

OCTOBER, 1957

AIA

*Journal*  
OF THE AMERICAN INSTITUTE OF ARCHITECTS

**PUBLIC RELATIONS —**  
*A Problem In Design*  
by Robert S. Denny

**CHURCH ARCHITECTURE:**  
*The Swing To Contemporary*  
by Martin E. Marty

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The *Journal of The American Institute of Architects*, official organ of the Institute, is published monthly at The Octagon, 1735 New York Avenue, N. W., Washington 6, D. C. Editor: Joseph Watterson. Subscription in the United States, its possessions, and Canada, \$4 a year in advance; elsewhere, \$5.50 a year. Single copies 50c.

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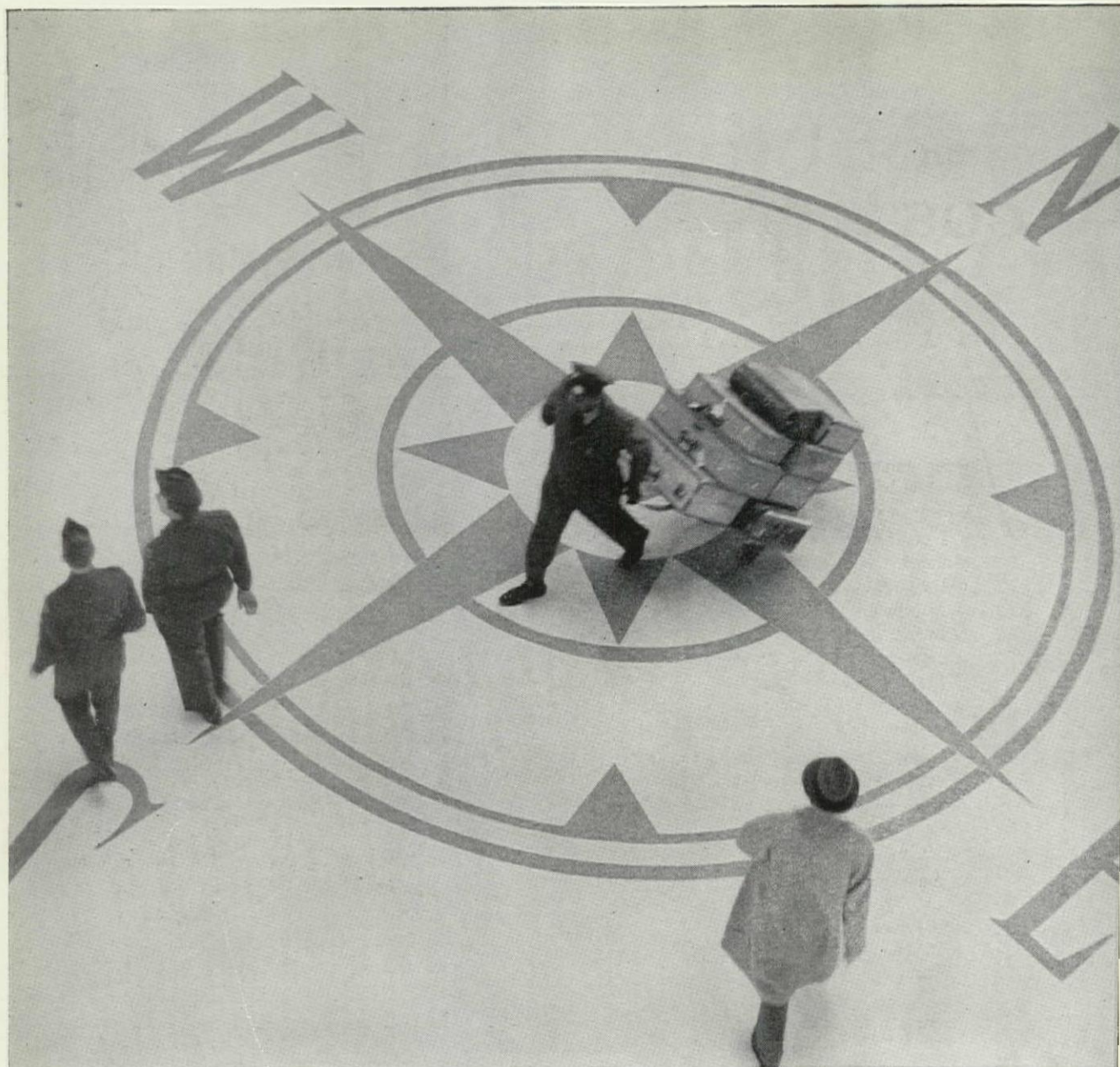


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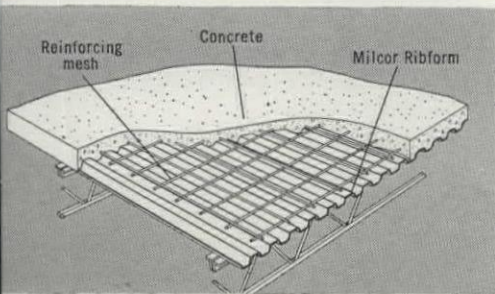
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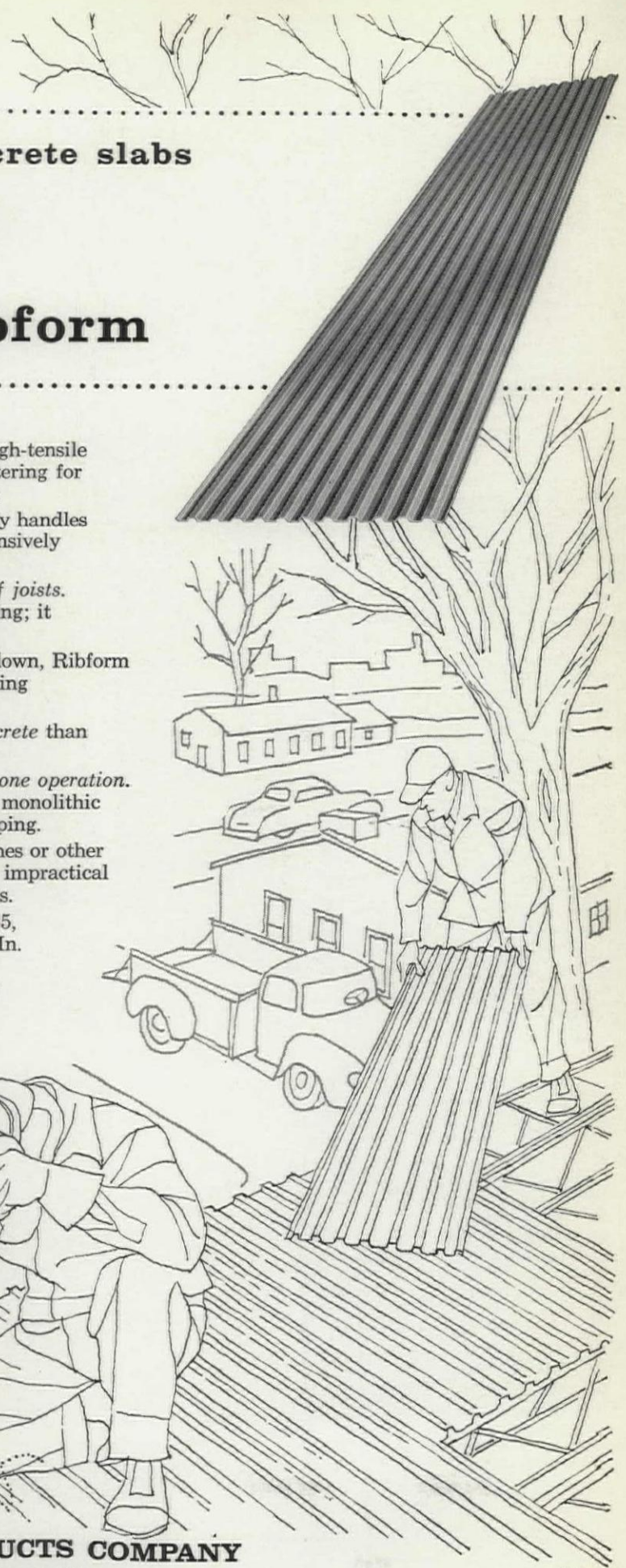


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27

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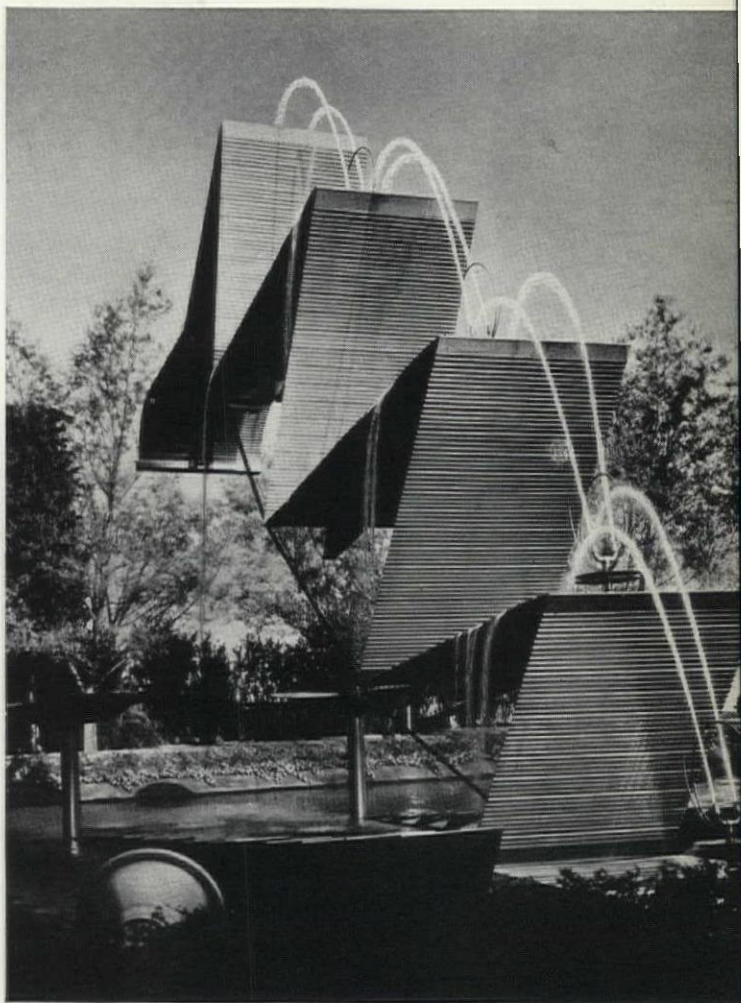
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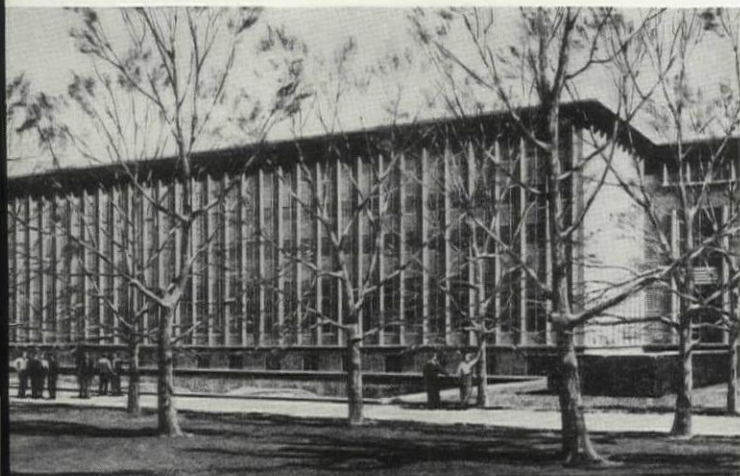
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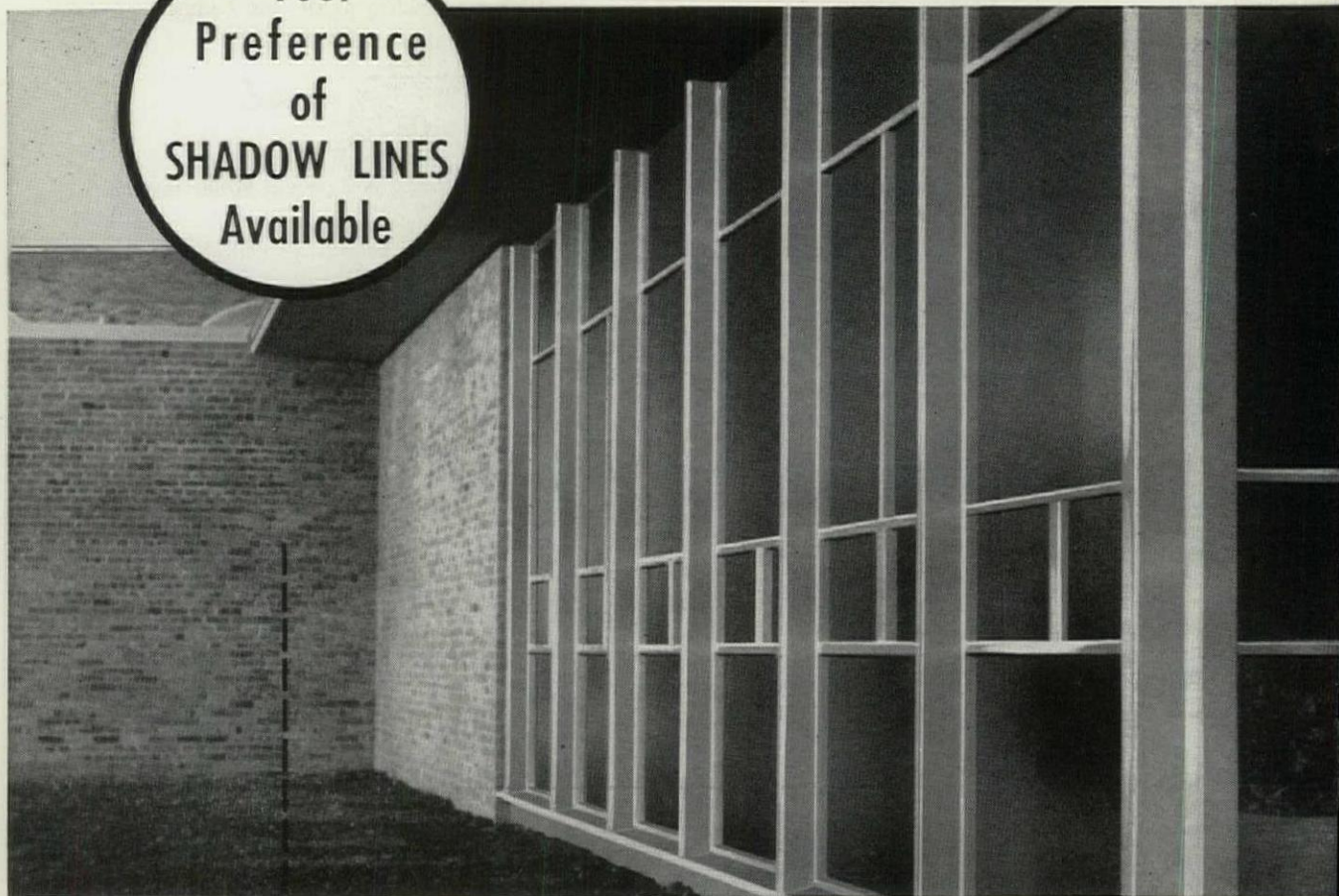
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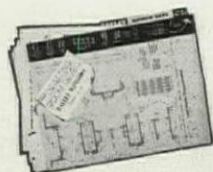


