do the engineering design of large and complicated buildings, but others sought the help of engineering specialists.

Since the scope of most of the recognized engineering branches included much which is not related to building, some of these specialists concentrated on the engineering design of buildings, and these engineers were sometimes known as architectural engineers. They were frequently graduates in one of the recognized engineering branches, but in some architectural schools, special curricula called "architectural engineering" were given. Curricula content varied—some included thorough work in building structures, and a grounding in engineering principles related to building. Many of their graduates tended to become engineering generalists rather than specialists. Close association between students in architecture and "architectural engineering" often resulted in sympathetic understanding. Currently, the term "architectural engineering" is disapproved by the AIA and substitution of the term "building engineer" is recommended.

Architectural firms using the help of engineering specialists and generalists do so in one or more of three ways:

- making the engineer a partner
- engaging him as an employee
- by contract as a consultant

The first is most appropriate for an engineering generalist. While partnerships should always be entered into with caution and generally the number of partners should not be large, there have been many successful architectural firms with engineers as partners. The second method has the advantage of continuity of association with the firm (as does the first) and it is possible to make an employee responsible for his work by means of a written agreement. Status as an employee should not be considered demeaning—and under present tax laws, it may be advantageous economically. [1] By means of profit sharing, valuable employees may be recognized. Many architects prefer to engage engineers as consultants, with separate agreements for each project. This is especially advantageous for architectural firms without a large enough volume of work to keep each of the engineering specialists continuously busy.

For most buildings, the architect should serve as designer and as coordinator of the work of all who collaborate in their design and construction. For such structures as bridges, dams, and power plants, the positions of architect and engineer are reversed—the engineer should serve

[1] See "What Kind of an Office," Cowgill and Cousins, AIA *Journal*, May 1958.

as designer and coordinator, and if an architect is employed, he should advise primarily on esthetics.

Not only must architects and engineers work together, but they are alike in many ways. Both are engaged in solving practical problems, which involve the study of conditions and requirements, and answer human needs. Both use available materials, and must be alert in judging the characteristics of materials and equipment before they have been thoroughly tested in use. Both must apply science and intuition in arriving at decisions based upon judgment. The result of the labors of architects and engineers is the creation of capital—making the world a better place in which to live.

Members of the architectural and enginering professions (perhaps partly as a result of the way they work) have similar attitudes. To receive satisfaction from their efforts, they must take pleasure in doing good. This is true to a degree of even those whose primary aim is to accumulate wealth. Also both are creative. Their imaginations work in different ways, one may be more utilitarian than the other, but both make reality of dreams.

The difference between the two professions should be recognized as well as the similarities. In engineering, greater emphasis is placed upon the application of mathematical and physical science. There is also a greater tendency to concentrate upon a narrow field. While it is necessary for an architect to understand most of the principles of engineering, engineers generally are more familiar with methods of engineering design and analysis. Even though an architect might be able to design an intricate structure, he would probably take much more time than would an engineer who does the same sort of thing more or less continuously. Since each profession attracts suitable persons, it may be expected that architects will be more imaginative than logical or organizational; and that engineers will excel in practical management and administration. There are many architects, however, who have succeeded in building up organizations of hundreds of persons which have produced designs of high quality.

Architects, from their function as generalists, usually are more facile than engineers in coordinating the efforts of a team. From the nature of the programs from which they work, they generally acquire a superior knowledge and more sympathetic understanding of human needs. While imagination is essential for both, the architect usually has the richer creative gifts. Through his practice, an architect has an opportunity to develop a broader understanding of the work of collaborating specialists—engineers, planners, landscape designers, scientists, economists, sculptors, and painters. Finally, an architect must excel in planning and the esthetic design of buildings. If an engineer were able to do these two things in addition to his engineering work, he might properly call himself an architect.

The work of architects and engineers may also be distinguished by the nature of their production. Architecture consists of buildings for human use, while engineering structures are characterized by being used for technical or scientific processes. Architecture is concerned with people, and engineering is concerned with "engines" or "machines." Exceptions to this generalization do not negate it.

Regardless of whether or not the relations between architects and engineers are deteriorating, it may be observed that as of now, these relations are generally good. Each profession has respect for the other, and few members of either profession wish to encroach upon the legitimate field of the other.

But some friction is apparent. Some engineers obviously doubt the ability of some architects to do the simple engineering problems which are a part of many an architectural project. Engineers, like anyone else, like to have their work recognized and they resent it when architects fail to give proper credit for engineers' work on a project. Perhaps the most infuriating (to engineers) is the practice (I hope of a very few architects) of accepting free engineering service from producers or distributors. Finally some complaint has been heard of architectural firms with a full staff of engineers undertaking engineering projects. If such a firm is known as "architects and engineers," and has an engineer as one of the principals, there could be little objection.

While architects seldom wander far afield, the principal complaint of architects against engineers is their encroachment upon the architects' field. Resentment against this encroachment is not wholly selfish. There is ample reason for doubt concerning an engineer's competence to serve as an architect. If an exceptional engineer proved such competence, he should be registered as an architect.

There is danger that, if engineers were allowed to practice architecture, they would soon nullify architectural registration laws, because the qualifications for registration as an engineer are generally lower than those for registration as an architect.

Most engineering curricula provide for only four years of collegiate education as against the standard five years for an architectural degree. Also, the registration examinations for engineers are frequently much less difficult than those for architects.

Would it be best for everyone—professionals and public—if engineers offered a low quality of architectural service, presumably for a small compensation? It would not increase the esteem with which the engineering profession is held by the public.

Both architects and engineers should join in opposition to incompetent purveyors of technical service. They are essentially promoters, who regard both architecture and engineering as businesses rather than professions. They look upon professional competence as a commodity which may be bought and sold, and upon professional registration laws as only an unfortunate hindrance. They do not have the wisdom to accept personal responsibility for either architectural or engineering decisions, but they often have political influence—sometimes as a result of unethical relations with unscrupulous politicians. They have even sought to evade legal responsibility by incorporation.

Let us suppose that reasons for friction between architects and engineers are not removed, and that undisguised contention ensues. Who would most likely come out ahead? The total number of engineers is much greater than the total of architects. Figures are not available, but if only professional engineers were counted the numbers of the two groups probably would not be much different. More important than numbers, though, are prominence and the extent of political activity. The fact that architects employ engineers may affect the attitudes of these engineers in ways it is difficult to predict.

Contention may take many forms. Publication of inflammatory articles or editorials in professional journals is self-defeating. The obvious way for one profession to take advantage of the other is through legislation — registration laws, and local building codes and regulations. But engineers and architects should remember that both groups are relatively so small that separately they can carry little political weight. Also, it is generally recognized that it is much easier to get proposed legislation killed than it is to get it passed. Working at cross purposes, therefore, it is probable that either the architects or the engineers could nullify the efforts of the other group. It would be unrealistic, though, not to recognize that over the years, engineers have been more successful politically than architects.

If, as most of us agree, contention is likely to be unfruitful, what can be done? First, each profession can make a special effort to understand both professions. All engineers should follow the lead of the most prominent firms in recognizing their limitations—particularly in planning and esthetics. They should accept the architect as the coordinator of architectural projects, and as the one who is normally responsible for the engineer's work on a project, making final decisions.

Architects must also admit their limitations, particularly in engineering and science. An architect should accept the engineer as coordinator for engineering structures. He should develop an understanding of engineering design and analysis, however, as well as of the possibilities of engineering devices.

Positive steps to improve relations between these two professions are of two kinds:

- those which clarify the fields of practice
- those which increase professional contacts

Agreements concerning fields of practice may be local, state, regional or national. They should be specific regarding types of buildings. Since agreements are most easily reached among friends, local action may well come first. The various points of view should be expressed by those in a single office or who work upon a single project. When agreements are reached in the various offices, formal statements might be presented for action by informal groups in each locality, and later the results of such action might be discussed and ratified by the local AIA chapters and local engineering societies. In due time, such agreements should be presented to state organizations as a preliminary to the formulation of suitable amendments to the state registration laws. During this time, it would be well if regional and national organizations of the AIA and engineering societies received and acted upon reports from the various state organizations, so that each state organization could be kept informed of action by all other state organizations. Advice from the various state registration boards, the National Council of Architectural Registration Boards, and the National Council of State Boards of Engineering Examiners should be sought at each stage. Legislation regulating the practice of either architecture or engineering should never be introduced without the support of both architects and engineers.

Increasing contacts between architects and engineers could either increase or decrease friction,

but in time the understanding which should result from open-minded discussion should improve relations. Intersociety meetings have been held in Virginia and the relations between architects and engineers have been notably good in Virginia. Programs of engineers' meetings frequently include items of interest to architects, and also social hours which give an opportunity for the development of friendships. Engineers should be welcomed to meetings of AIA chapters and state organizations. Special recognition should be tendered by the AIA to those professional engineers who specialize in buildings. They frequently have more in common with architects than with other engineers. ◄

Interprofessional Principles of Practice for Architects and Engineers*

1 PREAMBLE:

Architecture and engineering are learned professions legally recognized in each state to promote the public welfare and safeguard life, health, and property.

It is a matter of public interest that these professions discharge their professional responsibilities with such fidelity to their clients and the public as to warrant the utmost confidence.

Furthermore, it is incumbent upon these professions to prevent confusion in the layman's mind in these similar or overlapping fields of professional practice.

2 THE PRACTICE OF ARCHITECTURE AND ENGINEERING:

An architect or engineer may ethically accept commissions for projects embracing both architectural and engineering work, provided he is competent to do the type of work involved, or provided he will employ other registered architects or engineers who are competent in those phases of the projects in which he lacks proficiency.

The client's interests normally are served best when the principal retained is proficient in the predominant work involved in the project. Recognition for their responsibility shall be granted to the architects or engineers executing separate phases of the project as associates of the principal.

3 MUTUAL RELATIONS:

Architects and engineers shall undertake to design only those phases of a project in which they are proficient and shall retain professional associates for those parts in which they lack proficiency.

The professions shall maintain effective and dignified cooperation in their public statements, exchange of information, and assistance to students of the professions.

Joint Committees of Architects and Engineers shall be encouraged at state and local levels to promote greater understanding and cooperation on the many common problems for the mutual benefit of both professions and in the welfare of the public.

4 PUBLIC RESPONSIBILITY:

Both professions shall interest themselves in public improvements and shall utilize their special talents (in bringing them about). They shall, however, require that professional services for public improvements be obtained at equitable fees.

5 RELATIONS WITH MANUFACTURERS:

The professions may freely use the specialized services of manufacturers for integration into their designs, but shall oppose general architectural or engineering design by manufacturers or their sales representatives as being inherently biased and, therefore, not in the best interest of the client.

6 INDIVIDUAL OBLIGATIONS OF THE ARCHITECT AND ENGINEER:

Professional service, performed singly or in collaboration entails exhaustive study and research in preparation for the solution of the problem, the careful application of talent to sound planning and design and the highest integrity in guarding the client's interest. By its very nature the rendering of professional services by the Design Professions must be on a highly ethical and professional basis. It is presupposed that the collaborators will perform their services in a cooperative manner with competence and efficiency and in full compliance with the "Code of Ethics" of the various professions.

* This document was developed by the AIA-Engineers Joint Council Committee.

FOR INSTANCE—

Correction of Work After Final Payment

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

► This is the title of Article 20. It involves the question of the Contractor's basic responsibility for proper performance of his agreements under the contract. It states clearly that no payment under the contract or any provision of the contract shall relieve the Contractor of responsibility for faulty work or materials. It states that he shall remedy any defects and pay for any resulting damage to other work.

The article then adds a time limit that has caused misunderstandings in the past. The provision in the Sixth Edition merely stated that the Contractor shall correct defects "which shall appear within a period of one year from the date of substantial completion." In view of this wording it has been held by some that the contractor is *not* responsible for correction of defects that may *appear after* the one year period.

All states include a statute of limitation that limits a Contractor's responsibility to a stated period of years, generally six or seven. The Institute has always held that the provisions of Article 20 were not intended to and could not properly be interpreted to modify the statutory limit of responsibility. That is a matter of law. The one year provision in Article 20 constitutes a specific contractual agreement. If the contract was guaranteed by a Surety Bond it would cover specifically the period within which claims against the Bond could be filed. In addition it was provided that any dispute arising in connection with the correction of such defects during the one year period should be settled by the Architect, subject to Arbitration, in spite of the fact that both the Construction Contract and the Agreement for the Architect's services would generally have been finally settled many months before the end of the one year period.