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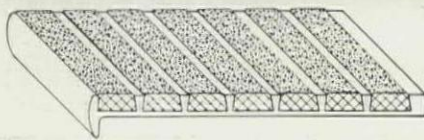
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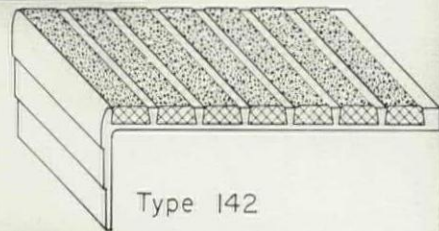
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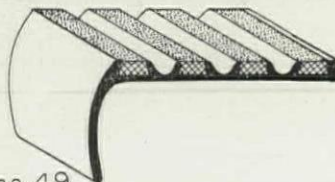


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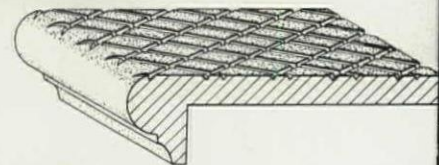
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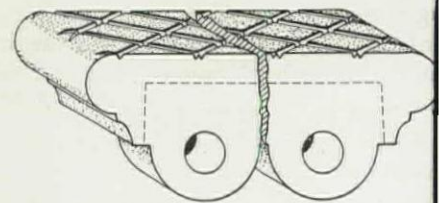
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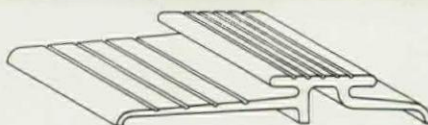
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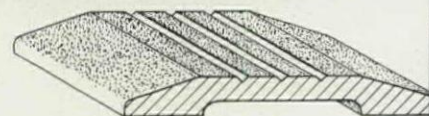


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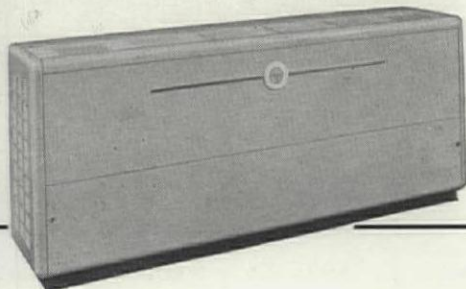
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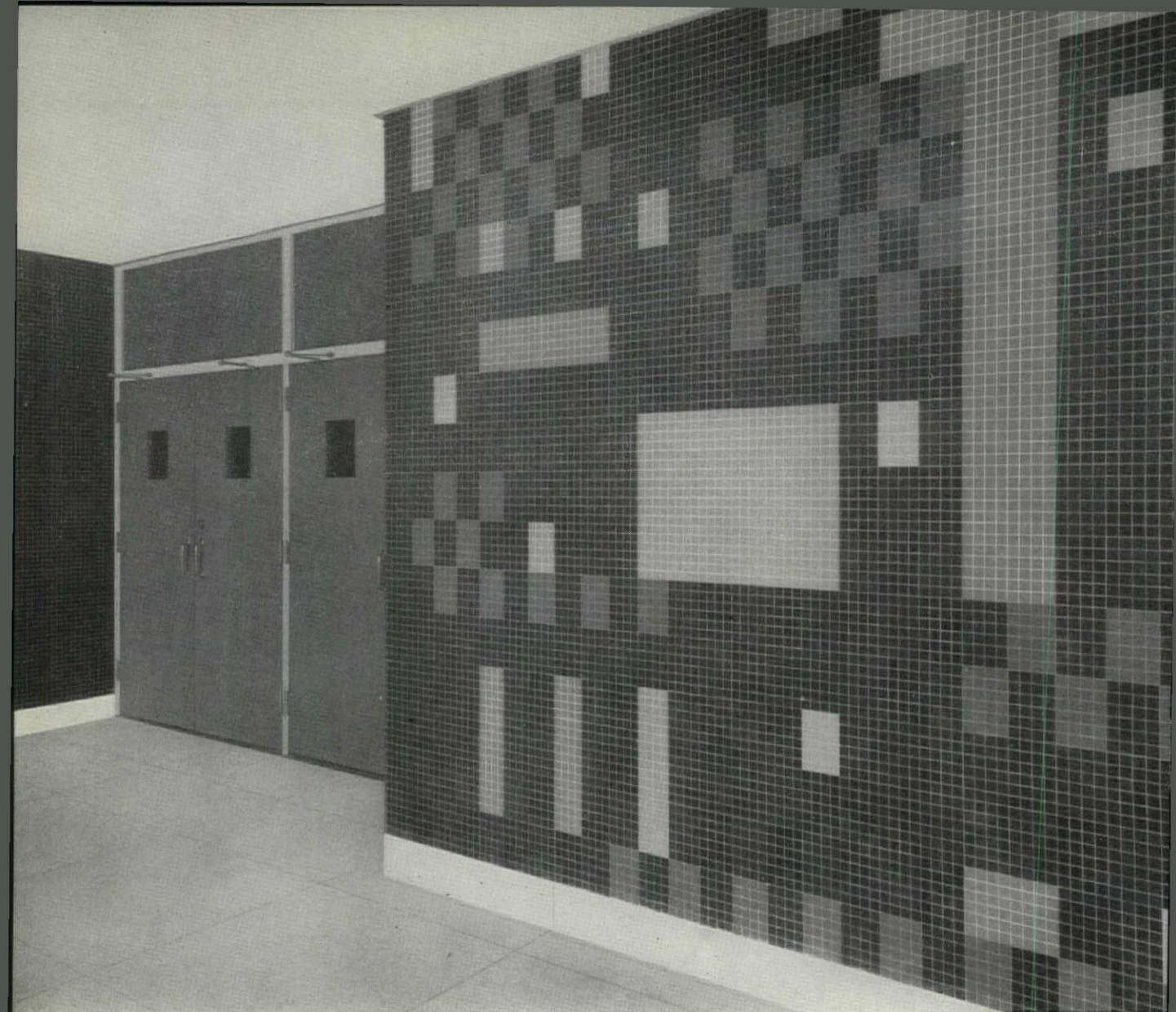
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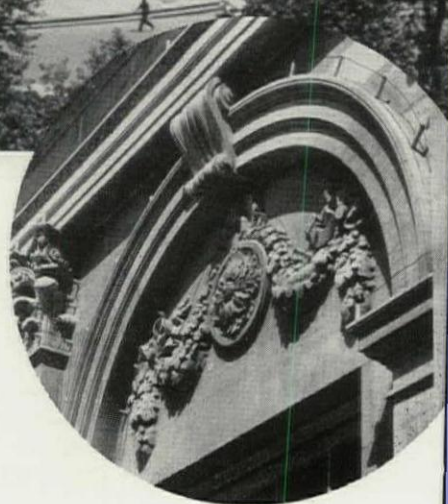
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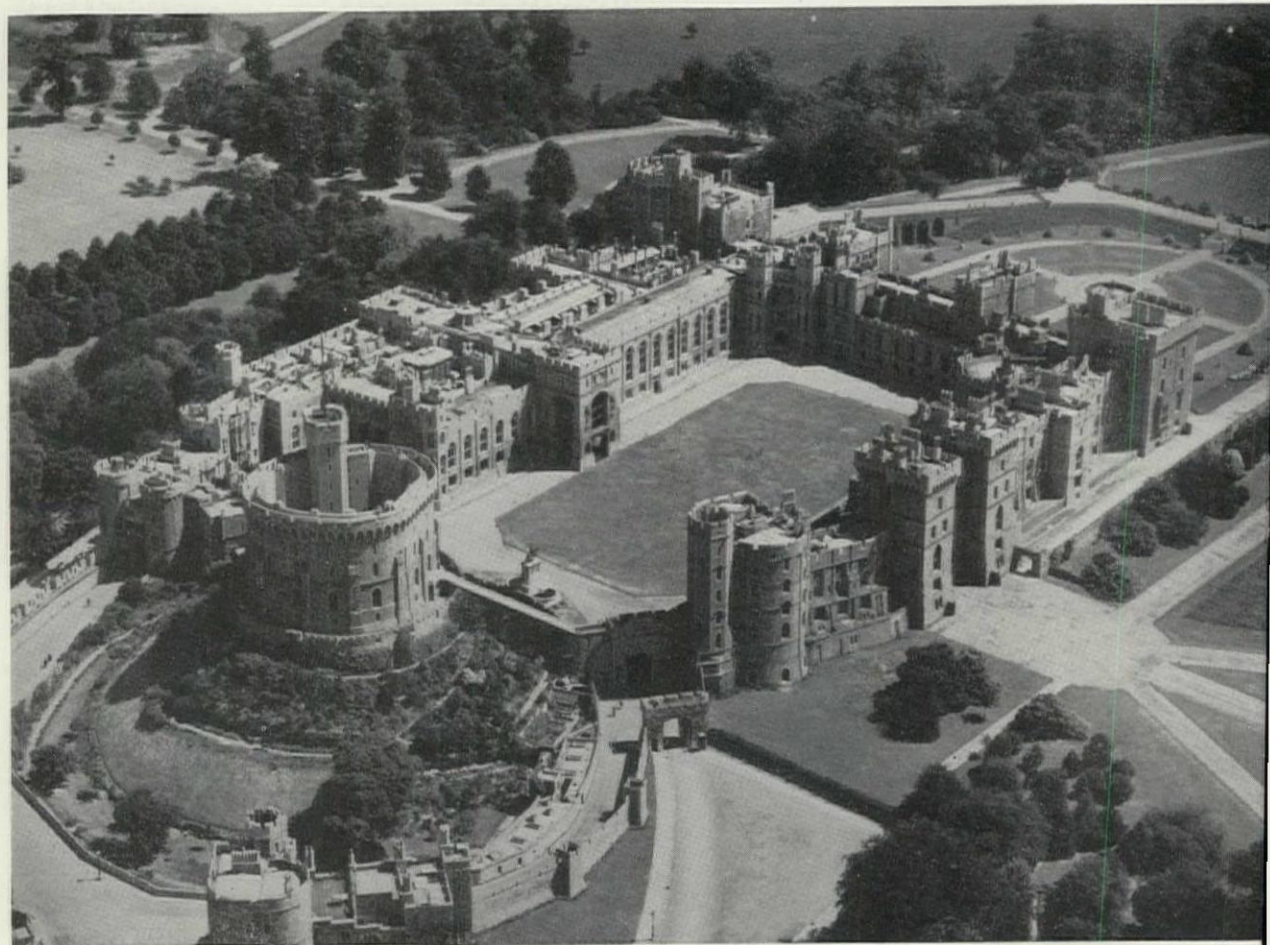
VOL. XXVIII, No. 6

OCTOBER 1957

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# Have Fun!

## *An Editorial*



THE ARCHITECT OF TODAY, in the level below the top echelons, seems to me not unlike that cartoon figure of Prohibition days—the creation of the late Rollin Kirby. The outstanding characteristic of the figure was misery in a mild form; perhaps rather, an utter absence of the joy of living.

Is the comparison exaggerated? Somehow I cannot picture the average architect of today walking jauntily down the street whistling “Oh What a Beautiful Morning.” Rather, he seems like an anonymous member of an assembly line. He turns out an office building that is economically built and offers the maximum rentable space, yet it is much like the next unit off the assembly line; it has no personality of its own; it is just another box of office space. Or, he turns out a housing project; is it likely to arouse pride in a tenant? Or is it just another box of shelter units?

Our architect is always turning out a set of drawings. One follows another almost with the speed of papers coming off the printing-press. His earnings are far above those of the average in any period of history. He ought to be happy, but is he? Is he a creative artist or just a manufacturing technician? Is he having fun, or is he a common drudge?

It is easy to imagine Eero Saarinen having fun with the General Motors Research job, or Gordon Bunshaft with the Manufacturers' Trust Building, or Ralph Walker with the Hayden Library. Undoubtedly there were plenty of headaches in these jobs, but the dominant mood of the designers could have been none other than joy—the joy of creating a building with a personality of its own.

Like most old-timers I spend a lot of time looking back over the way we have come. Out of that past comes a picture of student days: Heat was always shut off from the big M. I. T. drafting-room after daylight hours, so we third- or fourth-year enthusiasts wrapped under our sweaters the long-cord light bulbs that dangled from neighboring unused tables, and, with this inadequate though intimate source of heat, worked half the night on a *parti* or a rendering. The chemistry students did not bother the janitors at night; those who were to be electrical, mechanical, mining or civil engineers did not bother them; it was only the architects—thought completely crazy by the others—who found their fun in the drafting-room. Our incentive was not a mere desire to advance our education; we did it because we found it more fun than doing something else in more comfortable surroundings.

Those were also the days when sketching trips were planned for week-ends, with pencil or water color; it was not until later that the camera offered its tempting substitute for crayon or brush. Or, with a Lesbian rule—that strip of soft lead which could be pressed into a particularly satisfying molding to record its profile—we explored buildings that interested us.

I doubt that anyone today reads C. Howard Walker's “The Theory of Mouldings”—more's the pity. Making full-size drawings of moldings, with a feeling for their functions and for the wood, marble, bronze or plaster they were to embellish, was fun. A glance at the drawings of today—even those few that attempt moldings—reveal the mere vestiges

of a disappearing art. And the art might better disappear entirely if it is to be practised by those who feel no joy in it.

Perhaps the fun in design today is more keenly felt in the engineers' field of space frames, daring cantilevers, thin-shell domes, prestressed concrete, or in the search for the absolute minima of satisfaction required by the human animal. If so, the engineer rather than the architect is gaining a monopoly of the joy of creative accomplishment. If this joy is no longer to be the portion of the architect, can he continue to serve? Is it worth his

while? Perhaps selling bonds or insurance would be less drudgery. If he merely continues to be a cog in the assembly line, is it not likely that he will be replaced by a robot designed by the engineer?

Before a once-proud profession becomes a union of drafting mechanics, let's give a thought to quality rather than quantity. Creating one building with a personality instead of two utilitarian boxes may temporarily drop us into a lower income-tax bracket, but it may also restore our souls.

Let's keep the fun in architecture.

HENRY H. SAYLOR, FAIA

## *Girls Behind Glass*

THE NEW GIRLS' COUNTY SCHOOL is part of the London County Council's plan to blur the distinction between the grammar and technical schools, to which the brightest 25 per cent of children go, and the secondary modern schools which receive the rest. The building is the work of a very distinguished architect, and other members of the profession are forever coming to admire it. It consists of two tall blocks of glass and steel, connected by a single storey administrative building, against a background of trees, with lawns on three sides. It stands on a hill, and below it endless terraces of dim little brick houses stretch northwards towards central London. In the entrance hall the statue of a naked ballerina stands on points all day. But at night she is covered with a cloth, like a canary, to foil the local louts who used to come and peer at her through the glass doors.

She is not the only one who has found that living in one of these crystal palaces has its disadvantages. The classrooms, each with one wall of glass (and the others covered with the nicest new wall papers), are light but not airy; the windows open only narrowly lest the county girls should hurl each other down from the fourth floor. In this week's weather, the south side of the building has been a furnace, and the venetian blinds exclude the glare but not the heat. But in a cold winter the rooms are not warm enough until the radiators are too hot to touch—you take your choice between chilblains and blisters. The glass, with its steel

frame, is an excellent conductor of noise, and the other walls, too, are thin. "Opportunities for the girls are wide," said one teacher. "My class has the choice of five lessons: those in the rooms on either side, above and below, and the one I am giving myself." She was exaggerating; the ceiling are insulated.

There is a fine hall, complete with curtain and stage lighting. The architects call it multi-purpose, which means that at 12:15 p.m. every day hell breaks out. At the end farthest from the stage the shutters are thrown up to reveal magnificent kitchens. The children swarm out of the six classrooms that lead off the hall, fling their books into lockers and swarm back into the classrooms with knives and forks and a plate of stew, which perfumes their lessons all afternoon.

Nor is lunch the only time when a thousand children are on the move. It happens every hour. Secondary schoolchildren today do not sit all day at a particular desk awaiting the visit of successive teachers. The teachers have so much paraphernalia that it is they who stay put in specialist rooms and the pupils who rush about. Books and belongings are kept outside the classrooms in lockers, around whose feet satchels surge in a manner that the designer of this pin-neat decor could not have foreseen.

*Reprinted from THE ECONOMIST, London, June 22, 1957.*



Swann Studio

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*This is the first of a series of articles which will discuss the theory and practice of public relations for the architect and his professional association.*

# Public Relations —

## a problem in design

DEFINITIONS OF PUBLIC RELATIONS are like fables. They abound under a given set of conditions and each differs from its neighbor. To the large corporation, this phrase may mean entrenching its officers and employees into the life of a community to perpetuate good will and head off strikes and higher taxes. To a hair oil manufacturer, it may mean any series of promotional steps aimed at lubricating a nation's scalps. To a movieland Circe, it may mean keeping her name and awesome dimensions in the public press.

Each differs in concept and approach, yet each has a common purpose—to win public acceptance of the subject's products or services. And, in each case, none of the three sketched in the foregoing suggests more than a fragment of what might be termed a public relations program. Ask any ten businessmen who roll the popular phrase "public relations" around their tongues to define it in simple terms, and the answers will smack of everything from Pollyanna to Machiavelli.

Part of the blame for this can be laid at the

doors of the professionals in public relations. Being practitioners of a burgeoning but youthful craft, we have not yet agreed among ourselves upon common terms, and sometimes we over-simplify in talking to others. Is public relations "the engineering of consent"? This combination of words has received wide currency, contains a meaning, and has a certain amount of technical validity. It also suggests the intricate maneuverings of a shrewd operator preparing a candlelight supper for a dull-witted chorus girl. Can we say that public relations means "doing the right thing and talking credit for it"? This is a little Pollyannaish. One can't really say that it's wrong, only that it's inadequate.

To cite a final example, a colleague recently compressed the definition neatly into his prospective clients' terminology by telling a group of manufacturers that public relations is "the manufacture and distribution of a good reputation." This really wasn't bad at all, except that the word "manufacture," in this sense, suggests artificiality and fabrication, thus leading into another semantical swamp.

Public relations, certainly, does not lie in cramming a myth down the public maw. Nor can it assume a clerical collar and flourish on utterly selfless public service. Obviously, it cannot be measured in newspaper clippings. If getting one's name in the paper were a guarantee of success—rather than notoriety—it would only be necessary to kick the nearest child or walk around barefoot.

One old saw does hold good in public relations practice, however. It's still true that in order to *get*, you have to *do*. Thus, establishing a public relations program lies in finding out that something should be done, why it should be done, what should be done, and how to do it—all in terms of the public or specific segments of the public. At this point, all too many programs break down, mainly because everybody becomes so intrigued with the cross-hatching on the drawings that they forget the design has to be translated into structure to mean something. You have to *do* public relations, which means formulating the design, laying the foundations, erecting the buildings, and—because you are dealing in variable human affairs and events—constant alteration. By stating this another way, we can frame a definition of public relations for the architectural profession which involves a three-step operation:

Public relations is the practice of evaluating the profession's policies in terms of the public interest; identifying the profession's policies with the public interest; and communicating this state of identification to the public upon whom the profession's well-being depends.

The key words in the definition, you will note, are *evaluating*, *identifying*, and *communicating*. Remove one and you destroy the effect of the other two. One should evaluate his policies and activities with regard to the public interest as he would evaluate the condition of the soil on which he plans to build. This has been done by and for The American Institute of Architects during this past year and before that time through opinion sampling, conversations and cooperative action with the business, civic, and governmental communities, and through day-to-day contact with persons whose lives and occupations affect the practice of architecture.

Of the three basic steps toward good public relations, the second, *identification* with the public interest, is almost invariably the most difficult and tedious to accomplish. In some instances, it may be impossible of accomplishment, for the AIA we can certainly hope for and expect a great deal of advancement. We think there is a great deal to communicate to the public about the AIA and its members. The Centennial celebrations proved this

on both the national and local levels. Certainly the formulation of the national AIA celebration drawn from the wellspring of architectural thought and offered to public view, created a publicity jewel of unique value to the profession. Those of us who had something to do with it can claim credit for sound planning and mechanics. But the point is that both the subject of the Centennial and its source held inherent interest for the public.

In brief, the Centennial identified the architect and AIA with the problems and interests of the public, and that was the reason for its success as a vehicle for publicity. This, of course, is but one meaning of the word *identification* as it applies to the public relations problem. In the real sense the word implies that we must identify the architect not only with messages which interest and intrigue the public, but with the service he performs for the public.

Public relations counsel, serving the architect through his professional organization, can do two things—*counsel* and *communicate*. The counseling service aims at bringing the policies of the profession into line with the public interest and service. The communication function has two components—opening and improving lines of communication which extend from the Octagon through the regional states, and chapters, to the individual practitioner (internal communication); and communicating directly with the public, either in terms of specific groups, or in the mass (external communication).

This does not remove the burden of communication from the shoulders of the individual architect. Part of the public relations counsel's service involves direct communication with the public. Part involves helping the architect to do the necessary job of communicating with his community. (In this series of articles, we plan later to discuss specifically and in detail how communication can be handled effectively at the local level.)

The architect has two important jobs which shape his public relations. He must *perform*, and he must *communicate*. One cannot choose between the two and discard one. To talk without having anything to say is a waste of time. To perform without letting people know about it is a waste of opportunity.

This is why we have established two objectives as the keystones of the AIA public relations program. We must:

1. Maintain and improve professional competence.
2. Create public understanding of the architect as a professional person of both esthetic and economic worth to his community.

Visionary? Perhaps. Beyond the competence of the AIA and its public relations program? We must hope not. All the promotional time and money in the world, if poured into one community, won't undo the damage done to the profession by an architect who does a poor job of cost estimating, who doesn't provide proper supervision of a project, or whose building fails to perform satisfactorily. This is not to imply that the profession lacks competence. But this is a matter which no architect who is interested in himself and his profession can afford to take lightly. The profession may be in very good shape at the moment. But nothing stands still in a dynamic society. It is doubtful whether, ever before in history, the architect has had a more profound responsibility than that which he bears today.

What is an architect, anyhow? Is he just a smart salesman, a clever draftsman, a good mechanic? If he is a good architect, he is all of these things—and much more. In the broad sense, the architect must function as a *doctor* in prescribing for his community's environmental ills; as a *lawyer* in interpreting the laws of both nature and man; as an *artist* in translating ideas into form and form into structure; as an *engineer* in understanding and dealing with the stresses and strains of matter; as a *mechanic* in guiding the laying of pipe or the application of mortar to a brick; as an *investment counselor* in aiding his client to determine how to enjoy the most profitable use of his property; as a *businessman* in understanding the intricacies of financing and the comparative values of real estate, as well as the efficient operation of his own practice. And, most important, the competent architect is a free and unprejudiced *protector* of his client's interest, a professional advisor who is not beholden to any commercial interest or the sale of any product in the building field.

This is not intended as an accolade, just as a measure of responsibility. The architect must be these things, or society will turn to others for solution of its environmental problems. And, by *being* and *doing*, he places himself in the position of being able to *tell* his community—not in self-laudatory and boastful terms—but in such a way that he demonstrates he is a professional who can and will contribute to his community.