To obviate the misunderstandings that have arisen in the past, Article 20, in the Seventh Edition, has been completely reworded, with the specific statement added that its one year provision does not limit the Contractor's responsibility to less than the period in the Statute of Limitations applicable to the place of building. The one year period is now "from the date of final payment," not "from the date of substantial completion."

Article 19 covers correction of work during the progress of the job, before final payment is due. It covers the Contractor's responsibility to remove and replace defective work and "bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement." The words "other contractors" refer to separate contractors employed by the Owner and who are not "subcontractors." This is made clear in Article 35 which states that "The Owner reserves the right to let *other contracts* . . . etc." Article 19 provides for action by the Owner if the Contractor fails to act "within a reasonable time."

Article 21 covers the Owner's right to do work if the Contractor should neglect "to prosecute the work properly or fail to perform any provision of this contract . . . etc." A three-days' written notice to the Contractor is required before the Owner takes action.

Article 22 covers the remaining right of the Owner to terminate the contract due to the bankruptcy or other serious condition of the Contractor as noted. This has been considered in detail in a previous article (*AIA Journal,* July 1959). Action under both Articles 21 and 22 involves the approval by the Architect of such action by the Owner as being justified by the conditions involved. Here, in these two instances, the Architect is given the responsibility and power to prevent or to permit such action, thus being given the right to protect the Contractor against hasty or prejudiced action by the Owner as well as to protect the Owner's interests if jeopardized by the failure of the Contractor to function properly.

These four Articles, 19, 20, 21 and 22, cover the basic responsibilities of the Architect in his work of supervision. These important controlling provisions should be clearly understood by the Architect as well as the possibly embarrassing powers involved in Articles 21 and 22 if the Architect finds it necessary to prevent hasty or unjustified action by his Client. ◄

From the Executive Director's Desk

► Occasionally a figure flits across the political sky whose hyperbolic orbit touches The American Institute of Architects. Such a figure was the late Junior Senator from Wisconsin, Joseph McCarthy.

Reading the current best seller, "Senator Joe McCarthy" by Rovere, prompts me to recount for the possible interest and entertainment of the membership our encounter with that erratic man who, feared and hated by his colleagues, held in remote contempt by his own family, dominated the American consciousness for a brief but evil hour. His character, almost unique in the history of the United States and one which resembled that of certain European bad boys, went too long unheeded by many including those who should have been more perceptive. He served to emphasize that we are still a susceptible people, eager like others to grasp at the straws of our own predilections. Had it not been for the courage of such stalwart figures as Senator Flanders and a few others even this country might have been led down the path to a degree of moral degradation to which we are so far strangers.

One day in the old Octagon, immersed in AIA chores, my telephone rang. The voice on the other end was that of Senator McCarthy of Wisconsin himself. United States Senators do not (on their own initiative) customarily communicate with strangers unless that stranger is superior to a Senator and such people rarely, if ever, exist in the Senatorial imagination. However, McCarthy had then just arrived in Washington and had not shaken off what little starryness of the eyes which may have ever afflicted him.

I was flattered, an illusion which I was soon to lose. He asked if it would be possible for me to come up to his office (bringing one or two of my friends), and spend the day with him in order to help organize an investigation; this investigation to concern housing, which all seemed innocent enough. I signed up Max Foley and the late Victor Abel, both citizens not easily intimidated. On the appointed day and hour we were in the Senator's anteroom where he greeted us with what turned out to be calculated informality. He was cordial and impressed us rather favorably. We were given to understand that this genial young Irish hero was dedicating his life to bettering the welfare of his fellowmen. Though scarcely an original introduction for a politician, it was acceptable. We spent the entire day with the Senator and two New York "operators." We learned later—much later—that McCarthy had wangled this precious pair onto the public payroll but their efforts, strangely enough, were aimed at promoting the Senator rather than at helping their fellowmen.

McCarthy had an uncanny faculty for personally directing people's attention to the bread which he had skillfully and surreptitiously buttered. For the first hour or so we listened to the cordial young Irishman who exuded charm and a verbiage which approached but never quite passed for statesmanship, possibly because most of the time we could never make out what he was talking about.

As the day wore on we gathered that there was to be a hearing of a Joint Committee, that the "two image creators" were to write the script for the extravaganza while we were to be cast in the supporting roles. McCarthy naturally got the top billing. However, we never seemed to get definite about anything. The morning was interrupted by the appearance of a couple of enthusiasts for some project or other who, with a gleam in their eye, attempted to sell a bill of goods to the Senator. The claims they made for their systems were patently ridiculous, which, however, did not deter McCarthy from listening attentively and nodding his head in solemn agreement. Toward midday we grew hungry so the Senator took us out to lunch. He treated us. I have never learned where the money for our meal came from; however, it was a relatively simple affair and could have come out of the Senator's own pocket, though subsequent reading of his history gives me reason to think that such assumption on my part was a trifle generous.

The meal passed without incident save for a peculiar gustatory habit of the Senator's. He would slip his knife under the pats of butter on every-

body's plate and deftly transfer the pats into his own mouth before they had time to slide off the blade. When these gave out he ordered a quarter pound of butter and kept snipping off pats which disappeared in the same quaint manner. This table trick, carried off in a way that only McCarthy could do it, indicated that we were with a man who would bear watching.

We spent the afternoon in his office, again in discussion, listening with fading admiration to a flow of talk which, when it threatened to dry up, was stimulated by one or the other of the paid prompters. We realized at the end of the day that nothing tangible had been arrived at. Came the great day of the hearing held in the Banking and Currency Hearing Room of the House. It was the Gamble-McCarthy Committee hearing, Gamble being a Congressman. With calculated celerity, McCarthy reduced Gamble's role to that of spectator. He was, however, allowed to sit beside McCarthy at the table with the rest of us.

As a gesture of geniality and part of the stage setting, McCarthy had a large square table brought into the hearing room and put down on the lower level, saying that he, Gamble, Max Foley, Vic Abel, Louis Justement and myself, and Ezra Whitman of the ASCE, representing the engineers, would all sit around it sort of cozy-like while the press could occupy the Congressmen's seats on the dais and the public could have all the chairs on the main floor. The affair started off in a dignified enough way. We spoke our pieces, though as I recall without much assistance from the Senator who, to our amazement, thought nothing of departing from the script. His ad libbing served to confuse us further. Having gotten in my five or ten minutes worth, I relaxed and lit a cigar. I will admit that the cigar was a "stinker" which, however, in view of the atmosphere of an average hearing was in keeping and I assumed the Senator was acclimated. However, he turned on me and to my consternation but to the amusement of the Press, said, "Mr. Purves, what is that you are smoking? It reminds me of a horse I had that died." The sudden silence was broken only by the unrestrained giggles from the Press and was all but broken by the look of shock on the faces of the witnesses and that of deep mortification on the face of Congressman Gamble. I begged the Senator's pardon and extinguished the cigar.

Then I thought to myself, what's all this about? This Irishman is probably trying to throw me off my balance because he wants to cross-examine me and I will be darned if I will let him get away with it. That is exactly what happened. His cross-examination, whatever he was trying to accomplish by it, was a failure.

After the hearing was over, I apologized, at which he grasped my hand in both of his and said, "I am dreadfully sorry old man, but you know I was wounded in the South Pacific and it has affected the nerves in my forehead and when I smell cigar smoke it just drives me crazy." And then he pointed to a scar on his forehead, a minor disfigurement the origin of which I subsequently learned was controversial. He then said, "Call me up, I want my secretary to send you a box of good cigars," which I said I would do, and did. When I left the hearing room, I was greeted hilariously by some of my friends of the Press. They asked me what kind of cigars I smoked, where they could buy them, and were they really as deadly as all that. For them nothing would be more fun than killing off Senators with aromatic weapons.

Two or three weeks later McCarthy addressed a construction industry meeting. At the finish he spied me sitting in the front row and called to me, "By the way, did my secretary ever send you those cigars?" Having by that time formed a more accurate estimate of the man, I replied, "Senator, when I get a box of cigars from you I will start believing in Santa Claus again."

Our association was rapidly drawing to a close. It continued sort of vicariously. I do recall the occasion on which Senator Flanders introduced his resolution to the Senate and Mrs Flanders asked my wife and me to accompany her to the Senate Gallery, which we did, to find ourselves entirely alone with her and one other friend. The wives of the other Senators who up to then had held themselves out to be friends of Senator Flanders' were gathered on the other side of the Gallery pretending not to see us though we were aware of their covert scared glances. Mrs Flanders, a brave lady, never gave a hint of apprehension.

Finally the day came for the vote on the resolution. The debate and vote are history. I was unable to be in the Gallery that day but my wife was there and found herself, again with Mrs Flanders, surrounded by other Senatorial wives who, having seen the handwriting on the wall, tripped over themselves to get back on the winning side. On leaving the Capitol my wife stopped off in the ladies' lounge where she came upon Mrs McCarthy alone and weeping without restraint. ◄

Edmund D. Purves

HUBERTUS JUNIUS

We bring you the sad tidings that "Hubertus Junius," for many years the Journal's *poet laureate, died on August 26th. He stubbornly protected his identity and none but a few friends knew who he was. He also used the names of "Herodotus Jones," "Pete Pausanius," and "Jonny Vitruvius" to protect, as he put it, the anonymity of Hubertus Junius. Surely now his secret can be told: In real life he was Hubert Hammond Crane,* FAIA, *of Fort Worth, Texas. What a happy circumstance it was that he received his Fellowship at the New Orleans convention—just in time.*

Below we reprint one of his poems from the Journal *of October 1955, selected by Henry Saylor; and a tribute written by one of his Fort Worth friends before his death. We shall continue to reprint Hubertus' poems from time to time.*

A QUALITY CALLED DELIGHT

The good Sir Henry Wotten
Is frequently forgotten
When architects indulge in disputation.
But his ancient definition
Has instilled the supposition,
Delight must be in every elevation.

You can talk of form and function
With authority and unction,
But how much do all these things affect you?
If the building has delight
The rest will seem all right,
For without delight it just ain't architecture.

You can talk with skill and knowledge
Of the things you learned in college
You can argue, you can plead, and you can
lecture.
But the fact will always face you;
Ignored, it might disgrace you,
For without delight it just ain't architecture.

You may even see the day
When you can write FAIA,
But even this can never quite protect you.
Every job must have a measure
Of gaiety and pleasure
For without delight it just ain't architecture.

There is no course in particular
In any known curricular
Where one can learn to render this effect.
But with luck and work and tears
You may learn the trick in years,
For without it you just ain't no architect.

HUBERTUS JUNIUS

TO HUBERTUS JUNIUS

A Tribute

Hubertus Junius is a name
He gave himself before his fame
As Architect and bard had spread
To local realms who thought instead
That he was just a myth who slipped
Into an A. I. Fellowship.

But those of us who know the guy
For what he is and what he'll try,
Will say to you that he's a whiz.
His words are big but then he is
An Architect of good repute,
A bard whose works are quite astute.

He writes of things in a way loquacious
Which to other folk would sound audacious.
But to those who know him as he is
These many worded things are his.
He hits the problem on its nose
With words which only he composed.

His letters to our Crosby friend
Are a sample of what he'll send
To anyone who gives him chance
To break into poetic stance.
He'll speak his mind, quite frankly too
About the thing which interests you.

I say to you the guy's quite clever,
But it's for sure that he will never
Tell you who he is or whom
Suggested such a nom-de-plume.
We like him although impecunious,
The effervescent Hubertus Junius.

A FRIEND OF HIS

LIBRARY NOTES

► The Editor informs us that the November issue of the *Journal* is to emphasize books and suggests that we also might like to make this our topic. Since "Library Notes" fairly regularly devotes itself to books in some fashion this poses a problem. After much cogitating we offer:

Book Collecting

What is a book collection? Any group of books may be thought of as a collection, but unless it has some goal or unifying factor it does not warrant this name. A random assemblage of books acquired by one person has generally little significance to someone else. However if the owner was distinguished, one becomes interested in what he bought, read, and kept. The Institute Library recently received such an association collection, eighty books from the library of Louis Sullivan, presented by Mr. and Mrs. W. G. Nichols at the convention in New Orleans, June 1959.