What do we mean when we say that an architect should perform well? And, to combine this question with another that may seem unrelated, have we not improperly submerged the word "artist" in refining what an architect is and does? Our reason for combining the questions is this: From the public relations standpoint, architecture is more than a matter of designing a building which produces an

effect which we can call beauty. This will unquestionably raise a few hackles, but, in our view, architecture is much more than art, even great art, and it should not be confined to the art section at the back of the magazine or newspaper. We say that a certain building is a sculptured mass, and the adjective is apt, but a building is not sculpture. It is art, but it is not painting which we look at, or music to which we listen and then play again another time. It is something in which people live, learn, work, or play, and it is something for which someone must pay. It must perform to the advantage of its occupants in fulfilling their various needs for a shelter, a castle, an efficiently-planned space, a business investment, a weather-tight structure that shields its occupants from the elements and does it without costing the owner dearly in repairs and high maintenance. Inferior performance cannot be justified in the name of anything—even art.

It is not a matter of submerging the artistic spirit, but of respecting the client's needs, desires and limitations—of staying in psychological contact with him instead of estranging him. This does not mean that the architect should give the client just what the client wants—or, to put it more precisely—what the client thinks he wants. If he is not a leader, the architect does not deserve professional status. Good public relations demands that the architect use his experience and talent to guide the client in a manner which will benefit the client and truly satisfy his needs; this is a far cry from *using* the client as the financier of esthetic experiments which are not directed at a solution of the client's problem.

The problem of professional competence is much broader than this, of course. The AIA is dedicated to helping the individual set up, maintain, and improve his practice, and a number of committees and departments work at this constantly. Architects who are acknowledged authorities in certain fields of design are being asked to share their expertness with others, and valuable information of this type is being made available to all architects. Both national and regional conventions can and should act as a focal point of such activity. On the chapter level, seminars and classes can be conducted to keep members abreast of new techniques, materials, and processes affecting architecture. Maintenance of professional competence involves recruitment of promising young men for the architectural profession, as well as better training for those who are recruited. This is no small task, but the welfare of the profession demands that it be done.

(Next month: PUBLIC RELATIONS AND PROFESSIONAL ETHICS)

# CHURCH ARCHITECTURE:

BY MARTIN E. MARTY

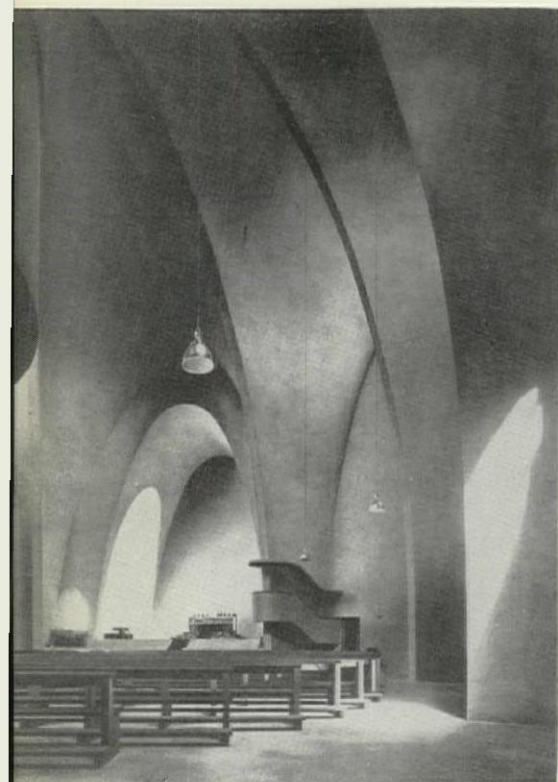


Photo from *Moderne Bauformen*

CHURCH OF ST. ENGELBERT, 1932, KOLN-RIEHL, GERMANY, DOMINIKUS BOHM, ARCHITECT.

TO REGARD ONE'S OWN AGE as the consummation of all time is always dangerous. The chronicler of religious architectural achievement hardly needs this warning by art historian Jacob Burckhardt. He is too much haunted by the memory of centuries of grandeur in the form of basilicas, cathedrals, and parish churches. To mount an escalator of pride and optimism would be little short of irreverent. However, if he is to compare achievements in worldwide Christian architecture today with those of the recent past, he will have reason for encouragement. And if he recalls the shorter memory of building in America it is possible to suggest that we may be coming into our own finest hour.

The recent past means the nineteenth century and its afterglow in the early decades of the twentieth. These were years of unparalleled expansion by a busy Christendom. Wherever the mission spread, men built churches in unprecedented numbers. For the most part they left behind them a trail of satisfactory "practical" buildings. But when they attempted projects on a grand scale they often got into trouble. Invoking the forms of the past without understanding the spirit of the present they devoted themselves to erecting buildings that were revivals, adaptations, modifications, and imitations of what had been better said in Byzantine,

Gothic, or Georgian periods. Had these men of faith had time to think they could have stepped back and foreseen the legacy of problems they were to leave for their heirs. They were preaching a very loud sermon to the effect that their faith had little to say in the forms and spirit of their day. Seldom before in Christian history had the church let "the world" set the pattern in the arts and architecture. No longer could ecclesiastical architecture teach; it did not even learn. It repeated.

A dramatic change has occurred very recently. Indeed, there are remnants of the past. We are still nagged by the problems of timidity, escapism, nostalgia, and historicism. There are still some architects who "believe in Gothic" and, sadly, others who don't, but who sell themselves to build it. They produce architectural clothing to uninformed tastes covering technically modern skeletons with archaic stone piles. But the schools are no longer preparing men to build in the forms of the past and at least half the churches no longer want them. More and more we shall see unified, organic, honest attempts. Architects and churchmen are learning to use the past without escaping into it.

This significant reversal coincides with a building boom in the religious field. This year \$900,000,000 will be involved in the United States. Re



# THE SWING TO CONTEMPORARY

*Dr. Marty is a Lutheran clergyman, a member of the editorial staff of the Christian Century and a well-known writer on ecclesiastical architecture. The photographs are from the travelling exhibit "Modern Church Architecture" from the Museum of Modern Art, New York City, and are loaned by courtesy of the museum.*

religious building is the fourth largest private construction category. As recently as eight years ago the professional journals were still rehearsing the arguments that were justified in the 1930's: In this generation, went the complaint, the church contributes little to architectural progress and architecture contributes little to the churches. We shall not hear that chant so much any more. As a matter of fact, some awed designers now confess that they are gaining acceptance for their "secular" projects by first informing a public through religious architecture in the contemporary spirit. When this journal announced its platform this spring it promised an emphasis on "the everbroadening scope of the work of the architect." The story behind the sudden about-face toward contemporary forms is certainly a part of that enlarged scope. Here we shall introduce certain historical and religious implications: Theology, not technology, is the central problem in today's church-building activity.

The story of the new architecture, viewed in the perspective of Christian history, is very brief. We can date its origins with considerable precision: It is about one-third as old as the Institute! If we except the isolated examples by de Baudot in Paris in 1894 and by Wright in Illinois in 1906 we might begin the story with the Perret's transitional re-

inforced concrete Notre Dame de Raincy in Paris in 1923-24. Only the Nazi suppression and the devastation of war broke that continuity of development which found fruition in the work of men whose names are now revered: Otto Bartning, Dominikus Böhm, Rudolf Schwarz, Karl Moser, Fritz Metzger, Eric Asplund, Erik Bryggman, Le Corbusier, Giuseppe Vaccaro, Basil Spence.

The ferment in Europe and especially in Germany began to reach America in the German display at the Chicago International Exposition in 1933. The promise of this exhibit was stifled when totalitarianism and terror cut off the new genius at its source. Was there not only reflection but also foreboding in Otto Bartning's credo in the accompanying catalog?

Only he who has been through a storm can appreciate the calm of the ocean. Only a person who has experienced the complexity of our modern days knows the beauty of simplicity. For this peace, for the simplest certainties dwelling within it, we live, and strive and die . . . What is the aim of all our striving? The simple certainty that all our actions, every thought, every breath, every word is a building-stone in eternity. At the heart of all unrest lies the peace that surpasseth understanding.

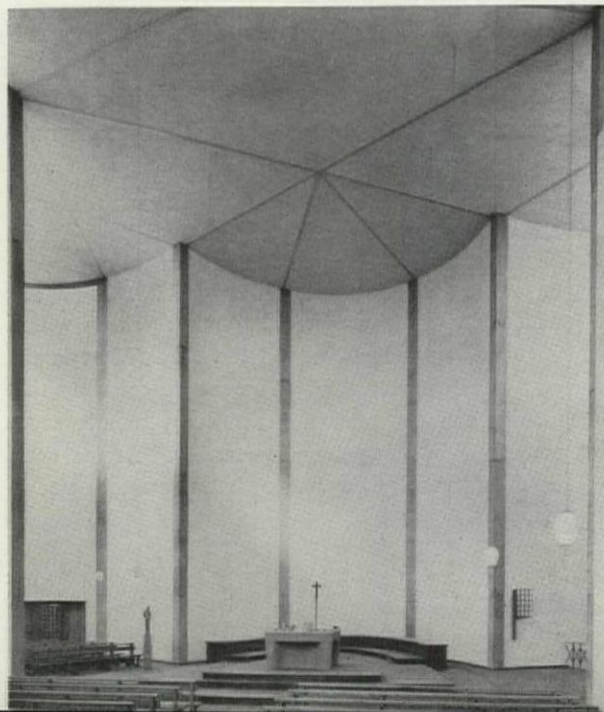
In the midst of evanescence, senselessness, storm, there grew a new calm and a new longing. Out of the spiritual tensions of the age grew a new form of building that was not historicistic, romantic, or nostalgic. Now simplicity, modesty, and veracity were to characterize building. "For the present, solitary works of art, solitary buildings are cries of the longing for divine communion: we should appreciate them and hear their call."

Few listened. Men beat ploughshares and trowels into swords and the serenity was overcome by horror. But seeds had fallen into good soil, and men of genius escaped the horror to carry new seed. Since that time there has been significant building wherever men hold to the faith. Obvious examples come to mind: Raymond's Church of St. Paul in Kariuzawa, Japan; Raymond and Rado's work in the Philippines; Niemeyer's in Brazil; Candela's and de la Mora's in Mexico; the younger churches were seeking newer forms.

In the United States, which interests us most, there were strivings during the 1930s which culminated in the most successful pre-war church, Eliel Saarinen's Tabernacle Church of Christ in Columbus, Indiana. Saarinen also was to shape the most widely acclaimed post-war church, Christ Lutheran in Minneapolis. He was not alone. Particularly since the war most of the *Wunderkinds* of the new architecture built at least one church: Mies van der Rohe, Alden Dow, Paul Schweikher, Pietro Belluschi, and, of course, Frank Lloyd Wright. Roman Catholicism was served as never before in American history by Joseph Murphy, Barry Byrne, Paul Thiry, and Marcel Breuer. This brief catalog of names is almost arbitrarily chosen from a wealth of possibilities.

CHURCH OF ST. MICHAEL, 1955, FRANKFURT, GERMANY. RUDOLF SCHWARZ, ARCHITECT.

Photo by Artur Pfau



In just one-third of a century a revolution had taken place, a change more sudden than any other in Christian architectural history. With sharpening intuition laymen and parish ministers were following the architects and, in some instances, anticipating them. The disdain builders had shown the churches two decades before was being transformed into a sense of welcome for new opportunities. No single or simple answer will suffice to explain the growing acceptance of today's religious building. Several guidelines do emerge:

Economy, first of all, is a factor. Cynics find a strange company here with denominational mission directors in pointing this out. Economy did have much to do with the acceptance of contemporary architecture, but almost nothing to do with its origin or genius. The relative inexpensiveness of many projects is rightfully attractive in a day of unprecedented population growth, family mobility, suburban expansion, and religious interest in the United States. Many prize-winning churches selected under the auspices of the National Council of Churches cost less than \$100,000. But the pace-setting achievements have in as many cases demanded expenditures approximating those involved in traditional styles.

So economy does little more than begin to explain the shift. We may list a negative factor, secondly. This is the frustration on the part of churchmen who saw architectural initiative assumed by "secular" projects, and on the part of architects who finally rebelled at producing carbon-copies of what had been said better and with more validity in an earlier day. Perhaps faith had to follow form and function in this rare moment in Christian history appropriating technical and ideological gains which had been achieved entirely apart from explicit religious orientation. But faith did follow, and it may have begun once again to lead. Positively stated all this means that alert churchmen and draughtsmen dared once again to seek to redeem the new architecture by drawing it into the service of the church.

A third factor was the historical moment in the churches. The middle of the twentieth century has been a time of trans-denominational religious, theological, and liturgical revival. Men have asked anew the questions of the Christian faith and they have received new answers or old answers in new constellations and contexts. This inevitably was reflected in building. To review the modern period: If in a rationalistic time the churches were austere and cold lecture halls; if in a romantic period they were ornate salons for pompous preachers; if in a pragmatic period they were practical solutions with little esthetic character; then there was bound to

reflection of a renewed depth of Christian understanding of life and work, faith and order and worship—in buildings.

This brings us to the important question: What are these new churches expressing to our age and what makes the expression possible, necessary, even urgent? If architects of varying personal religious orientations are aware of the answers they can participate more fully in the encouraging new chapter in churchbuilding. The expression of which we speak is made possible by the renewal or revival we have just described as carried on in a universal, a worldwide, a—if we may use the vogue words—catholic or ecumenical framework. For when a new church is built, it is in a sense an expression of the whole vital and growing Christian community, a fruition of a reality which Christians confess to be the unbroken Body of Christ of all ages and places where believers gather to worship. Anglican Archbishop Temple called this ecumenical movement “the great new fact of our era;” as a matter of fact, so far as building is concerned, it involves also Roman Catholicism which in this respect finds new consequences of understanding with non-Roman effort. I will take the two examples of confluence which I believe to be fundamental. If others find different fundamentals, I do not believe their own would refute this suggestion that all Christendom is finding an emergent unity of architectural expression both in formal and material principles.

The formal principle which I shall offer as a suggestion is the amazing agreement growing among both Protestants and Roman Catholics that *the prototype of the new architecture is in the tent of God*. This does not mean that the tent idea and form was contrived or intentional. It has evolved from the churches' dialogue with the world. If in the past men were preoccupied with catacombs, bastions, refuges, fortresses, or huts for worship (all for good reason), today they are concerned with God's “tabernacling” among them. Theologians and teachers were expressing in words new intuitions about the nature of the times and of man's need and God's action. Architects at the same time were revealing these insights in new lines and forms. Only recently have they both awakened to the parallel character of their activities.

From the left-wing of the Protestant movement, for example, churchmen like British and American congregationalists Daniel Jenkins and Marvin Halson are suggesting that the tent, the prototype of the ideal church building, suggests a spiritual invitation for the people of God on the march. This symbolism, according to them, possesses an intriguing appeal that transcends its geographical and

migratory origins. This spacious tent-form is the ideal arena for expressing, as theologian Joseph Sittler would say, “God's difference.” Paul Tillich has asked for space for “holy emptiness.” At the same time such a form provides a warm gathering point for the Christian community.

Rather amazingly this same observation of intent and achievement has been made independently by Roman Catholics. Anton Henze's fine new book on contemporary church art virtually makes this its thesis. German architect Hans Schwippert made the best statement of this to a conference of architects in 1951:

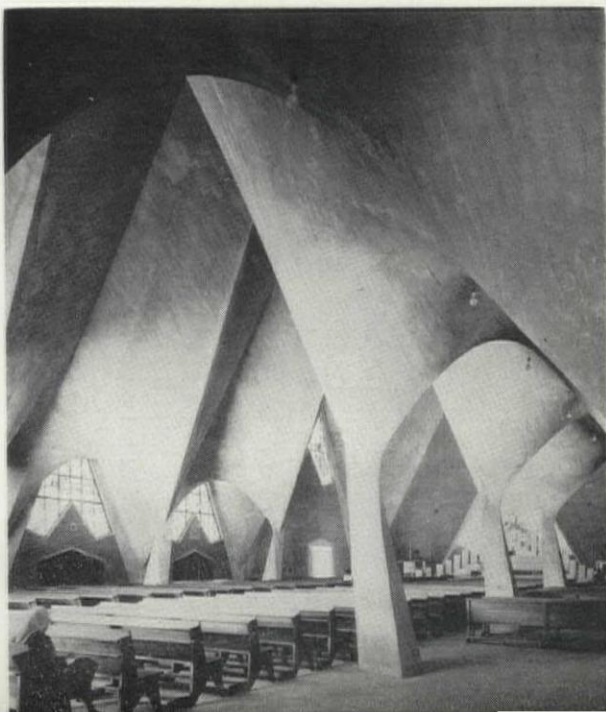
In this age, marked as it is by unrest, fear and foreboding, something is manifesting itself among architects all over the world as though it were a *mighty law of building*; something which has nothing to do with the constriction, trouble, unrest and fear of these days. Does it not seem remarkable that in the years in which devastation came upon us, in years when we do not know what further devastations may be before us, we should, all round the world, respond to a *law of building* which has nothing to do with strongholds and refuges? That, all over the world, instead of building strong refuges, good architects are building tents, light, wide-open things? And does not this following out of the command within us cut strangely across the more obvious demands of human reason?\* (Italics mine)

Schwippert need not have been mystified by the way this law transcended the obvious rational demands. Much of the profound understanding of the relation of God and man reflected in the litera-

\* In Anton Henze and Theodor Filthaut, *Contemporary Church Art*. New York: Sheed & Ward, 1956, pp. 32-33.

CHURCH OF THE MIRACULOUS VIRGIN, 1956, MEXICO CITY, MEXICO. FELIX CANDELA, ARCHITECT.

Photo by Lang



ture, drama, art, philosophy, and theology of the day is reflected in these churches which are arenas for dramatic encounter with the Diety and serene resting places for a church on the march. They are also quasi-temporary symbols of a community that has learned through new wars and unrest that Christians "have here no continuing city but they seek one to come." With good reason architects have replaced mass with space, weight with line and light. The newest trends in shell or membrane construction will probably accentuate this. The day may come when the wags who thought they were funny when they saw new churches and said they looked like barns will be paying a compliment if they will translate their comment to comparison with "God's tent."

The material principle, the idea which produces and results from these new buildings grows out of a renewed and chastened understanding of *the correlation between God's mystery and His revelation*. In this Roman Catholics and other communions also come to new confluences. Roman Catholic buildings and worship have traditionally stressed mystery; the trend to the "light, wide-open" buildings seems to counter this emphasis. But "mystery" was never meant to imply confusion or intellectual incomprehensibility. Rather it involved a sacramental understanding that connected the Christ-event with the act of worship. "What was visible in the life of Christ," said Leo the Great, "has passed over into the mysteries." Remarkably, present-day Catholicism has been stressing God's revelation in its worship. The very leaders of liturgical movements who most stress the mystery, men like Dom Odo Casel and Karl Adam, also emphasize God's revelation to men. This finds varied architectural expressions. In place of distant, deep-toned, nearly dark climates, the churches are brighter and more colorful and clear. The altar is now near the people, open, accessible. The broader rectangle, the circle, the fan, the parabolic plan have their place among floor-plans; some are suggesting that the mass be offered in the language of the people.

Meanwhile, from the Protestant side a similar development is clear. When Martin Luther dedicated the first "Protestant" church he expressed the revelatory purpose of worship: "Nothing should happen here except that our dear Lord Himself speaks with us through His Holy Word and we in turn speak with Him through prayer and hymns." Much of subsequent Protestantism remembered only this and forgot Luther's own warm worship with its fusion of sacrament and preaching. It is now recovering the understanding of God's mystery and

man's limitation in the face of this revelation; new dimensions of depth and profundity concern it. Walter Taylor has elsewhere echoed Paul Tillich's alarm over the appalling absence of sacrament, thought and feeling in Protestantism; this, according to Taylor, affected church-building.\* Matters will be different now. The theological recovery of mystery is finding expression in the soaring space and awesome dimensions of the new tabernacles for "holy emptiness" and in the over-size but simple altars and crosses, the decreasing fear of color, vitality, joy in building. No other communion is changing its basic character. Each is recovering something from the other. The altar is not receding in Roman Catholic worship as the pulpit finds new focus. The pulpit is not receding in Protestant worship as the altar finds new focus. The Anglican and Lutheran syntheses are more acceptable than they have been. With Bishop Wilhelm Staehli of Germany, most Christians want their architecture again to express their understanding of the correlation of revelation and mystery: That in worship something actually happens; Christ is present. Decision "takes place in the liturgy as a present occurrence." The present moment is heavy with decision.

I know of few successful churches of recent years that do not involve some translation of these two principles: The tent-form and the revelation-mystery idea. Architects, it would seem, will neglect both at their peril if they want to share in the central Christian expression.

We have not stressed the enormous problems of the new ventures. With the dizzying pace of change and the lack of precedent, the limitations of budget are

\* See "The Spiritual Function of the Church Building" in *Church Management*, August, 1956.

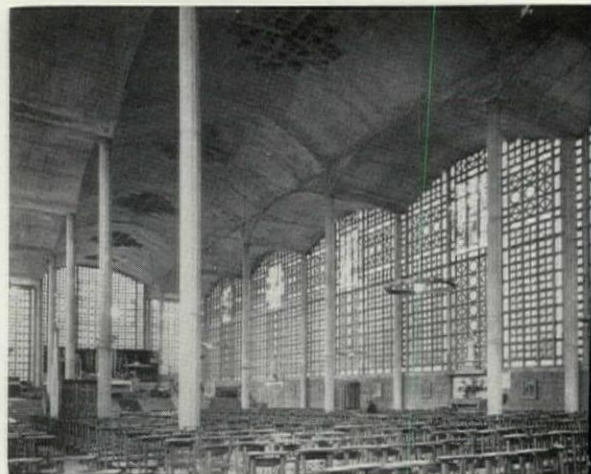


Photo by Moosbrugger

CHURCH OF NOTRE DAME DE RAINCY, 1923, PARIS, FRANCE. AUGUSTE PERRET, ARCHITECT.

ometimes of vision on the part of clients, and the  
azz-modern, cliché solutions that are so tempting,  
ere are and will be mistakes to profane the churchly  
kyline. One problem capable of solution is the  
eeded understanding of the relation of today's  
uilding to the past, keeping alive the two poles  
uggested by theologian Emil Brunner, "tradition  
nd renewal." This simply acknowledges that we  
annot escape the past, that we must remember and  
arn from it. "We are our father's shadows cast  
t noon." Only out of such humility can new tri-  
mphs grow.

A second problem that should not be beyond  
olution is that of the new exteriors, seldom as  
atisfactory as interiors, where function is more  
early defined. Most serious is the failure to bring  
out new synthesis between art and architecture.  
ather Couturier and Paul Claudel invited: "A  
arvelous program is offered to talent. One has  
ly to dare. One has only to take the first step.  
ne has only to believe in God."\* Out of such dar-  
g have come isolated jewels at Vence, Assy, and  
udincourt in France where Matisse, Leger, Lurcat,  
ouault and other giants served. But in these

cases the churches have lacked distinction by com-  
parison. Emil Frei's studios in St. Louis have  
pointed the way with the Robert Harmon window-  
and-painting in St. Ann's Church (Murphy &  
Mackey, Architects) in Normandy, Missouri. It  
does not have much company in the United States.  
This problem, I understand, is common also to non-  
ecclesiastical architecture.

In solution of these problems, in perfection of  
newly accepted forms, all architects and firms can  
find new opportunity today. They begin this serv-  
ice first of all by a high personal standard of archi-  
tectural integrity. Through honesty, craftsmanship,  
concern, technical ability, and integrity join the  
fraternity of builders of temples. If as Domenichino  
suggested of all artists, he is fortunate enough to  
catch the inward vision, if he can also see and hear  
with his soul, he can carry us beyond the gropings  
we have known until now into an inspiring era of  
church building that will inform all aspects of archi-  
tecture. Rouault always desired to paint a pic-  
ture of Christ so compelling that it would attract  
a conversion. Architects will have arrived when  
their new churches will inspire men to kneel—and  
then to rise and march in new battles of doubt and  
despair, of hope and faith, in the midst of a  
troubled age.

*The Eye Listens.* New York: Philosophical Library,  
1950, p. 149.



## Honors

THE FRANKLIN INSTITUTE of the State of Penn-  
sylvania has announced that the internationally  
own bridge engineer, inventor, educator and  
thor Dr. David B. Steinman, will be the recipient  
the Louis E. Levy Medal "In recognition of his  
standing paper, 'The Design of the Mackinac  
idge for Aerodynamic Stability,'" which appeared  
the December issue of the *Journal of The Frank-*  
*Institute.* Formal presentation of the award will  
made at the Institute's annual Medal Day on  
tober 16, in Philadelphia.

A pioneer in developing the artistic design of  
dges, Dr. Steinman has served as designing or  
nsulting engineer in the construction of more than  
0 bridges on five continents, eight of which have  
en honored in the annual awards for the most  
autiful bridges in America. The Levy Medal of  
Franklin Institute will be the fourth award he

has received for the design of the Mackinac Bridge.  
This bridge, which spans the Straits of Mackinac  
in Michigan, is the world's largest suspension bridge.

PIER LUIGI NERVI, Honorary FAIA, has been  
elected to Honorary Membership in the American  
Academy of Arts and Letters and the National  
Institute of Arts and Letters. Honorary member-  
ship in the Academy-Institute is limited to fifty  
citizens of foreign countries, noted for their out-  
standing contributions to the arts. Presentation of  
a citation and insignia of membership is made to  
the newly elected Honorary Member on behalf of  
the Academy-Institute at a reception given by the  
American Ambassador in their respective capitals.  
Elected at the same time as Mr. Nervi, were: Jean  
Cocteau, French poet and playwright; Isak Dinesen,  
Danish story writer and novelist; and Benjamin  
Britten, British composer.

# From the Executive Director's Desk



Photograph by Van Tassel

IT IS HEARTILY ADMITTED by the membership that our Centennial Celebration was a magnificent success and that the array of speakers presented by The American Institute of Architects has seldom been approached by any other organization on any other occasion. The pride that we may well take in the achievement is only equalled by the respect and admiration of those outside of the Institute who either had the opportunity to attend our sessions or who followed the reports.

Not only were the speakers recognized leaders in their fields but every one, without exception, gave an outstanding account of himself; some we felt had never spoken better in their lives. There is no question but that the opportunity to appear on the forum prepared by the premier professional society of the United States was a challenge to be accepted with gratification and one which served as a stimulus.