But if a collection is not to be a random group of books, how does it arise? Frequently it may start without conscious intent by an individual's acquiring books in a subject field in which he is working. One can conceive of an architect particularly interested in color or acoustics purchasing a few books on the subject. If, as his interest grows, he adds both basic texts and minor pamphlets, so that finally he has a fair percentage of the literature on the subject, the resulting aggregation may well be considered a collection.

On the other hand a book collection is perhaps more commonly undertaken and thought of as a hobby. A person decides on a subject which appeals to him and sets out to collect the books written about it. Another hobby such as music or fishing may prompt his choice. Some collections have been made as the result of a desire for prestige, but that would not seem to be a common motive with architectural collections.

When one examines a collection or personal library, one may be able to learn a good deal about the owner's interests. Surveying the Richard Morris Hunt Library, now a part of the Institute's Library, one is impressed by two things—the strong holdings on French architecture and the meagre holdings on English and American architecture. Because of its size and quality, the library merits consideration as a collection on architecture. Although obviously many of his books were bought because of their usefulness, one suspects in view of the rare items, the number of editions, etc., that Hunt also collected as a hobby. This seems more likely in view of evidence that he was particularly interested in the works of Androuet du Cerceau, and had at least the start of a collection within a collection.

In examining the books given by Guy Kirkham, FAIA, to the Library, one receives the impression of a scholarly interest, for many of his books were the basic histories of architecture, then current, which were of less value in the day-to-day work of the office. This feeling is strengthened by his having reprinted Sir Henry Wotton's "Elements of Architecture." Subsequently the original volume from which this was reproduced has been presented to the AIA by his daughter.

For an architect wishing to collect in the field of his career, yet appalled by the thought of attempting architecture itself, there are many avenues open. One might concentrate on the architecture of a period or style such as Roman or Baroque; on a country or city, France or Philadelphia; on a building type, stores or auditoriums; or a phase of construction, such as lighting or plastics in building. Whatever his choice it should of course be one that appeals to him.

But one asks what values may be gained from collecting books? If it is primarily a working collection, the values are apparent—the increase of one's knowledge which should improve one's work and presumably one's income, a result gratifying to most. If pursued only as a hobby, there is the satisfaction to be derived from any hobby.

And finally when one is all done or has completed the collection, it might be donated to an institution where it may be maintained for the benefit of others. Many libraries have achieved distinction from the collections that have been given to them. Although the Institute Library has some, it welcomes more, especially a collection strong in early American architectural books or one which emphasizes the English works which were sources for much of our colonial architecture. But whatever the disposition collecting itself is fun. Happy book collecting. G. E. PETTENGILL

Nuclear Effects and Civil Defense

BY ROBERT L. CORSBIE. AIA

► My remarks are intended to summarize present knowledge of the effects of nuclear detonations of interest in self-protection, what we are prepared to do about such effects, and the AEC role in its own and in national civil defense.

My early work with the AEC had to do with the development of a group shelter which would be acceptable for the protection of personnel at AEC facilities. In 1951 our ideas of what constituted a shelter were much simpler than they are today. We thought of protection against blast and the prompt radiation as being the basic requirements.

So we designed a shelter which would accommodate fifty persons and built one at the Nevada Test Site as a test structure for the Buster Jangle series which was conducted between September and November 1951. The shelter held up against blast effects but the prompt nuclear radiation levels were higher than we could accept. The shelter has withstood the effects of over two dozen detonations to date, ranging from one to more than fifty KT, and it still stands firmly in Yucca Flat. The great thing this experiment did was to set us to work on what we have called the criteria of a biologically acceptable environment in a shelter. It is not enough that the shelter survive, the occupants must also.

This has involved us in the study of open-door shelters, in the study of the effects of overpressure, in the study of the production and effects of missiles — rocks, glass, and other materials accelerated by the blast, in the study of the effects of the blast winds (or dynamic pressure), in the study of temperature rise and production of dust in shelters — all these things to know enough to say with confidence that this shelter will protect a man and his family.

The author is Deputy Assistant Director for Radiological Protection, Division of Biology and Medicine, of the Atomic Energy Commission. This paper was prepared for the southern regional meeting of the US Civil Defense Council at New Orleans, April 24th, 1959

In talking about weapons effects — in the publications which come out — in the press, there seems to be a tendency to deal with one effect at a time rather than with the whole package.

Those who have been in civil defense for a long while will remember that we thought at first of protecting people against blast effects, against burns and fires started by the thermal radiation emitted at the instant of explosion, and against the prompt nuclear radiation which persists for up to a minute. There was a little thought given to residual radiation, particularly as it affects the need for decontamination and recovery of facilities, but I think this was never given too serious attention because the radiation levels — in terms of a wartime hazard — were relatively low and the natural decay of fission products made the hazard of even less concern with the passage of time. We know from the Hiroshima and Nagasaki experience that

the real casualty producers were the effects which appeared at the time of the explosion.

Then the yields went up far beyond the nominal range and the terminology of megaton weapons became a part of our everyday language. We learned of the effects of the Mike shot in Operation Ivy, a one-mile crater 175 feet deep, a fireball over three miles in diameter. In civil defense this gave rise to the concept of evacuation. Then in 1954 came Operation Castle. Through the vagaries of wind and weather and Shot Bravo which accidentally contaminated some island populations, we became aware of an increased fallout hazard. We have been living with fallout ever since. So much attention has been given to fallout, and there has been so much discussion of its phenomenology that the initial effects have been crowded out of the picture. My personal conviction is that we must keep looking at all of the effects lest we spend our energies in developing a defense against one and forget the others.

When we look at the casualties produced by nuclear weapons, we should not forget that the prompt effects — blast, heat and nuclear radiation — come at the same time. Thus a man who has received a blast injury is very likely to be burned by the thermal radiation or caught in an area where mass fires will be developing rapidly. And in short order — twenty minutes or so — he is very likely to face the prospect of high radiation levels from the close-in fallout if the detonation occurred so that the fireball came in contact with the surface of the earth.

So we must think of all of these things — unpleasant as they are — as a series of effects coming close together in time. You cannot talk about one without the others. As far as the medical treatment and care of casualties is concerned, we must be prepared for the multiple injury case. And, from hits on urban targets as much as 90% of the medical load in the first week or so will be blast and burn cases.

We have been sponsoring some work at the Lovelace Foundation for Medical Research of Albuquerque, New Mexico, in an effort to put the effects data in some sort of easily understood form which takes cognizance of the compounding of effects.

As you will recall, we started with nominal yield weapons and went up to the megaton yield bombs. Now, as has been announced, we are talking about small tactical weapons with yields well below nominal while still keeping the megaton weapons in the strategic picture. The variation in effects that occur as the yield increases are interesting.

For example let us talk about a twenty-kiloton and a twenty-megaton explosion. These figures are the range in miles. But first let us reach a common understanding on the levels of ionizing radiation, overpressures and thermal radiation which appear to be of prime interest to us because we can do something about them. 100 r is the radiation dose[1] below which one would not expect signs of radiation effects. 5 psi is the overpressure at which we can expect serious casualties to unprotected personnel. The FCDA-AEC houses which you may have seen blown apart were at about 5 psi. At 1 psi, window glass will shatter and become missiles. Doors may be blown off and some roofing and gutters will be lost. Second degree burns are those which form blisters and may result in secondary infection.

	20 KT	20 MT	Yield Increases by Factor of 1000
100 roentgen prompt gamma and neutron	.99 miles	2.88 miles	Increase by factor of 3
5 psi (surface burst)	.77	7.74	Increase by factor of 10
1 psi (surface burst)	2.35	23.5	Increase by factor of 10
2nd degree burns	1.72	31.9	Increase by factor of 19

You will notice that there is a difference for these as they apply to the radiation dose and the burns. The blast pressures scale according to the *cube root law*. In particular I call your attention to the range of the thermal radiation which scales as the *square root law*.

I have talked of blast, nuclear radiation and thermal radiation, and I would like to say a few more words about thermal radiation or the light radiated from the detonation as it affects the non-military defense situation.

Those of you who have attended a test series or who have read in any detail of the operational problems know of the safety measures taken by the AEC before shot time to prevent accidental eye injury by the flash of the explosion.

When the height of burst was such that the fireball was visible outside the test area, the highway patrol stopped traffic just before shot time so that accidents would not be caused by drivers startled by an unexpected and sudden flash of brilliant light. The CAA did the same thing for air traffic. Closer in — in the observer areas for example — personnel who intended to watch the shot wore high-density goggles or faced away from the shot for the first few seconds. By that time the fireball was less radiant. In the non-military defense situation of which we are thinking, the danger of injury

[1] r—roentgen units.

to eyes due to the flash at the time of detonation deserves attention. The picture of an attack or an air battle is not one which I am qualified to describe in detail, however, it does seem obvious that there may be a number of opportunities for detonations to occur around and above populated areas at unexpected times and locations. If people are "watching the show" they are apt to suffer.

This means then, that unless we are wearing density goggles we mustn't look around curiously when something starts to happen; the need to have a shelter and get to it is reinforced.

So much then for the prompt effects.

The residual radiation hazard — as I have said earlier — is something which has been given a tremendous amount of attention since 1954. Actually the problem was not completely new because the radioactive materials result mainly from the fission reaction. These fission products, as they are called, are bomb residues. Some radioactivity comes from uranium and plutonium which escaped fission and the residues will also usually contain some radioactive isotopes formed as a result of neutron capture by the bomb materials.

There is one other source of residual nuclear radiation: the activity induced by neutrons captured in various elements present in the earth, the sea, or in other substances present at the time of detonation. Radioactivity induced by gamma rays from a nuclear explosion is either insignificant or completely absent.

Thus we are concerned with fission products from the bomb itself and the activation of other elements by neutrons from the bomb.

For every megaton of fission yields about 110 pounds of fission products are formed. At one minute after the time of detonation the radioactivity from this 110 pounds of fission products is comparable with that of millions of tons of radium. Thus the amount of radioactivity from a megaton of fission is enormous, and although it is decreased by a factor of about 6,000 by the end of a day, the radiation intensity will still be large.

With the high yield weapons the principal question from our viewpoint, that is, from the viewpoint of protecting people against high radiation doses, is where do these radioactive fission products go? If the fireball touches the surface of the earth, we know that millions of tons of earth will be drawn up and that the fission products will condense on the particles of earth. In a matter of minutes these particles will commence to fall toward the earth and deposit the radioactive elements on the ground in a rough circle around the point of detonation under the mushroom cloud and then downwind. Downwind in this case means along the direction of the high altitude winds through which the fallout particles travel in their fall to earth. Thus we would find a rough circle upwind and crosswind around the point of detonation and a path extending downwind so intensely radioactive that unprotected personnel are almost certain to become casualties to some degree if they are within 100 to 150 miles.

There is also this matter of neutron-induced activity with which we must be prepared to contend. Neutrons are fundamental particles of matter and along with protons make up the nucleus of the atom. In the fission process neutrons are liberated. Some neutrons go toward the propagation of the fission chain, that is, they help continue the rapid process which makes the explosion. Others escape to be captured by the bomb materials through which they must pass; others escape completely and are captured by nitrogen and oxygen in the atmosphere and still others are captured by elements present in the earth's surface.

As a result of capturing neutrons, many substances become radioactive. They consequently emit beta particles frequently accompanied by gamma radiation over an extended period of time following the explosion.

An important contribution to the residual nuclear radiation can arise from the activity by neutron capture in certain elements in the soil. Sodium is an important element in this category. Others are manganese, aluminum and silicon.

Thus, it is apparent that we may be confronted with a residual radiation problem even though the fireball does not contact the surface of the earth and the bulk of the fission products were drawn by the action of the cloud into the upper atmosphere. It is to be noted however, that the hazard from neutron-induced elements will probably persist for a shorter period of time because of the shorter half-lives of the elements.[2]

Sodium 24 has a half-life of 14.8 hours; manganese 56 has a half-life of 2.6 hours; silicon 31 has a half-life of 2.6 hours. Thus the decay progresses rapidly.

The area within which neutron activation causes a residual radiation hazard will also be subjected to heavy damage from blast and thermal effects, and casualties among unprotected personnel will be extensive. So it isn't a matter of putting a different radiation hazard into the problem and taking the other effects out. It does mean that radiological defense personnel will still be required for the

[2] half-life—measure of radiation decay rate.

support and protection of early re-entry crews. It also means, as your radiological defense personnel will tell you, that in this circumstance you cannot rely on the T-1.2 decay law which says that for a seven-fold increase in time there will be a ten-fold decrease in the intensity of radiation. This rule applies, generally speaking, for the radioactive decay of mixed fission products in what we conventionally call fallout.