That the membership has not forgotten some of the speeches and subsequent discussion is evidenced by the amount of correspondence which still comes my way with respect to one speaker in particular, namely, Walter Reuther, and it must be admitted that the letters which have appeared on my desk have, to put it mildly, not always been "pro Reuther." This attitude stems not to any great extent from a passionate interest in the basic issues of the country or from an understanding of the Taft-Hartley Act, but rather from an unfortunate episode in the life of organized labor, namely, the Kohler strike—an episode which has been excellently described by *Life* magazine and it is interesting to realize that the Kohler strike is concerned not so much with an increase in wages, hardship and interpretations of the Taft-Hartley Act as it is with the rights and dignity of man. The Kohler strike is one of the last, perhaps one of the most bitter, strikes between paternalism, individualism and the group assertion of man to determine his own way of life. Curiously enough, on both sides one senses a revival of that spirit of self-reliance, one of the virtues on which this country was founded.

Now, in the course of the quarrel, the labor unions as far as the architects are concerned made the serious error of attempting to draw the architectural profession into their side of a boycott. The objection to this solicitation on the part of the architects was instantaneous and vehement and quite surprised the labor leaders. We got in touch with Mr. Reuther's office through our good friend Richard Gray, President of the Building and Construction Trades Department of AFL-CIO and a meeting was immediately arranged by Mr. Gray in Washington between Emil Mazey, Reuther's second-in-command, Mr. Gray, George Cummings and myself.

Without commenting on the merits of the strike itself which we felt was beyond our competence, we pointed out to Mr. Mazey that architects are free and independent thinking people and that although the physical qualities and merits of plumbing fixtures produced by one company were not of themselves particularly important in this difference of opinion, no architect was going to stand for anyone telling him what he should or should not specify, except of course his client. The result was that the United Auto Workers immediately called off their solicitation of architects. We suggested to them that they wanted to get their message to architects they were at liberty to present their case in chap meetings or elsewhere, but that it was certainly most inadvisable to attempt to direct an architectural design unless one were party to the contract.

In casting about for the ideal representative of labor to appear on our program, the natural choice was Walter Reuther, the most articulate of all labor's spokesmen and one whose intelligence and ability are not to be questioned. But in selecting Mr. Reuther, who incidentally accepted the invitation with alacrity, we had not reckoned on the current pusillanimity of the American businessman. We had thought there would be no trick at all to have an outstanding spokesman for business appear on our program. As a matter of fact, we imagined the

would be a clamor to seize the opportunity to battle with Mr. Reuther before an audience. I am afraid we were still looking back toward the old days when the tycoons of the immediate past were men of courage and equipped to joust on a speaker's platform. We were turned down by one businessman after another—names which are household words. We were amazed until we learned from one of them that although he personally was willing to undertake the assignment his board of directors feared to have its chief executive debate in public with Mr. Reuther.

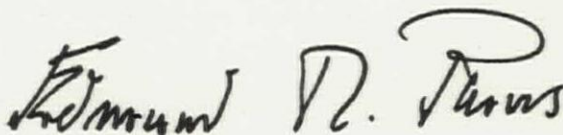
Our plight led to consulting with Senator Flanders and Walter Williams, Under-Secretary of Commerce, both of whom were most helpful. Probably you read an account in the Drew Pearson column of May 4th, 1957. That column turned out to be just what was needed; we heard immediately from our old friend, Jim Ashley of Libbey-Owens-Ford.

Well, the Centennial Celebration took place. The session on Friday, May 17th, went off on schedule. Emerson Schmidt, as economist, gave an excellent speech. Jim Ashley was good. Chuck Luckman as moderator acquitted himself with grace, skill and humor and Mr. Reuther was clear and forceful.

The meeting room was full. Probably the audience totalled some 2,000 in all. The attention of the gathering was captured at the outset and held throughout the session. This was not only due to the fame of the speakers but to the spirit that they brought to the occasion and the rivalry engendered by quick thinking and competent speakers.

The session was somewhat marred behind the scenes by the objections raised by the Kohler attorney to the appearance of Mr. Reuther on an AIA program—a rather extraordinary objection coming from the source from which it did—and the littering of the meeting room by some unknown and foolish person with pro-labor leaflets.

Considering the importance and impact of the session itself those minor distractions and irritations were easily forgotten. What remains with us is that on a forum of The American Institute of Architects there took place one of the best discussions of the year, and a leading figure in the labor world regarded an appearance before The American Institute of Architects as an opportunity for the presentation of a major premise.



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*Below is one of the many letters that President Chatelain was unable to read at the Convention:*

## “Archi-tec-ture Est Une Maitresse Tres Dure”

SO CHANTED THE MEMBERS of my Atelier when I was a student in Paris. While I agree with the theme in general, I feel compelled to add that she is a most bewitching, elusive, and charming mistress—perennially young. I made her acquaintance more than seventy years ago when, as a boy of twelve, I watched my father's country house go up and listened to his architect praise or condemn the work of mason or carpenter. “That's what I want to be,” I said to myself; and my devotion to this mistress of the arts never faded during the years at school, college, and professional training. We sometimes disagreed but there has never been any serious estrangement.

When Chester Aldrich and I opened our office in New York more than fifty years ago, I came to know and value the handmaid of my beloved mistress—The American Institute of Architects. I can

never be grateful enough for all the help and encouragement this servant has given me over the years. We were both younger then and she has since put on weight and, I should like to think, gained wisdom; but I often feel that in growing stouter this handmaid is in danger of losing sight of the ideals of her founders. While we all recognize that growth and change are laws of nature, let not this wonderful handmaid become a business woman—relying on public relations officers and other methods of displaying the charms of her mistress to the public: “A good wine needs no bush.”

With profound gratitude for all the help and honors which The American Institute of Architects has seen fit to give me, I am

Most humbly and sincerely,

WM. ADAMS DELANO

April 15, 1957

# LIFE IN A MARTINI GLASS:

ONE OF THE GREATEST TRIALS of celebrating the ONEHUNDREDTHANNIVERSARYOF THE AMERICANINSTITUTE OF ARCHITECTS is having to read all the wordage which has been bought by the pulps about Architects and Architecture. Of course, to be really in on the upper denture set you must have read just every word in *Harper's*, *The Atlantic Monthly*, *The New Yorker*, *The Saturday Review*, to say nothing of the endless monotony and boredom of those heavyweights, the *Forum*, the *Architectural Record* and *Progressive Architecture* and if that isn't enough for trifocal fatigue, there are those trickles of state magazines, brick and tile pocket publications and a phonograph record of what sixteen notable architects have to say through the courtesy of some Aluminum Company.

The charm of this job of one little column a month is that I hardly get a chance to look at Tennessee Ernie or the fights at Madison Square Garden which are low and degrading and not fit company for one who must write on a high plane.

If somebody will send me a free copy of Veblen I wish he would mark the quotations which I should read and digest. I see that he likes the backs of buildings better than the fronts. Why I learned that when I was an artist on an archaeological expedition in Mesopotamia. The sheik Abdul Rahman who had one eye and halitosis and had already buried five wives, had a harem of twelve pony ballet kohl-eyes in his kit and told me through a semitic interpreter that an Arab picks his women by first appraising the curve of their backs and then looking at their teeth. If they get grade A for the rear elevation and their teeth are parted in the middle they are worth a camel apiece more and maybe an old wife thrown in.

Well, I guess old Abdul Rahman had about as good an average of taste as most of the high priced yarn-weavers in the slicks and judging by the general run of Architectural appraisal we are about to enter a calm of "good taste" following what will probably be recorded as the Perfect Hundred Years of the Dark Ages in Architecture.

Since I do not expect to be kicking for the Two Hundredth Anniversary, and it's my column, my appraisal of Architecture is that the best periods were when I went to school and right afterwards and until I went into private practice.



From that moment on the draftsmen were all incompetent, poorly trained and slovenly; none of them knew how to draw, they were a sad and sorry lot and did not have the slightest understanding of what it TAKES to be an Architect and not one of them could cast a shadow down back to the right.

When I went to school, everything was wonderful and everybody who trained us was perfect and even in prohibition the wine in the Italian joints was much better than it is today when you can get just everything. There never has been another Ball like the Greek Ball or the Florentine Ball or the Spanish Ball. Those were the days, Boy. That olde T-square club where we used to charrette all night with the massier and the sous massier and the patron and good old Theo, why we used to nigger for each other and at two o'clock in the morning we would all go out and eat flapjacks and coffee and go right back and work all night. That's what it takes to make an Architect and they just don't train them that way nowadays. Just the other day I had a young man in my office, a Sophomore at one of the most prominent Architectural schools in the country—would he work after five o'clock? No sirree, time-and-a-half for overtime and nothing could budge him. Why when I was a boy working on competitions we didn't think about time, let alone time-and-a-half. Many's the night I spent pochéing the plans and running the india ink washes and drawing modillions and volutes and ionic caps, swags and dentils, columns with entasis and those intricate details like lettering at thirty-second scale. Most of these kids can't even entasise—of course, you can't entasise a lally column.



Well I am glad I got educated when I did. I appreciate the Finer Things. There were years when I didn't have a whole pair of pants but I have seen the moonlight on the Coliseum or is it the Acropolis, I forget. And when the King and Mussolini came out on the balcony they profiled beautifully against the rustication.

Sometimes, on a dim moonlit night when I lie and look up at my flat unmoulded plaster ceiling, unbroken except for the pockmarks of the soundproofing, I strain my ear to catch the tinkle of the air conditioner and I remember the days long, long ago when I was quartered in the villa Choochoo-legatsieri in the little alley of the Pazzazi Palace just around the corner from the Trevi fountain. Ah, nothing like it nowadays. Of course, it had been the palace of an Earl of Bersaglierie. Count Groppo had been run through on the Isonzo front by a jealous Austrian count and now his poor wife and daughter struggled with American Architectural students as guests at their Pensione. The room was

about the size of a bocce rink and only two hundred piasters a day, mind you, including red and white wine. There in the moonlight night I lay beneath a coverlet of pure early Italian silk and nestled in a mow of ancient goosefeathers. The ceiling was lightly mouldy from continual moisture and the damp spots looked as if they kept an elephant on the floor above. Swirling around the gold and ormolu plaster cornice was a bevy of cupids and psyches giving each other the run-around and pasting each other with arrows and fruit heaved from oversized cornucopias while Pan, that old mouldy devil, leered through his one remaining eye at the carnival. Ah, that was Architecture and those were happy, gay, carefree times of long ago. None of this sterile stuff that modern dreams are made of. Boy, bring me my miltown and a shot of nembutal and a chaser of bourbon.

*August Bendure*

## CALENDAR

*October 2-6:* California-Nevada-Hawaii Regional Conference, Colorado, Calif.

*October 6-9:* Gulf States Regional Conference, Birmingham, Ala.

*October 11-12:* Joint Fall Meeting Virginia Chapter and Virginia Society of Professional Engineers, Hotel Roanoke, Roanoke, Va.

*October 12-14:* Second annual convention, California Council of Landscape Architects, Santa Barbara

Biltmore Hotel, Santa Barbara, Calif.

*October 17-21:* Northwest Regional Conference, Gearhart, Ore.

*October 23-26:* Architects Society of Ohio Annual Convention, Neil House, Columbus, Ohio.

*October 30-November 1:* Texas Regional Conference, Dallas, Tex.

*October 31-November 2:* Central States Regional Conference, Skirvin Hotel, Oklahoma City, Okla.

*November 7-9:* Florida Associa-

tion of Architects Regional Conference, Fort Harrison Hotel, Clearwater, Fla.

*December 11-12:* National Construction Industry Conference, Congress Hotel, Chicago, Ill.

*January 19-23:* National Association of Home Builders Convention-Exposition, Chicago, Ill.

*January 24-26:* The Society of Architectural Historians Tenth Annual Meeting, Washington, D.C.

## NEWS

**T**HEODORE IRVING COE, FAIA, Technical Secretary of the Institute since 1935, was eighty-five years old on August 19th. The staff of the Department of Education and Research and department heads of the Octagon staff gave him a little surprise birthday party in the new office wing of the headquarters. Mr. Coe is seen below blowing out the candles on his birthday cake.



THE SOCIETY OF ARCHITECTURAL Historians will hold its tenth annual meeting January 24-26, 1958, in Washington, D. C. The Society hopes to prepare a tentative listing of Washington buildings of architectural significance for that event. Anyone wishing to suggest buildings for the list or who is willing to work on the committee may contact Edward Steese, AIA, 14 Cornell St., Scarsdale, N. Y., or Mrs. John M. Gilchrist, SAH, 286 E. Sidney Ave., Mount Vernon, N. Y.



# Regional News

## NORTH CENTRAL STATES DISTRICT

THE DETROIT CHAPTER of the Michigan Society of Architects will have three meetings in October in connection with the Centennial. On October 9, there will be a Public Assembly, opening the exhibition "One Hundred Years of Michigan Architecture" to be held in the Ford Auditorium in Detroit.