I would like to say a few words of caution about this rule. You should not place complete reliance upon it; the rule just helps you make an educated guess at the radiation level to be expected at some time in the future. But it is only a guess. If you want to know what the level is at some particular point the only way to find out is to measure it. You have no control over the disposition of fallout particles; they can be concentrated or dispersed by winds and rains. In thinking about a large area, the rule properly used can be helpful as a planning tool, but it is no substitute for a measurement.

Let us not forget that a given point may be contaminated by a detonation occurring nearby and later receive additional deposits of fallout from more distant detonations hours or days later. Similarly there is nothing to preclude a point being contaminated by fallout from a distant event and subsequently being hit as a result of an attack on a nearby target.

There is no guarantee that any modern war will be over in one day although we seem to think this way during Operation Alert.

Thus it is important that we have among emergency operations staffs a capability to think of and deal with the more complex radiological situations. This is not to say that the situation will become so difficult and complex that we have no hopes of constructive action; rather it is to suggest that we avoid ways of thinking and planning which may limit our ability to act if and when the time comes.

If there is a big war, there is a high probability that every citizen in the United States will have a direct involvement with a radiation problem. Those who are in leadership positions inherit these problems and the more realistic our thinking, the more realistic the decisions.

These then are the effects of the weapons as we know them today. I hope that each of you has a copy of the book, "The Effects of Nuclear Weapons" which was published in 1957 as a result of a joint AEC, Department of Defense, and FCDA action. I commend the volume to you as a source of information essential to civil defense and community leadership in these times. I especially invite your attention to the foreword by the Administrator of FCDA which states:

> "The Federal Civil Defense Administration commends this publication as the definitive source of information on the effects of nuclear weapons for the use of organizations engaged in Civil Defense activities. Its detailed treatment of the physical phenomena associated with nuclear explosions provides the necessary technical background for development of countermeasures against all nuclear effects of Civil Defense interest."

Fortunately there are some things which can be done about these effects and as we see it, they *have* to be done if we are to survive a war. But before we talk about palliatives and remedies let us examine the risks in our everyday life. The reason for suggesting this approach is that I find people do not react well to LD50 concepts. LD50 means that a lethal dose of an effect is predicted for 50% of those exposed to it. There are LD50s for radiation, for blast and thermal burns although little has been said except with reference to radiation. Unfortunately, LD50 concepts do afford a convenient out for anyone who prefers the status quo in day-to-day arrangements of his personal life and can conclude that he is either in the 50% dead or 50% alive. So, why do anything about it? I think it is much better to start with a threshold effect which is comparable in risk to those of our daily activities such as driving an automobile through traffic, walking across a busy thoroughfare or what do we do to avoid burning down the house in which we live. For instance, if we agreed that one psi blast pressure is acceptable as such threshold because such blast loading does not do structural damage but only fragments glass and other friable materials or displaces non-structural parts of the house in which we live and is preceded by a sudden warning burst of light, then is it not logical to arrive at similar thresholds of risk for thermal energy in calories per centimeter square and "r", rem or rads—they are all the same for our purpose—in prompt radiation and a number in "r", rem or rad for residual or fallout radiation? From such decisions one can proceed to improve his protection against any effect commensurate with economic feasibility. The decision on improved protection to his family and to himself is reached through the same rationalization by which one decides how much insurance he should carry on himself, on his house, on his automobile. What can be done is a personal decision; but the direction in which to go is clear. Let us follow this route.

The first thing, as I am sure you know from your experience, is a matter of informing the people. In doing this, we must be prepared to compete with all other elements of our society who are endeavoring to inform the people about their particular interests in selling new schools, new cars, toothpaste, vacations and cigarettes.

The Federal Civil Defense Administration and Office of Civil and Defense Mobilization have made a good start in public education on radioactive fallout but as with all subjects of this nature, there is a need for continuing efforts to improve the level of public knowledge. Most important of all is a general program of education about local fallout and what to do in the event of war, how fallout may be removed and alleviated, how the population may be fed and cared for under these terrible circumstances.

Such a scheme of things, plus good radiation and communications instruments, and the provision of tested shelters against local fallout, will probably enable us to protect ourselves against the early fallout hazards in time of war.

What then can we tell people in any city, town or village about protection against fallout?

First, about its properties. There are good sources of information on this: "The Effects of Nuclear Weapons"; the FCDA and OCDM publications.

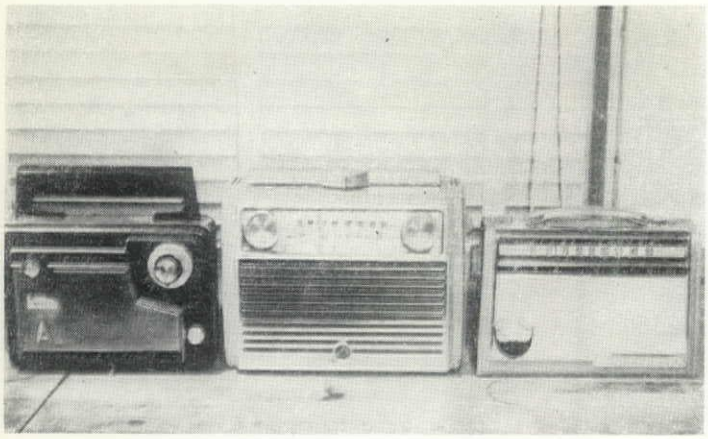
Second, we can tell them about shelters; there are published plans for these and I understand that more are coming.

Although some locations such as New Orleans may be an exception to this rule as it applies to basements, there are millions of houses in the United States where people have at least a start on a fallout shelter. Last year we conducted a study at the Nevada Test Site using a large number of radioactive cobalt sources to simulate a fallout field. We found that:

- The most effective shielding material is that which is in the direct line of radiation. For example, first floors of two-story wood-frame houses provide an average reduction in radiation by about a factor of two — whereas the first floor of a two-story brick house provides a reduction of about seven.
- Reduction of streaming of radiation through openings into basements and openings in concrete, brick and block houses increases the effectiveness of the home as a shelter. For basements of brick and wood-frame houses the reduction is about a factor of thirty.
- Kitchen and bathroom fixtures cast shadows which give additional radiation protection and location of shelter areas to include shielding from such furniture can increase the shielding potential of an ordinary house.
- Dose rates behind chimneys and inside fireplaces are appreciably decreased.
- An improvised shelter consisting of a heavy table placed in the corner of a basement and covered with 7½″ of concrete block provides a reduction of about 200 to 1,000.
- The contribution of fallout on roofs of two-story houses to the dose rate on the first floor is less by a factor of ten than for fallout on the ground outside.

What does this mean? The data are now ready for practical applications in the hands of the professional people in architect's and engineer's offices, building developers, city engineering offices, and others who work in materials and design and are responsible for the engineering and architectural plans of physical structures. The data say that it is possible to design a one-story wood rambler house which will provide as much shelter in the basement against fallout as we find in a two-story house. How do we do this? By applying the much-quoted definition of research, "thinking about what we are going to do when what we are doing now no longer makes any sense." By substituting a concrete first floor slab 4″ or 5″ thick with a ¼″ hardwood finished floor glued to it, we will achieve an effect esthetically as satisfying to the homeowner as conventional wood beam construction yet improving considerably the protection against fallout. The substitution of the concrete floor slab will provide the weight normally found above the first floor in the floor and ceiling of a two-story house. Basements are so dusty that we have almost forgotten that our forefathers lighted the basement by daylight. Today no one turns off an electric light because there is a window in the wall. It is cheaper to build a basement without areaway windows and it is probably easier to control humidity and ventilation also.

Therefore, let's encourage architects, engineers, building developers, Governments, banks and lending organizations which assist in funding residential and other structures to insist that architects and engineers include the sort of practical applications we are talking about while the plans are still on the drafting board. The practical applications of such knowledge will not contain errors larger than those in the design and construction of concrete or steel structures. We do not want to forget that what has been said concerning new structures is also equally applicable in improvisations and al-



Atomic Energy Commission

Combination Radio-Radiation Detection Instruments, "Citizens Instruments" (left) developed by AEC; (center) Tracerlab modification of commercial marine portable; (right) manufactured by RCA to AEC order

terations to improve protection against fallout in existing homes and other structures.

We employed the same sort of method to determine the degree of attenuation of fallout radiation we can expect at our AEC Headquarters building at Germantown, Maryland. This is for the protection of our personnel. The report is not yet written but early information shows that radiation will be reduced by a factor of about 2,000.

In a couple of months we expect to take delivery on a radiological shelter survey vehicle for use at Nevada Test Site and in the AEC community civil defense program. Using this vehicle which will be equipped with sources and instruments, technicians will make measurements of shielding in homes and from these measurements be able to tell the homeowner how much protection he has and where in his home the best protection is to be found.

We have also in the engineering stage a group shelter which we tested at the Nevada Test Site in 1957. The shelter was occupied at shot time for three detonations and on two of these occasions fallout patterns close to 100r/hr fell across the shelter as we hoped they would. The blast was 4 psi; 35% of the casualties at Hiroshima was at lower pressures. Earlier tests demonstrated that the shelter would provide protection against 35 psi overpressure (that would be around 10,000 feet from a five megaton surface burst) and our test in 1957 demonstrated that the radiation was reduced by a factor of 10,000. This shelter is a buried or mounded 25′ by 48′ metal arch structure. It will hold 100 people; it is economical as shelters go and we think it will do the job of protecting people at AEC facilities. We think it will also be suitable for community groups organized financially in the manner of the community swimming pools.

People must know the properties of fallout and they must know how to provide a shelter. For their protection, people must know how to find out what the radiation hazard is. I have an instrument which we have called the "citizens' instrument"; developed under the stimulus of Dr. Willard F. Libby, one of the Commissioners of the Atomic Energy Commission, and a strong advocate of civil defense.

This is an ordinary commercial transistorized portable radio. To it we have added a geiger counter and an instrument dial so that you can read radiation levels. With this instrument the family can keep in touch with the authorities via broadcast radio. Using the geiger counter the family can determine the radiation intensity as a basis for decisions on family actions. I have also a pocket dosimeter with the same parts except the radio and the rate meter are miniaturized to fit inside a case ½″ in diameter by 5″ long. It was developed at the Oak Ridge National Laboratory by some plant personnel as both an audible and visual warning.

We have been talking with manufacturers of radios to encourage them to put an inexpensive type of radiation meter in their portables. One instrument company has come forward with an addition to a portable radio which makes it a radiation alarm. When the level gets up to about 0.5r/hr, a clearly audible clicking is heard. Above 1r/hr the noise is like that of a siren. This is another approach to the problem. There are still others, all combining some way to listen to broadcast radio and some means for learning of and determining the radiation intensity.

If anything significant is going to come of this idea, I think it will require support and encouragement from someone beside the Atomic Energy Commission. We were happy when the Office of Civil and Defense Mobilization published a bulletin this Spring in which they gave national civil defense support to the idea of a citizen's instrument. The support of state, county and city civil defense leaders is also very important.

There are those who say that it is dangerous or foolhardy to put an instrument in the hands of the citizen who has not been trained in radiological monitoring techniques, dangerous to the citizen and his family, that is. This kind of "father knows best" attitude should be given little attention. As a citizen I should be encouraged by the promise that a radiological defense monitor will come to tell me when I may safely leave my shelter, but I should also be reluctant to put all of my chances in the hands of an individual who may become a casual-

ty. And how long do I wait? And what if he doesn't show up at all?

In a nation thoroughly acquainted with electronic and mechanical equipment from automobiles to television to electric washing machines it seems most reasonable to expect that we can find literally millions of adults who with only the briefest training will be ready to use a simple instrument to keep from dying or becoming seriously ill, to protect the family.

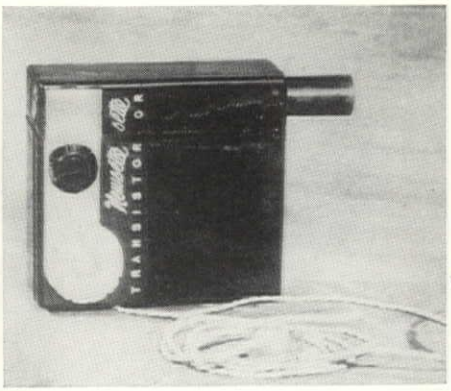
It is a little anticlimactic to talk about protection from the prompt effects of nuclear detonations. You have been going over these since 1950. Good shelter which becomes more costly as the degree of protection against blast is increased; good warning equipment so that people will know positively when the time of danger is near; and again educated citizens. If people can be removed from unprotected locations at obvious targets to protected sites, the loss of life should be reduced. Where I live the planning for this method is not in a clear state right now.

One parting philosophical thought on protection: You cannot hope to protect all of the people all of the time, and no one should ask this of you or of any official. A soldier is instructed in the elements of field craft: camouflage, digging a foxhole or weapon emplacement, how to move without being observed; but no one tells him that he won't become a casualty if he does these things perfectly at the right time. He is told that these actions will reduce the probability of his becoming a casualty.

This is precisely what we are doing when we talk about civil defense to our fellow Americans, and urge them to take the constructive action which will reduce the probability of their being injured or killed. Dr Libby has estimated that the most elementary precautions against fallout radiation will save ten million persons during an attack. And though these survivors would be distributed across the nation, it is important to note that this number exceeds the individual populations of most of our fifty states.

Thus, if we want a quick profit in lives, we must be sure that our people know how to take these precautions which will keep them from being hurt.

And don't let anyone tell you that there isn't enough information, and I am talking about unclassified information. There is abundant information, and it is good information. The lag appears somewhere between the developers and the users. This information can be translated into physical terms — into inches of concrete, feet of earth, amounts of steel and so on. It is ready for use by



Atomic Energy Commission

"Newsette" Radio to which Quartz Fiber Electroscope Dosimeter has been added

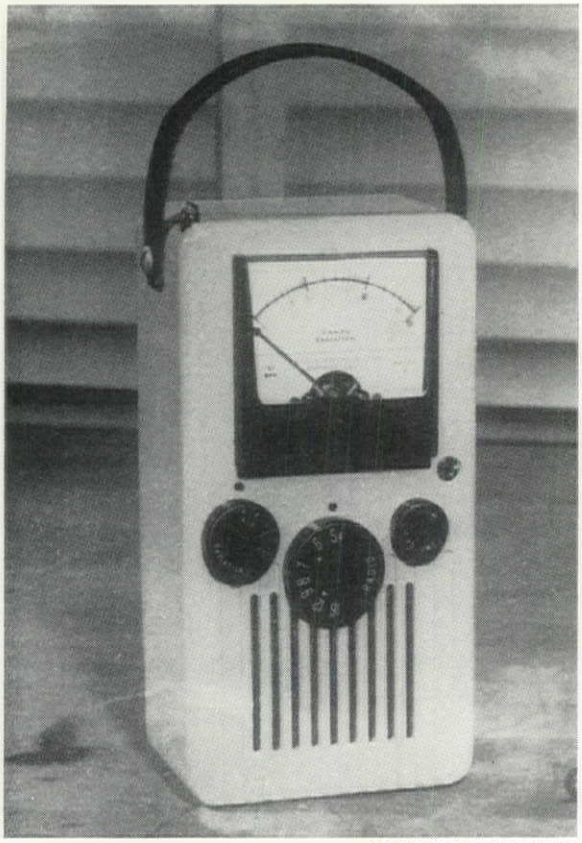
engineers and architects and designers and contractors right where they work, and the sooner the professions realize this and decide to wait no longer for the word from Washington, the sooner things will begin to get done. From the correspondence I receive, I have a feeling that there is an awakening—it's spotty and it's only a start—but it is encouraging.

There are certain matters of judgment in protection which can only be made on the spot. How far you can go in protecting a human or a facility depends on how much money you can put up. So the man with the need and the money must get together with the professionals and decide. It is a little like answering the question: How much life insurance should a man buy? But again, once the decisions on what you want to do have been made, there is sufficient information on which to proceed with the same degree of certainty as the designers of a building possess.

Where does the Atomic Energy Commission fit into civil defense?

Over the last decade the agency has made many contributions to the national civil defense effort. Prior to the establishment of FCDA, members of the AEC staff collaborated with the planners of the National Security Resources Board in the preparation of the early Federal civil defense documents; they furnished technical information; they arranged for training of civil defense radiological defense personnel.

It has been the AEC position that its greatest contribution to civil defense will be made by furnishing technical information essential to civil defense plans and operations. Through a program conducted jointly with the Department of Defense, classified and unclassified reports numbering in the hundreds have been forwarded to the civil defense agency. You know of the civil defense participation in the technical and scien-



Atomic Energy Commission

Prototype radio-radiation detector developed by Riggs Electronics, Inc. at AEC request. Ionization chamber employed in radiation detection circuit

tific programs at the test site and of the "open shots" programs through which hundreds of civil defense sponsored observers have had an opportunity to witness a detonation.

With respect to its field establishment AEC has assumed responsibility for its plants and facilities where safety and security considerations limit access, thus undertaking a self-protection task second only to the Department of Defense. The national policy pointing to increased Federal leadership in civil defense measures has been a factor in decisions to increase AEC civil defense activities.

Our community program is being expanded to provide survival education for the employee and his immediate family.

By procurement or lease operations we expect to use the radiological survey vehicle for determining existing fallout protection in homes, community structures and other buildings and to provide guidance for improvements.

We shall continue to encourage the development of the combination radio and radiation measuring instruments.

We shall continue to work toward the refinement of the community shelter. There is little knowledge of the response of people to prolonged occupation of a shelter. The AEC, in recognition of its own and national need for this information, is giving consideration to an experiment which would develop information on human behavior patterns as they appear over the course of a week or longer in a closed shelter. Right now I feel a little bit uneasy when I think of telling someone he may have to stay in a shelter for a week or two because I don't really know what this involves.

We want to do more on the evaluation of shielding afforded by typical structures and the nature and influence of various improvisations and improvements.

We shall do more work on the development and operation of the mobile radiological survey vehicle.

In conclusion, somehow or other we must get ourselves organized to some thinking and planning for post-attack recovery operations so that we may lend our strength and the capabilities of our plants and people to the long-range rebirth of the nation. I commend this last subject to your thinking. What we do in the months and years after the fighting ends may determine the ultimate victor. The rebuilding of the economy is not something to be played by ear. If we are to do this effectively, we must commence to think beyond the stages of emergency feeding, emergency housing and emergency medical care. In the post-attack recovery lies our hope.

Finally, let us remember that even under the most severe attack yet estimated our land would remain more highly populated and larger in resources than all except a few before attack. Therefore, let us be optimistic and note that our glass would still be one-half or two-thirds full, not one-half or one-third empty. ◄

Some References

ON THE USE OF CADMIUM SULFIDE CRYSTALS FOR FALLOUT METERS

"Simple Fallout Meter Uses CdS," C. C. Klick, et al. U. S. Naval Research Laboratory; *Nucleonics, 13*, No. 12, pp. 48, December 1955.

"Improved Fallout Meter Using CdS," Lawrence Ruby, University of California Radiation Laboratory; *Nucleonics, 14*, No. 5, pp. 101, May 1956.

"Special CdS Cells Have High X- and Gamma-Ray Sensitivity," Lewis E. Hollander, Jr., Victoreen Instrument Company, *Nucleonics, 14*, No. 10, pp. 68, 70, 71, October 1956.

Flexibility in School Building Design

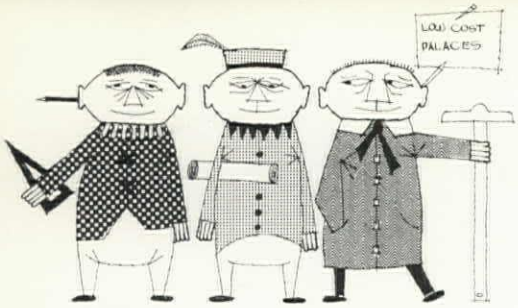
or

the ancient KING and his 3 WISE architects

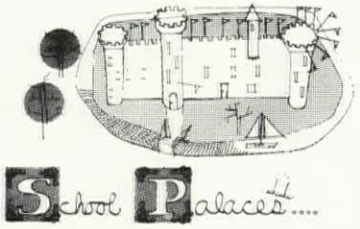
BY C. HERBERT PASEUR *Director of Design, Caudill, Rowlett and Scott, Oklahoma City, Okla.*

BT 1-38 The American Architectural Foundation • The American Institute of Architects

This is the thirty-seventh of a series of papers prepared by members of the AIA Committee on school buildings, and by selected specialists, to make laymen aware of school building problems and trends and to stimulate discussion. They are not intended to be definitive last words and carry only the authority of their respective authors. The series will be edited by the committee and issued by the AIA Department of Education and Research under sponsorship of The American Architectural Foundation. Many new subjects are being worked on and contributed articles are welcome. Widespread distribution to laymen and educators is made of these non-technical articles in reprint form. (one copy each issue free—additional copies 10¢ each)



► Once upon a time, long, long ago—back in the real dark ages of education—schooling was carried on in a very different manner. Only the royal family had the opportunity for a formal education, and the serfs were saddled with the responsibility of paying for their schooling. With education strictly limited to the royalty, the schools were conducted right in the palace. Now, we aren't positive, but this could very well be the derivation of a term we still hear today—SCHOOL PALACES.



School Palaces....

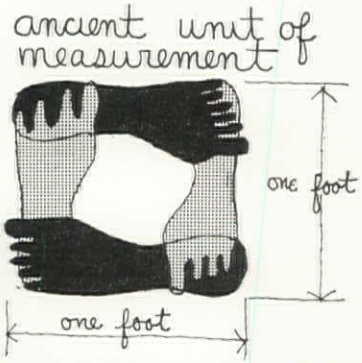
In one particular province of this ancient country, a firm of three architects was commissioned by the king. They had a countrywide reputation for being school palace specialists. They attended school conventions, did research scrolls and displayed their beautifully handchiseled school plans on solid stone tablets. They did a tremendous volume of building, and it was general knowledge that they had chiseled more schools than anyone else before or since.

They also had a reputation for low cost school palaces—one even went as low as 243.5 serf labor days per square foot (about $11 by today's standards). These square foot cost figures were compiled by the architects because one of their many responsibilities of that day was to step off the square footage (barefooted) in the palaces after they were completed. Of course, the popular assumption that the foot was a standard unit of measurement proved to be wrong because many years later, it was discovered that these architects had 8″ feet which accounted for the apparent low square foot cost of their buildings. It was decided then that the square foot method of determining whether a building was economical or not was rather crude and a resolution was passed to try to find a more logical method.

Even with this team of prominent architects in charge of its building program, this province had extremely bad luck in building school palaces. The king had many queens, and no sooner would he get one palace completed than his family would outgrow it and he would have to build another palace.

This didn't set too well with the local serfs who had to build the palaces. Besides, every time this happened, they were asked to pass another twenty-year bondage issue. These serfs would never get their freedom if this continued.

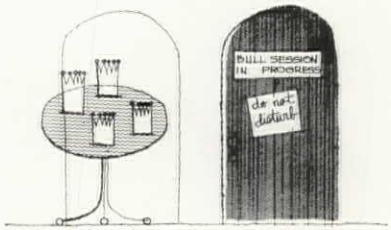
The king decided to attend a regional meeting to find some way to combat this rising opposition to slavery. In shooting the bull with three other kings, he found out that they had solved their problems by incorporating "flexibility" into their palace plans. Now he didn't know what this meant but, rather than show his ignorance, he nodded his head up and down understandingly and rushed back to his kingdom.



He immediately called in his three wise architects. "If the new palace plans don't have flexibility," he screamed, "I'm going to the next province to hire architects!" Now, the very thought of this shook the three architects from top to bottom. The king ordered each to visit one of the three provinces that had flexibility and report back what they found.

About a month later, the architects returned and had an audience with the king. The king asked each of the wise architects the meaning of flexibility, and each related his visit.

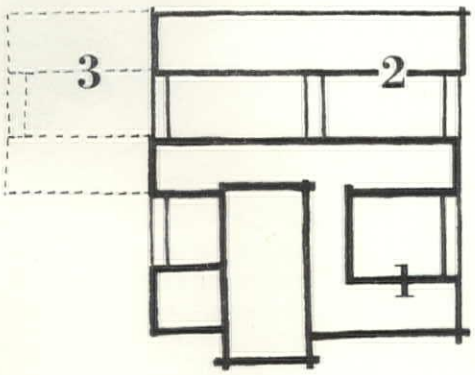
The first wise architect had visited the north province and this was his answer. "Sire, I found that flexibility meant planning for future growth. Additions and annexes are planned for because the king knows his family is going to grow. This way, he doesn't have to build a new palace every few years. I don't believe the word 'flexibility' is correct. What we really mean is *expansibility*.