On October 16, the Chapter will hold its Annual Meeting and Election, to be followed by a dinner and program. Finally, on October 28, there will be a special Architects' Symphony Concert by the Detroit Symphony at the Ford Auditorium.

The Michigan Society's Monthly Bulletin for the month of October will be one of the most important yet published. It will be used as a program for the Centennial Activities and will also be a "Public Officials" Issue, to be mailed to more than 1,000 city, county, state and national officials having to do with employment of architects.

It will contain selections from the Exhibition, representing the work of members of the three state chapters, the text of the booklet "Organizing to Build," Schedule of Recommended Minimum Fees, and other articles on the architect, his relations with the client, a roster of offices in Michigan, etc.

The Detroit Chapter's "Visitors' Guide to Detroit Architecture," has been much in demand and all but a few of the 25,000 printed have been distributed. The colorful folder gives the location of recent building projects in the Detroit area, the architectural firm responsible for the work and a map.

Joseph P. Wolff, Detroit Commissioner of Buildings and Safety Engineering, has been elected an Honorary Member of the Michigan Society of Architects.

## THE SOUTH ATLANTIC DISTRICT

DURING LAST SPRING'S South Atlantic Regional Conference, the mayor of Atlanta told us that when mayors get together nowadays the first question is always, "How many miles of expressway have you built?" Recently we learned that Atlanta is finding answers to some further questions, having at last qualified under the terms of the urban renewal program, so that slums can be cleared out of the expressway's path. Re-housing projects are scheduled to proceed at once.

All this gave a special fillip to the summer meeting of the Georgia Chapter, at the Idle Hour Country Club at Macon, August 23. Arrangements were made by Landis Worthy and Leroy Vanover of Atlanta, and by Bernard Webb of the Macon group who acted as hosts.

Meanwhile the expressway problem has advanced to a new stage in Miami, where the affected communities are making their first experiments with metropolitan government. The expected difficulties are cropping up, especially in North Miami Beach, where zoning variances have been the subject of angry dispute.

FLORIDA ARCHITECTS ARE taking this calmly, however, as they get plans ready for the convention of the FAA at the Fort Harrison Hotel at Clearwater, November 7, 8, and 9. Speakers are Turpin C. Bannister, FAIA, R. Buckminster Fuller, Edward Cohen, of Amman and Whitney, Albert G. H. Deitz, and Maurice E. H. Rotival.

The FAA and the Florida South Chapter are also preparing their new headquarters in the new DuPont Plaza Building, which faces the Miami River and Biscayne Bay. Here they will have 2500 square feet of office—lounge—exhibit space,

strategically placed near the entrance to both the Architects' Bureau of Building Products and the DuPont Tarleton Hotel.

THE NORTH CAROLINA CHAPTER'S Summer Centennial Meeting June 20-22, brought 110 members and wives to Atlantic Beach. The speakers were Regional Director Sanford Goin, of Gainesville, Florida; Robert E. Stipe, of Chapel Hill, North Carolina, and Carl A. Anderson of Washington, D. C. At the meeting the chapter inducted seven new members, and awarded silver bowls to four old members. The bowls were for service to the chapter, and went to William Henle Deitrick, of Raleigh, Eccles D. Evehart, of High Point, Louis Hall, of Durham, and Cyrill H. Pfohl, of Winston-Salem.

THE SOUTH CAROLINA CHAPTER is planning a cruise to Bermuda, Nassau, or Havana for its 1953 summer convention, but this year they had the affair July 19-20 at the Pine Lakes International Country Club at Myrtle Beach, where they welcomed eight new members, and rounded out the year's work with their principal project, the Clemson Architectural Foundation, by awarding certificates of merit to two outstanding students: Paul Blanchard of Charleston, and John Rogers, Easley. Harold Riddle, of Myrtle Beach, served as convention chairman.

## NORTHWEST DISTRICT

THE USE OF NATIVE MATERIALS and contemporary design mark projects recently honored by the Oregon Chapter. The honors were awarded to outstanding examples of Oregon architecture in buildings constructed since 1951. The winners were Skidmore, Owings and Merrill for the Hoyt Street Medical Clinic Building in Portland, John Stod-

or the Portland Garden Club, Warren Weber for the Community Congregational Church at Oceanlake, William Fletcher and Saul Jaik, a designer, for outstanding residences.

THE UNIVERSITY OF WASHINGTON School of Architecture in Seattle has been given status as an autonomous college to be known as the College of Architecture and Planning. Professor Arthur P. Herrman, rector of the school, has been named acting dean.

A SCHOOL, AN OFFICE BUILDING, bank and two residences were cited as outstanding examples of Seattle area architecture in the seventh annual honor awards competition sponsored by the Washington State chapter. A jury of three Northwest district architects — Lancelot E. Bowen, of the University of Washington's School of Architecture; Thomas F. Hargis of Yakima, and Robert B. Price of Tacoma—selected the five winners from 31 photographic panels. The twelve finalists were then personally viewed and selected by the jurors. The winners were Waldron and Dietz for the Olympic View Junior High School; Mukilteo, Robert J. Burman for the Washington Conference of Seventh-Day Adventists Office Building in Seattle, Mithun and Nesland, Fenouillet and Cochran, Associates for the Seattle-First National Bank—Bellevue Branch, Paul Hayden Kirk and Associates for the John Russell residence at Medina, and the Lewis Dowell residence in Seattle.

#### THE NEW YORK DISTRICT

THE NEW YORK STATE Association of Architects, Inc., has announced that its new executive offices are now in operation at 441 Lexington Avenue, at 44th Street, in the Grand Central area of New York City. The headquarters are under the supervision of the Executive Director, Joseph F. Addonizio.

#### CENTRAL STATES DISTRICT

THE ST. LOUIS CHAPTER has selected, as a year-long activity, to celebrate the Centennial of the Institute by taking positive action toward the ultimate realization of the approved plan for the development

of the Jefferson National Expansion Memorial as designed by Eero Saarinen. A resolution to the Centennial Convention that Congress be urged to take action necessary to complete the Memorial, was made by the St. Louis Chapter and adopted by the Convention.

ROBERT P. WEATHERFORD, JR., of the Kansas City Chapter and Mayor of the City of Independence, Mo., recently in the news in connection with the dedication of the Harry S. Truman Memorial Library, is Executive Director of the Metropolitan Area Planning Council of Kansas City and the surrounding communities, which includes three counties in Kansas and four in Missouri.

PROFESSOR PAUL WEIGEL, FAIA, will be stationed in Ankara, Turkey, during the coming year as architectural advisor to the Turkish Government in the planning of a new land grant college type of university to be located near Erzurum, Turkey.

KANSAS ARCHITECTS HAVE ANNOUNCED that a John Stuart Curry room has been designated in the Student Union at the University of Kansas. All of the oil sketches for the Kansas Statehouse murals as well as several other Curry works have been purchased for the room.

#### THE CALIFORNIA-NEVADA-HAWAII DISTRICT

A GROUP HEALTH INSURANCE PLAN will soon be made available to California architects and their employees by the California Council, AIA. Establishment of the program was approved by Council directors at their mid-year meeting, and selection of the best plan left to the Administration Committee, a five-man executive body of the state organization. At the same meeting the Board launched a long-range legislative program designed to "gain the understanding and win the informed support of the architectural profession in California by all members of the State Legislature." The program will involve year-round activity on the grass roots level by individual architects, the eleven chapters of AIA in California, and the Council itself.

AN HONOR AWARDS PROGRAM will be conducted this year by the San Diego Chapter, AIA, to celebrate the Institute's Centennial.

AWARDS FOR EXCELLENCE in architectural design and drafting were given recently to students of the University of Hawaii and Honolulu Technical School by the Hawaii chapter, AIA. The awards were presented to the students by Richard N. Dennis, chapter president, at an annual dinner held at the Central YMCA.

THE CALIFORNIA COUNCIL, AIA, is preparing to publish the first issue of a quarterly magazine unique in its field. Called *Architecture/California*, it will be the first American architectural magazine for building clients as well as architects, according to Jacob J. Buchter (East Bay Chapter), chairman of the Council's Editorial Board.

Purpose of the new magazine will be to further the cause of good design and sound construction of California buildings through creation of a better informed client group, Buchter said. It will thus perform a public relations function, not only for the architectural profession, but for the entire California building industry, he pointed out.

Editorial emphasis will be on the human function of architecture. Photographs will show buildings in use, rather than barren of people, and copy will be strongly linked to the client and his interests.

The Council is now surveying advertising for the magazine. *Architecture/California* will be under general management of Melton Ferris, Council executive director, and will be edited by Donald Canty.

Other current statewide public relations activities of the Council include study of the possibility of a high school essay contest on an architectural subject; preparation of a public relations checklist for use of California's eleven AIA chapters, and investigation of the relationship of California newspapers to the architectural profession. These three projects are in charge of the Council Public Relations Committee, headed by Corwin Booth (Northern California Chapter).

THE PASADENA CHAPTER will observe the Institute centennial with an honor awards program, and a home tour sponsored by the Women's Architectural League. There will be 10 houses on the tour, each representing a decade from 1857 to 1957.

Past President (1955) Harry Burge was honored by being asked to read a paper at an education seminar at Aspen, Colorado held June 10th to 21st. This seminar, jointly sponsored by the AIA, and the Ford Foundation may turn out to be a very important architectural milestone.

Purpose of the meeting was to investigate teaching methods to determine how present material might possibly be better transmitted to the student, what new subjects, ideas or

research might be injected into present curricula and what might be done along similar lines for the practicing architect.

THE SOUTHERN CALIFORNIA CHAPTER'S 1957 triennial honor awards program will have as a theme "The First Five of the Foremost Forty." The jury will include designer George Nelson, Philip Will, Jr., FAIA, John Carl Warnecke and Vincent Price, actor and art collector.

THE NORTHERN CALIFORNIA CHAPTER'S Area Planning subcommittee on zoning presented the Chapter's official endorsement of the proposed 1956 Zoning Ordinance before a subcommittee of the Board of Supervisors on August 23rd. This endorsement was based upon an exhaustive study by the zoning sub-

committee and supported by an elaborate series of graphs, charts and photographs representing months of volunteer effort by committee members, under Chairman Michael Goodman. The report declares that "the interests are best served by the 1956 recommendations of the San Francisco Planning Commission."

At its July meeting, the Chapter "took a long hard look" at the AIA and themselves and came up with many suggestions on how to improve the general level of architectural practice and on steps which could be taken to achieve it. The three hour session was organized on a panel discussion basis, with John Lyon Reid serving as moderator and came up with seven specific points which needed improvement and study.

## Arthur Brown, Jr., FAIA

WHEN ARTHUR BROWN, JR., PASSED AWAY last month, the newspapers honored him in their editorials, and Herbert Hoover was an honorary pallbearer at his funeral. These singular tributes at his death were respectful indications of the achievements of his long, active lifetime.

He was a lecturer and teacher, a consultant for two world fairs, for the Bay Bridge, the Treasury Department and the University of California. When he died at 83 he was actively concerned with the remodeling of the Capitol Building in Washington, D. C.

He was often honored—with a Doctor of Laws from the University of California, Fellowship in the AIA, membership in the American Academy of Arts and Letters and in the National Academy of Design. In France he was a member of the Institut de France and an officer of the Legion of Honor.

Most of the major civic buildings in San Francisco show Arthur Brown's hand—the City Hall with John Bakewell, the War Memorial Opera House with John Landsburgh, the Veteran's Auditorium and the Federal Office Building. Some of his other buildings are such visually familiar landmarks in the city that it is hard to imagine a time when they were not there—the large dome of Temple Emanuel, built with Schnaittacher and Bakewell, gives character to a whole district of San Francisco; and Coit Tower which tops Telegraph Hill dominates the city's skyline from the East.

Mr. Brown's buildings were, in fact, designed as places wherein the cultural and official life of San Francisco would be centered. Few architects are fortunate to work in a city while it is forming its official character and to be prepared to give that character architectural form. Arthur Brown did this, and left many lasting monuments behind him for the San Francisco skyline.