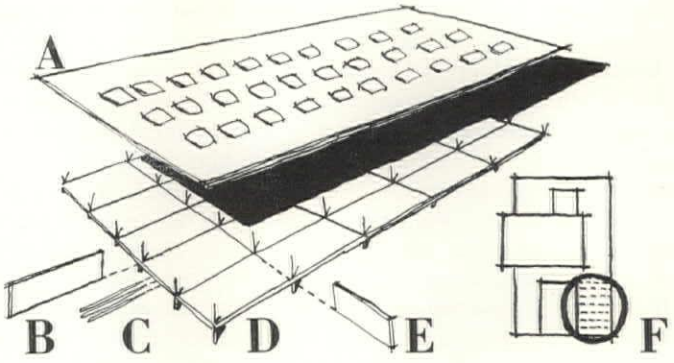


The second wise architect had visited the south province, and gave his answer. "Sire, I found that flexibility meant efficient use of space. For instance, since the great dining hall is used for eating at night only, the king has turned this room into a student center during the day. By using each area more efficiently, he doesn't have to build a new school palace so often. I don't believe the word 'flexibility' is correct. What we really mean is *versatility*."

The third wise architect had visited the east province and gave this answer. "Sire, I found that flexibility meant planning for interior change. In the palace I visited, instead of three-foot stone walls, there is a system of stone columns that support the roof. All of the walls are independent of the structure and constructed of wood so they can be moved as different space needs arise. Instead of building a new castle at every stage of family growth, he converts nurseries into bedrooms, bedrooms into apartments, etc. I don't believe the word 'flexibility' is correct. What we really mean is *convertibility*."

Of course, the king, being a wise old man himself, immediately saw





A Top Lighted Umbrella Roof
B Movable Partitions
C Utilities Under Slab
D Pre-cast Joist Floor System
E Movable Partitions
F Structural Column Spacing

that flexibility meant all of these things—

- expansibility for exterior changes
- versatility for multi-function
- convertibility for interior changes

—each of the architects was correct!

In the last category, convertibility for interior changes, there are varying degrees of change—summer, overnight and instant.

Convertibility

There are three major items in school buildings that affect convertibility:

- structure — how the roof is supported
- utilities — how plumbing and electricity are provided
- partitions — how space is divided

The Norman High School at Norman, Oklahoma, is a good illustration of the use of convertibility. The planning module in the illustration shows these major requirements:

- umbrella roof — supported on columns and completely independent of walls for support
- provision for utilities — floor of building is raised 2′ above outside grade, resulting in a crawl space under entire school which gives complete freedom for running pipes and conduit and allows stub-ups to be made anywhere in building
- partitions — built-in right on job by contractor — similar to a residential partition, constructed of 2″ x 6″ studs and ¾″ wood paneling. To relocate, are demounted by removing paneling and taking studs apart and reassembled — a simple operation, requiring time, but not skilled labor

Norman High School, Norman, Oklahoma

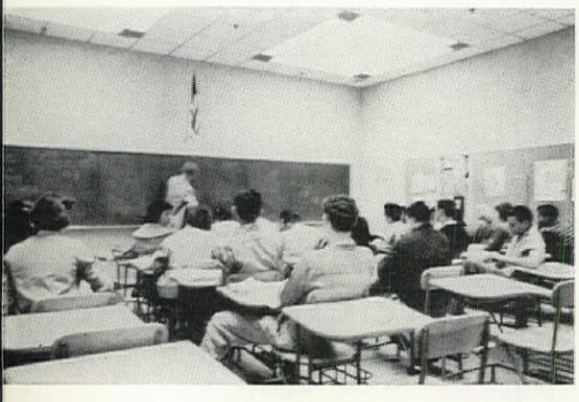
If there is anything that makes you believe in convertibility, it is to have a secondary school with which you are associated double the size of its student body. That's what happened at Norman. In a period of about five years, enrollment increased from original 600 students to 1,100 students. Expansion of the physical plant was carried out in two stages.

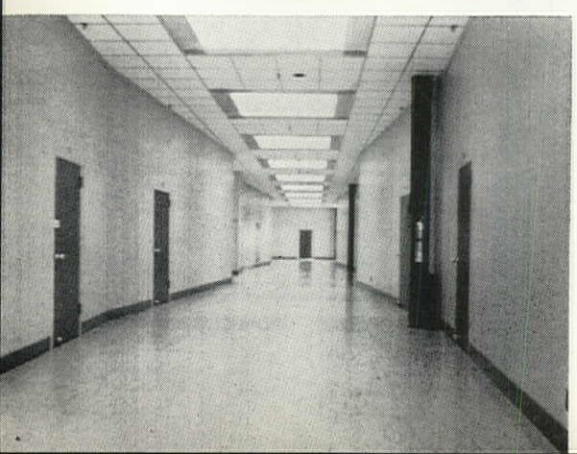
First stage was the addition of a new 24-classroom unit. Next was the conversion of all special academic areas in the original school to expanded departments. This conversion affected every department in the school — home economics, science, cafeteria, kitchen, library— all doubled in size. The departments of business administration, speech and choral singing were moved to new locations. The original planning module containing the elements of convertibility allowed these changes to be made during the summer vacation. Changes were so simplified that with the exception of special trades, such as plumbing and electrical, all were made by the regular maintenance personnel of the school. Convertibility certainly paid off in this case.

The basic design premise of the Hillsdale High School in San Mateo, California, was ". . . that it shelter with grace the known program of the present, the unknown programs of the future, and change which is the sure aspect of secondary education." This original premise has been carried successfully to the finished building by allowing for convertibility.

The roof structure is supported independently of the walls. Plumbing and electrical facilities are located in the attic space and removable sections of the ceiling allow connections to be made any place in the school. The skylight becomes the real core of this system. Around the perimeter of the skylight are located the artificial lights and at the four corners are grilles for heating and ventilation—a very compact solution.

Hillsdale High School, San Mateo, California





Partitions allow interior changes to be made overnight or on weekends. These partitions are a manufactured piece of equipment, constructed of metal with a baked-enamel finish. The manufactured joints and connections allow the partitions to be moved in large sections in a relatively short time.

Effect of Partitions

So we see that to a large extent the degree of convertibility depends upon the partitions. If we examine a conventional partition in school design, we find it has two basic functions—privacy from sight and privacy from sound. However, with today's construction methods, using prefabricated light-weight materials, we find in a lot of cases we really don't get privacy from sound. This problem is further compounded by today's requirements of convertibility, which means for our partitions to be movable, they must have many joints and connections, all of which leak sound. Take away the function of sound control and use partitions for privacy from sight only—and see the freedom we now have. The sight screens do not have to go to the ceiling or floor. We can eliminate doors. We can use drapes, portable folding screens, rolling cabinets, sliding panels, etc., to divide the space.

This concept of space division would adapt most readily to any future educational concept. Each week, or each day for that matter, the school could be completely rearranged to accomplish the next unit of work.

But what about sound privacy? There is no cut-and-dried solution right now. But if the demand for instant convertibility is great enough, we can muster the necessary resources for research to solve any problems of sound. We do have

some methods of sound control that can be applied to open plans today. One theory being explored is called "sound masking." By putting speakers at close intervals in the ceiling, we gain a certain amount of privacy through controlled background "noise" — solved in large office spaces today with Muzak. This, again, isn't a cure-all, but it is a step in the right direction.

As I see it, there are two reasons why schools today are not incorporating instant convertibility.

- Disadvantages of instant convertibility still outweigh the advantages. This balance could easily be reversed in the future.
- Our present educational program does not require this extreme concept of convertible space.

The true value of instant convertibility however, lies in anticipating future needs rather than in just satisfying the needs of today.

What are these future needs? We don't know, but we do know that tomorrow's needs will differ from today's. In a recent issue of *School Executive,* Dr. Walter Cocking says: "As I see it, it is inevitable that deep and vastly important changes will occur in America's educational system during the next ten to fifteen years. The character of these changes and the direction they will take will have vast significance. The issues to be decided are many . . ."

To accommodate these educational changes referred to by Dr. Cocking, the design of the physical plant will also have to undergo deep and vastly important changes—and this is the disturbing thing — the school plants being built today will be required to house this new program. This, to us, places a note of urgency on achieving instant convertibility now. ◄

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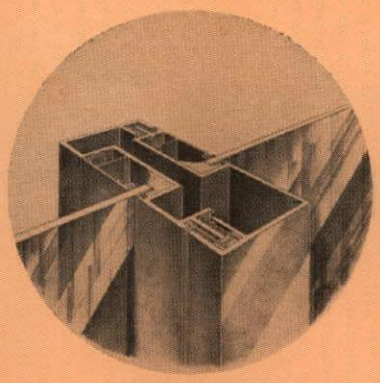

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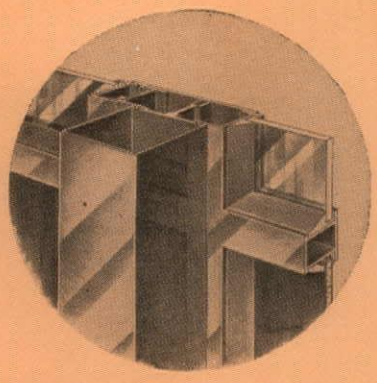

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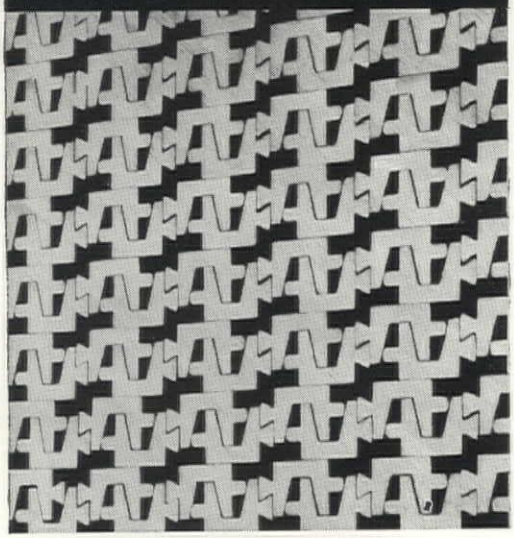

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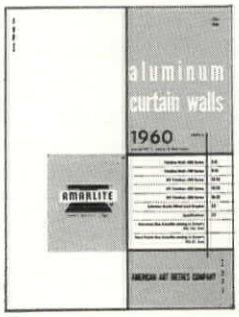

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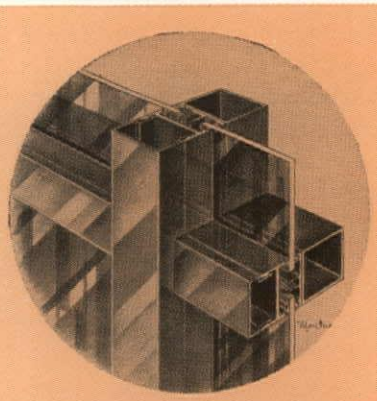

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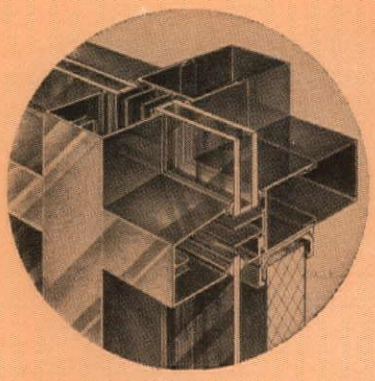

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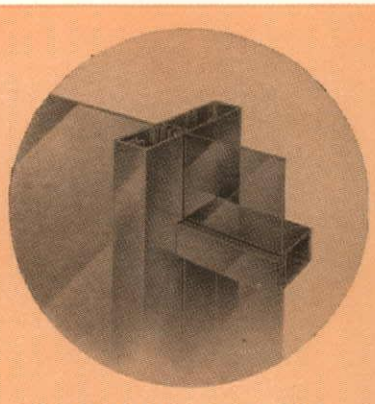

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ALEXANDER H. JEFFRIES

Alexander H. Jeffries, Jr., a fourth-year student at the University of Pennsylvania, attended a meeting of the International Union of Students in Architecture in Hannover, Germany, as a representative of the Association of Student Chapters, AIA. This is his report of the meeting:

► The Sixth International Congress of Architectural Students was held recently in Hannover, Germany.

About 150 students from seventeen countries gathered in the grand Congress Hall to take part in the daily discussions. On the first day, Dr Dietrich Goldschmidt, of Berlin, spoke on the "Sociology of Living." On stating the various necessities involved in living which included cultural patterns and group functioning, he stressed the importance of living in contact with people of different vocations, studies or interests. He ended by saying that living must be humanized. In the afternoon the Building Director reported the processes of the Hannover reconstruction and later conducted a sightseeing trip around the city.

The second day of the Congress began with a lecture by a Hamburg professor, Dr Joachim Matthaei, who spoke on the necessity of an architect having complete knowledge of environment and surroundings, so as to be able to design without bias. He said an architect must feel a human and moral responsibility. In the evening the Architectural Department of the Hannover Technical High School (University) invited the students to visit their building and an exhibition of their student's drawings.

Dr Walther Peter Fuchs opened the third day of the meeting with what was perhaps the most interesting speech of the Congress. Speaking on actual student housing in Germany, the University of Heidelberg professor stressed that while living in seclusion and freedom, the student must be made aware of his surrounding world. He discussed student life in the past, commenting that it is unsatisfactory today, but adding that the student has always been an integral part of community life. He ended by saying a student must have a religious and spiritual climate, and he must be lonely; for, he said, loneliness is the only state of mind from which a student can become aware of his own capabilities. In the afternoon of this day there was an excursion to Celle and to the Monastery at Weinhausen.

The fourth day each country reported its difficulties and means of housing students, using as examples the buildings and drawings the country had presented for the exhibition. It was interesting to note how often the students quoted Dr Fuchs.

The fifth day discussion groups were held to finalize the discussions on student housing. Following these discussions there was a concert by the Lower Saxony Symphony orchestra in the famous Herrenhausen Gallery, followed by illuminations of the adjoining grand baroque fountains and gardens of the Hannoverians.

The results of the discussion groups were read on the sixth and final day. Also, Dr Jugen Joedicke, of Stuttgart, spoke on the epochs of modern architecture, and the Congress concluded with the announcement of the winners of the exhibition; and the location of the next Congress, which will be in Mexico in 1961. The organizing committee will consist of delegates from Mexico, Germany, France, Ireland, the Soviet Union, the United Arab Republic and the United States.

After the conclusion of the final meetings, North American delegates played a thrilling soccer game against the rest of the world, and won 3-0. After this smashing victory, a very un-architectural, but nonetheless enjoyable, dance was held.

At future congresses United States architectural students must be definite participants. There is nothing to join; for the Association of Student Chapters, AIA, is automatically a member, as is any foreign student or the organization representing his nation. Since the Congress offers an opportunity for students to further their understanding of people and to find greater meaning in architecture, a tremendous stress must be placed on its importance. Certainly world understanding, too, can be strengthened by such meetings. An international congress can obviously help to fulfill the aim set forth for the Association of Student Chapters, AIA.

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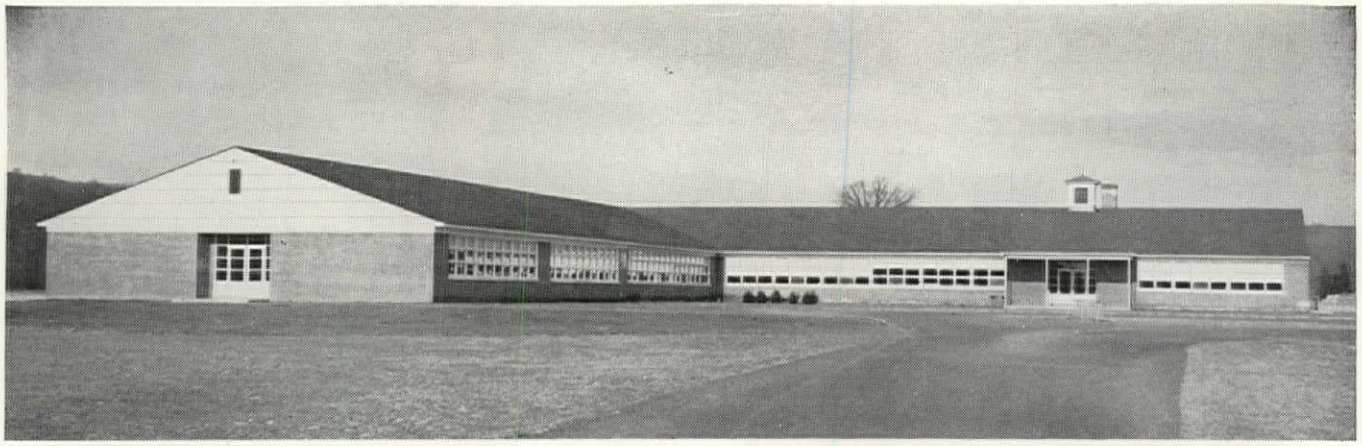

Woodbury, Conn., High School—Architect: Edward M. Foote, Cornwall, Conn. **Consulting Engineer:** Richard Shipman Leigh, Woodbury, Conn. **Heating Contractor:** Romaniello Bros., Waterbury, Conn. **General Contractor:** F. Buzzi & Sons, Torrington, Conn.

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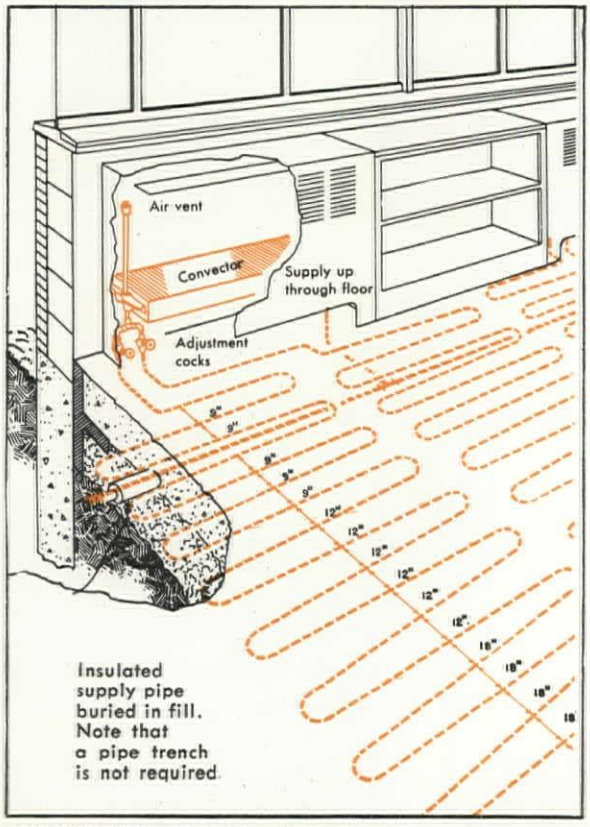

SCHEMATIC DIAGRAM of installation showing how the return line of the convector is connected to Anaconda Panel Grids.

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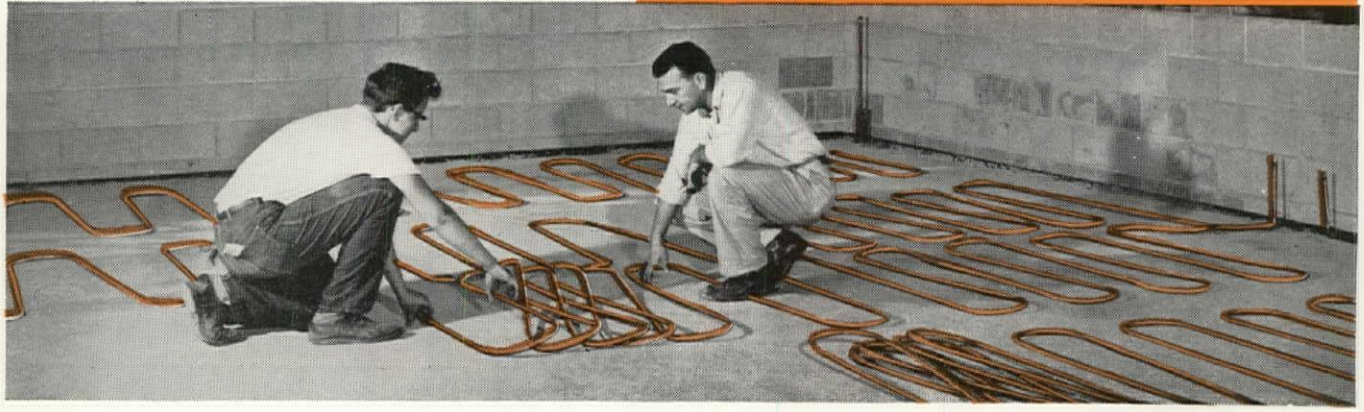

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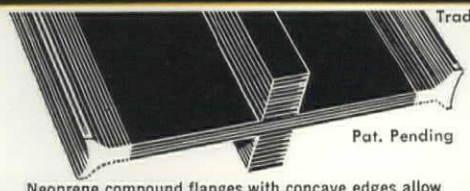

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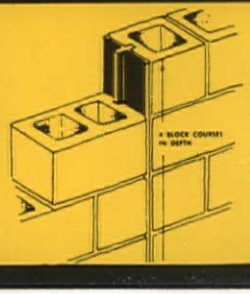

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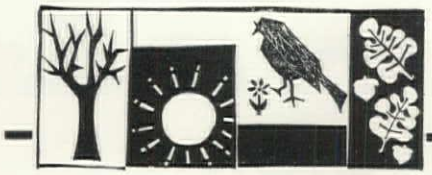


CALENDAR

November 1-7: Fifth annual convention of Prestressed Concrete Institute, Deauville Hotel, Miami Beach, Florida.

November 9-13: Meeting of Board of Directors, Portland, Oregon.

November 12-14: Florida Association of Architects, and Florida Regional Meeting, Jacksonville, Fla.

November 16-19: BRI Fall Conferences, Shoreham Hotel, Washington, D.C.

November 23-25: Fifth Annual Student Forum, The Octagon, Washington, D.C.

January 25-29: Meeting of Board of Directors, The Octagon, Washington, D.C.

January 28-30: Forty-sixth Annual Meeting of the North Carolina Chapter, Sir Walter Hotel, Raleigh, N.C.

April 5-7: BRI Spring Conferences, Statler-Hilton Hotel, New York, N. Y.

April 11-12: Inter-Society Color Council, 29th Annual Meeting, Philadelphia, Pa.

April 18-22: AIA Annual Convention, San Francisco, California.

May 12-14: South Atlantic Regional Conference, Winston-Salem, North Carolina.

May 28-June 3: Twenty-fifth World Planning and Housing Conference, San Juan, Puerto Rico.

NECROLOGY

According to notices received at The Octagon between August 22, 1959 and September 30, 1959

ADAMS, GEORGE J., Los Angeles, Calif.

BLY, JAMES F., Jamaica, L. I., N. Y.

BRADLEY, LEE ROY, Fort Wayne, Ind.

COX, EDWARD ABRAHAM L., Phoenix, Ariz.

CRANE, HUBERT H., FAIA, Fort Worth, Tex.

ELIA, ALBERT D., Niagara Falls, N. Y.

ELLINGSEN, WILLEIK E., Duluth, Minn.

ELY, WILSON C., FAIA, Newark, N. J.

EMERSON, FRANK N., FAIA, Peoria, Ill.

GUNN, FREDERICK C., Kansas City, Mo.

HEMENWAY, ROSCOE D., Portland, Ore.

HENTHORNE, RAYMOND J., Providence, R. I.

JENSEN, DANIEL C., New York, N. Y.

JOHNSON, CLARENCE, Minneapolis, Minn.

JOHNSTON, C. H., JR., St. Paul, Minn.

KIRBY, CLEMENT S., Erie, Pa.

LOCRAFT, THOMAS H., FAIA, Washington, D. C.

LUCAS, NICHOLAS K., Old Greenwich, Conn.

MC COY, GERALD M., Aurora, Ill.

MILLS, RUSSELL, Reno, Nevada

OSTERGREN, ROBERT C., Evanston, Ill.

PIATT, THOMAS H., Munhall, Pa.

REA, ALFRED W., Los Angeles, Calif.

SPAULDING, WELLINGTON H., West Hempstead, N. Y.

WATSON, FREDERICK C., North Revere, Mass.

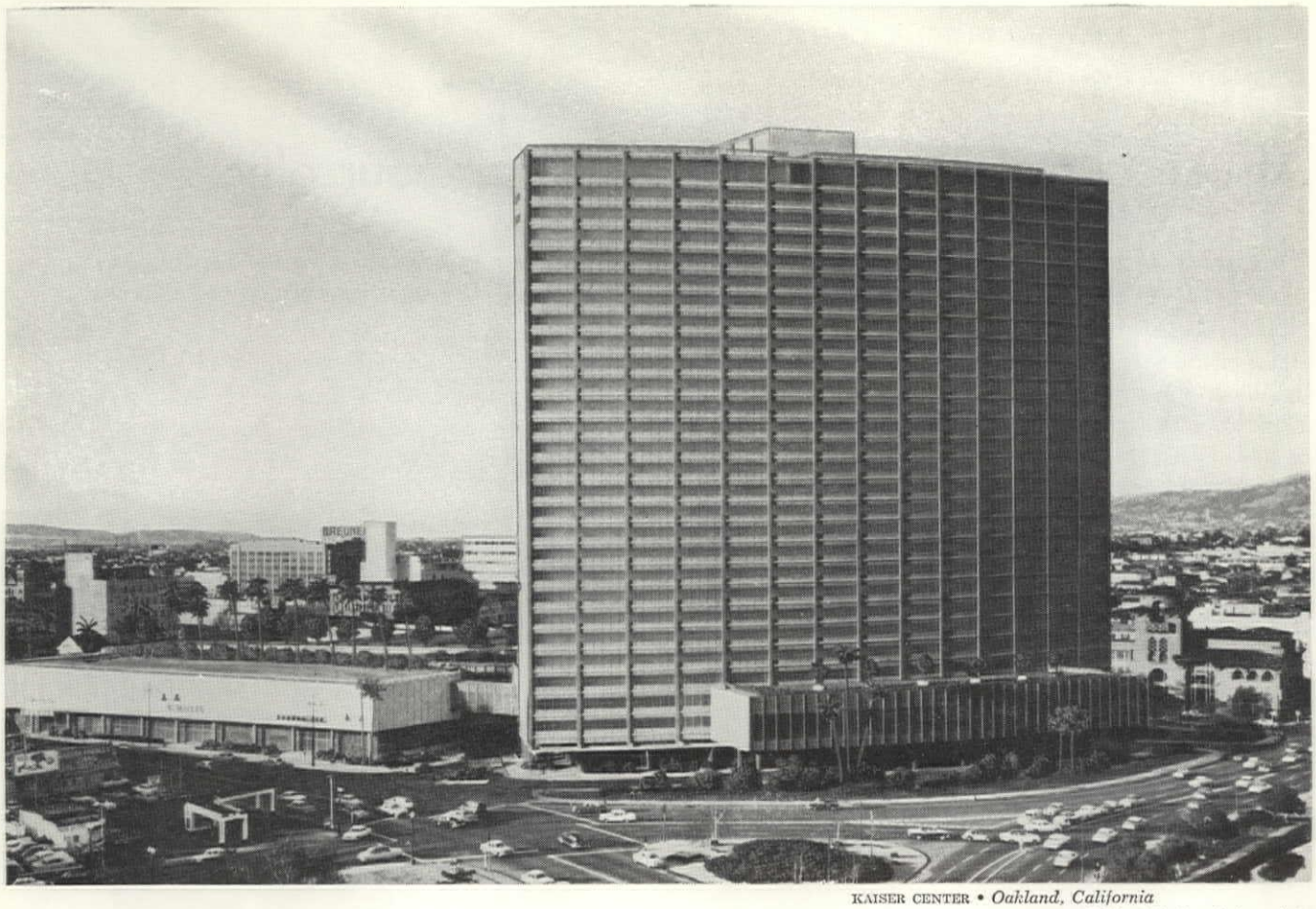
Honorary Members

DONNELLEY, THOMAS E., Chicago, Ill.

FARRAND, MRS. MAX, Bar Harbor, Maine

GREGORY, JOHN, New York, N. Y.

SHURCLIFF, A. A., Boston, Mass.



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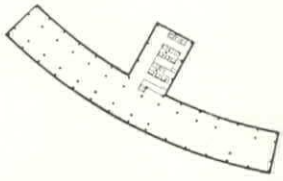

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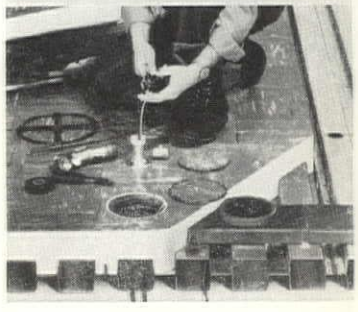

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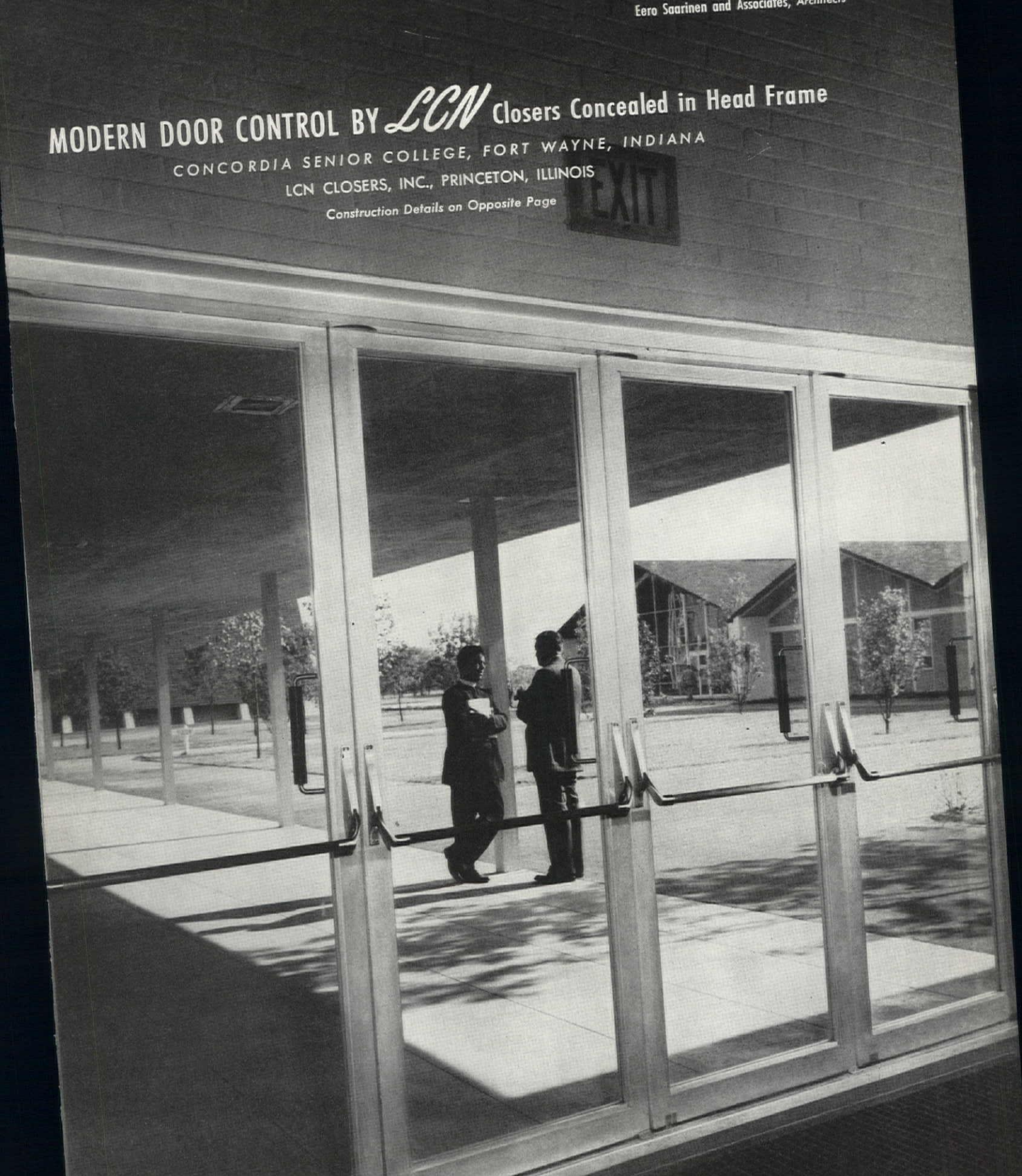

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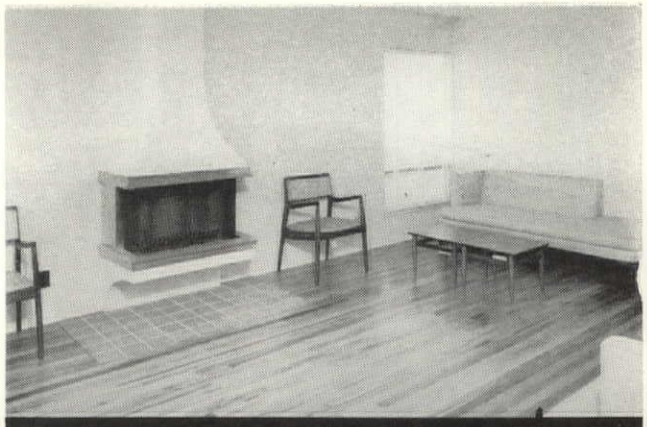

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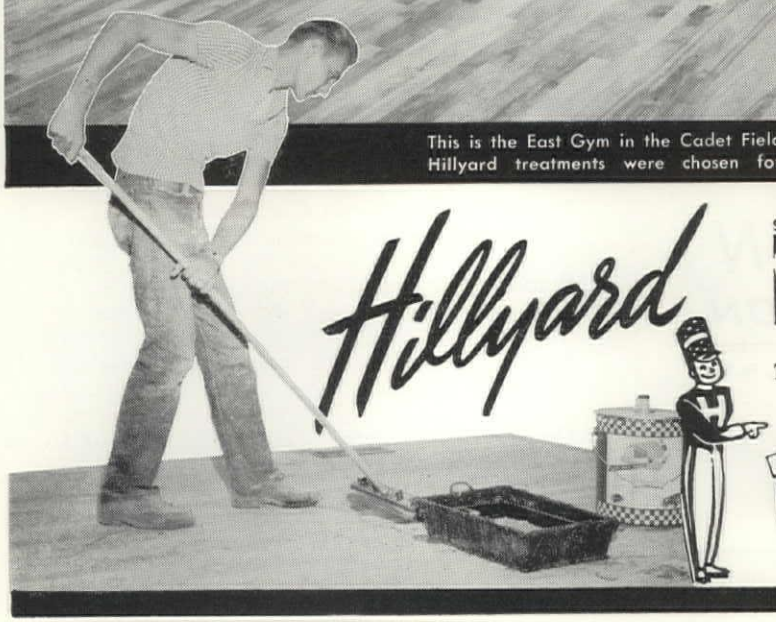

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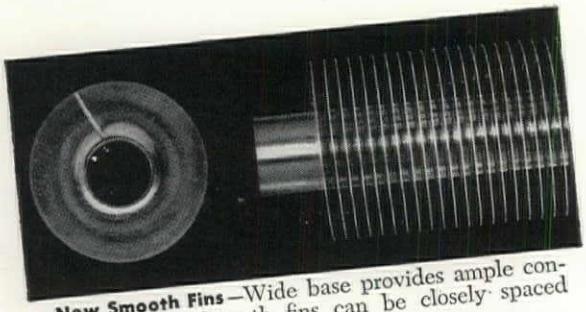
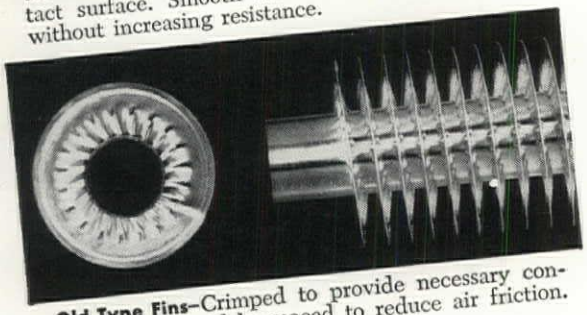


New Smooth Fins—Wide base provides ample contact surface. Smooth fins can be closely spaced without increasing resistance.



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