*Reprinted from the August issue of the Northern California Bulletin.*

## Necrology

According to notices received at The Octagon between July 30, 1957, and August 26, 1957

- |   |                                       |
|---|---------------------------------------|
| BRENTON, ALAN C.<br>Jamestown, N.Y.               | HASKELL, HARRY M.<br>Elmira, N.Y.     |
| BROWN, ARTHUR, JR., FAIA<br>San Francisco, Calif. | KASURIN, PAUL<br>Ann Arbor, Mich.     |
| BYERS, EDWIN W.<br>McAllen, Texas                 | LESCHER, ROYAL W.<br>Phoenix, Ariz.   |
| CARLSON, HENRY J., FAIA<br>Newton Centre, Mass.   | LYFORD, STEWART A.<br>Concord, N.H.   |
| DALE, LUCIAN J.<br>Charlotte, N.C.                | PERKINS, WILLIAM L.<br>Chariton, Iowa |
| FUNARO, BRUNO<br>New York, N.Y.                   | PHILLIPS, EDWIN B.<br>Memphis, Tenn.  |
|   | WHITE, C. BARTLETT<br>Roanoke, Va.    |



RESURRECTION CHURCH  
St. Louis, Missouri  
Murphy & Mackey,  
Architects

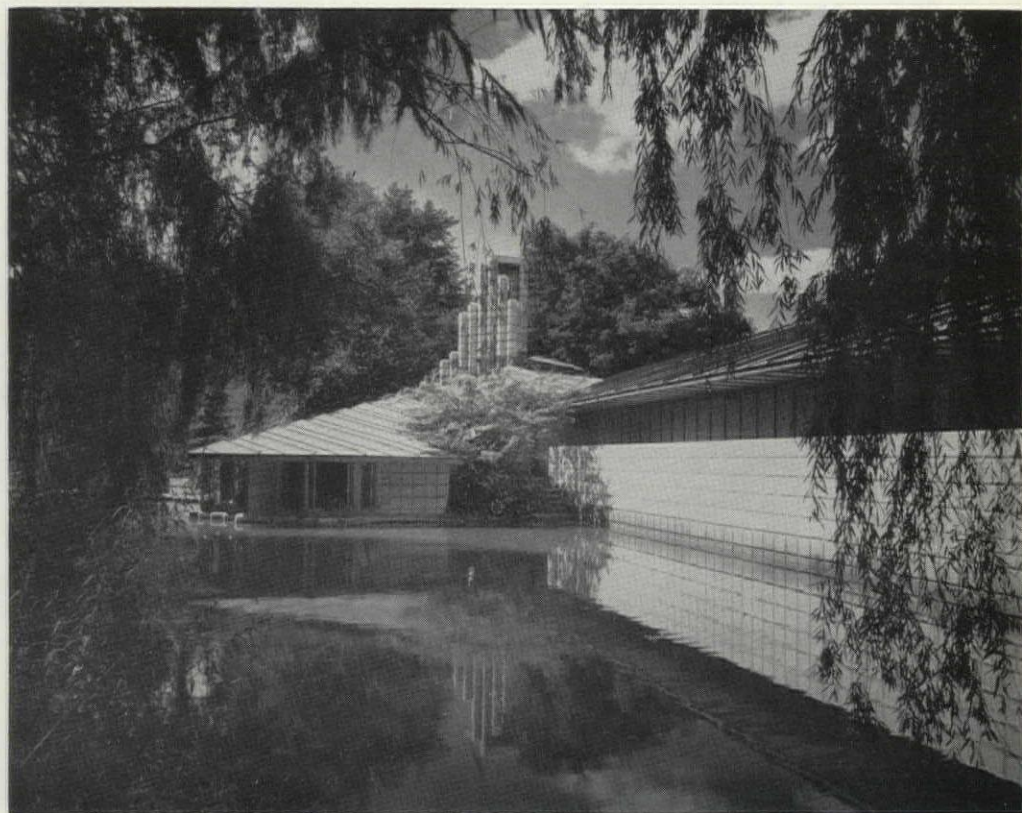
JOSEPH D. MURPHY, FAIA

*Photo by Hedrich-Blessing*

## FAVORITE FEATURES OF RECENTLY ELECTED FELLOWS

ALDEN B. DOW, FAIA

OFFICE OF ALDEN B. DOW  
Midland, Michigan  
Alden B. Dow,  
Architect



Mr. Dow's Fellowship in Design was incorrectly listed when the new Fellows were presented in the June issue.

*Photo by Bill Hedrich, Hedrich-Blessing*

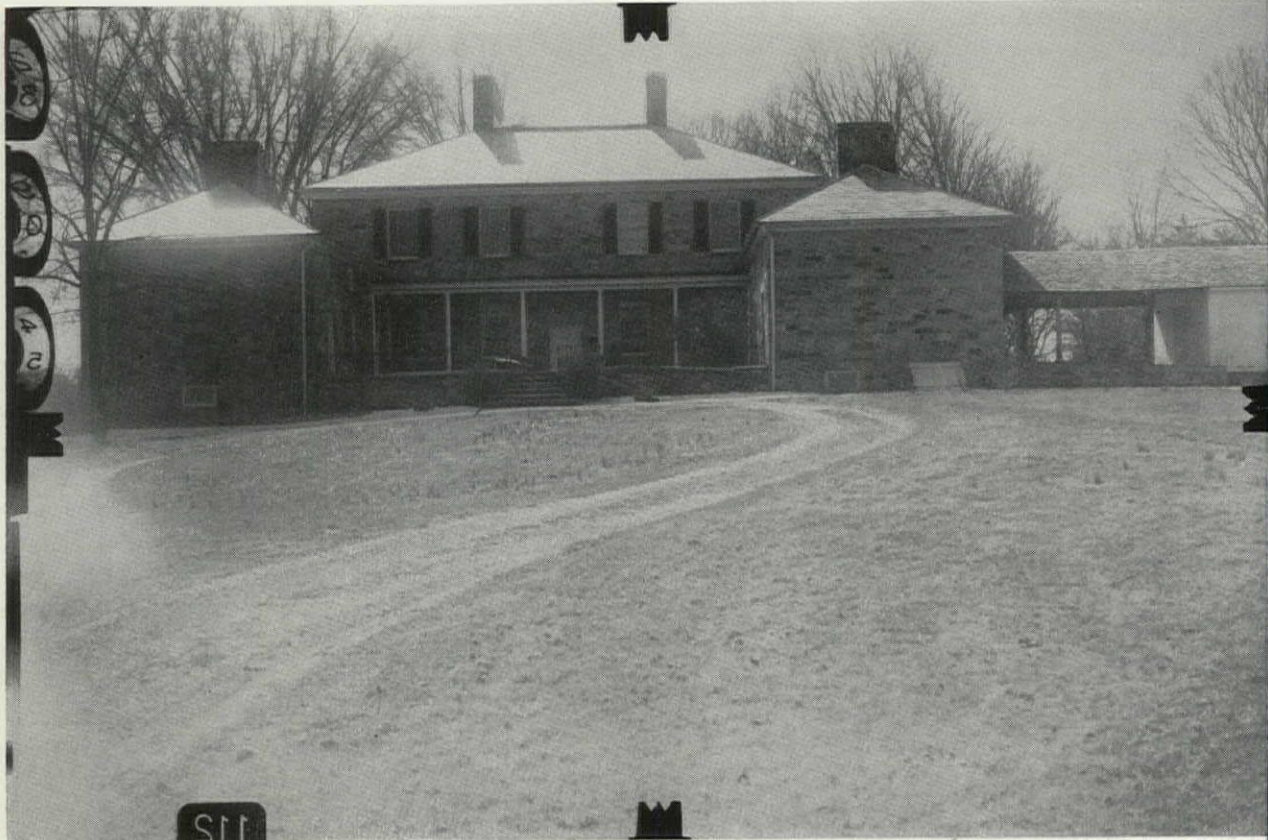


## INTRODUCING ARCHITECTURAL PHOTOGRAMMETRY

By PERRY E. BORCHERS

*Mr. Borchers is an Associate Professor in the School of Architecture and Landscape Architecture at Ohio State University, and a practicing architect in Columbus.*

# The Measure of the Future and the Past



ONE PHOTOGRAPH OF A STEREOPAIR OF THE NORTH FACADE OF ADENA SHOWING CALIBRATIONS OF THE PHOTOGRAPHIC PLATE

THE DYNAMIC ARCHITECTURE of the future—continuous thin shell and tension structures deforming with thermal expansion and contraction and with wind- and live-loading—will be the ultimate subject for measure with a system now being tested at the Ohio State University. It is a system appropriate for measure of all buildings—of the present and the past—and it is in the recording of historic American architecture that it is meeting the first test of procedures and equipment that will finally be developed for specifically architectural use.

The system is that of photogrammetry, long employed in aerial mapping, but with other applications which are so spectacular that photogrammetric measurements will be one of the essential bases for scientific advance in the future.

Photogrammetry employs paired photographs and a simple survey control to recreate, in complex plotting machines, a three-dimensional model which can be measured in all directions and can be recorded in orthographic projections on a connected plotting table. There is a great initial investment in equipment—stereocameras and phototheodolites may exceed \$2,000 and \$4,000 and first order plotting machines may cost \$63,000—but with this equipment measurements can be made which are beyond recording in any other way: The flutter of an airplane wing as photographed from the airplane in flight, the shape of a wave in a flume, the three-dimensional path of a lightning bolt in the air, and, in connection with X-ray, the three-dimensional interior of an unopened patient.

In comparison with these applications architecture may seem a static subject and, from the nature of its construction, not precise enough to warrant the precision of photogrammetric investigation. We cannot accept this argument and have an architecture which keeps pace with other technologies. Every expansion joint testifies that buildings are living, moving things. That these movements are not always anticipated in design can be demonstrated by an Ohio synagogue of modern design, with a dome deforming on bright, cold days when partly in sun and partly in cold shadow to frequently shatter the plate glass between supporting piers beneath the dome. Buildings in use are also full of human movement, and the speed of photogrammetric recording and quick departure, reaching heights without scaffolding and recording mouldings and complex curves without templates or voluminous notes makes the system appropriate for busy interiors.

Photogrammetry was used in Germany before the start of the last great war to record the historic architecture of Germany for possible necessary re-

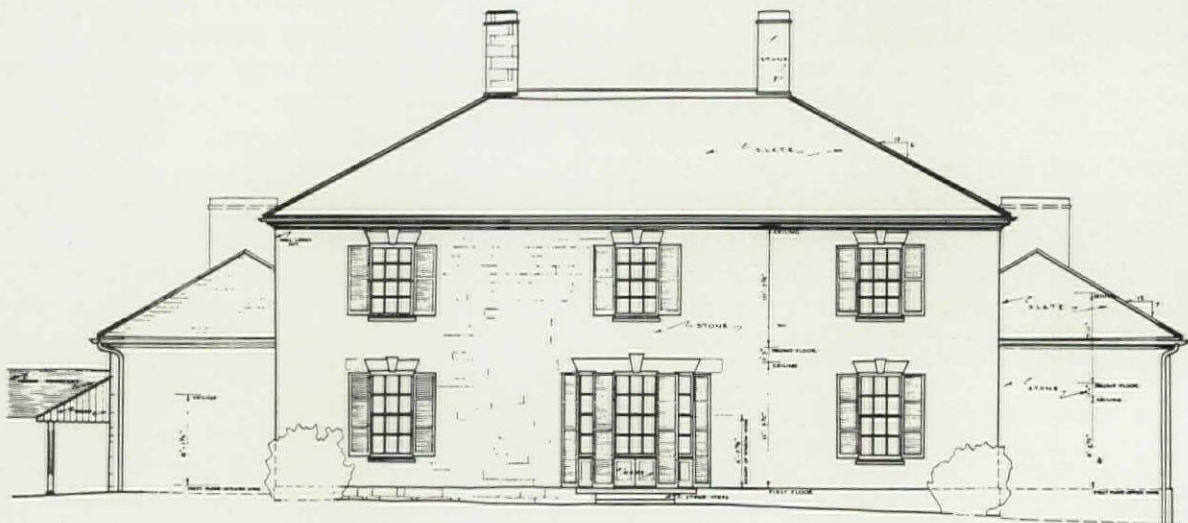
building. It is an advantage of the photogrammetric process that it need not be carried to completion in measured drawings, but that stored photographic plates, with minimum necessary survey control data, may be set in the plotting machine years later when needed. It was the misfortune of the German project that these plates were stored at Potsdam, were captured by the Russians, and were wiped clean for issue as window panes.

Since the war other European countries, Switzerland, Belgium, and notably Sweden, have been recording their historic architecture by photogrammetry. There is much that may be learned of proportion and illusion in architecture if the undrawn and almost undrawable buildings of many periods, but particularly the baroque, are recorded in the orthographic projections with which the modern architect works and are viewed in three-dimensional projection as those who live with a building see it. This combination of the orthographic and the stereoscopic view immediately reveals the inadequacy of the two-dimensional photograph for rendering architecture, indeed it shows at once the false and distorted proportions conveyed by an architectural photography which combines extreme depth of sharp focus with changes of distance, angle or slope of architectural planes.

Architectural photogrammetry is a scientific application in its infancy even in Europe, and the drawings accompanying this article are believed to be the first made in this country by the photogrammetric process. Under a grant of the Lovejoy Fund of the College of Engineering, the Ohio State University, the author, with assistants, has been making a study of procedures in architectural photogrammetry. This project is to develop the best procedures for the use of existing photogrammetric equipment in architectural photogrammetry, with the further aim of developing specifications for new equipment specifically intended for architectural use.

Equipment of the Institute of Geodesy, Photogrammetry and Cartography at Ohio State employed in this project include a 40 cm base stereocamera, common in police work in Europe for recording the scenes of accidents, a Wild Phototheodolite T-30, which is regularly sent from Ohio State for the terrestrial measurement of Alaskan glaciers, and the Autograph Wild A7, used most often for first order plotting of maps from aerial photographs.

The first subject for photogrammetry was Adena, a mansion near Chillicothe, Ohio, built for Thomas Worthington, first senator from Ohio and sixth governor, during the years 1806-7 from drawings, now lost, prepared by Benjamin H. Latrobe, Architect, of Washington, D. C. Adena is a worth-

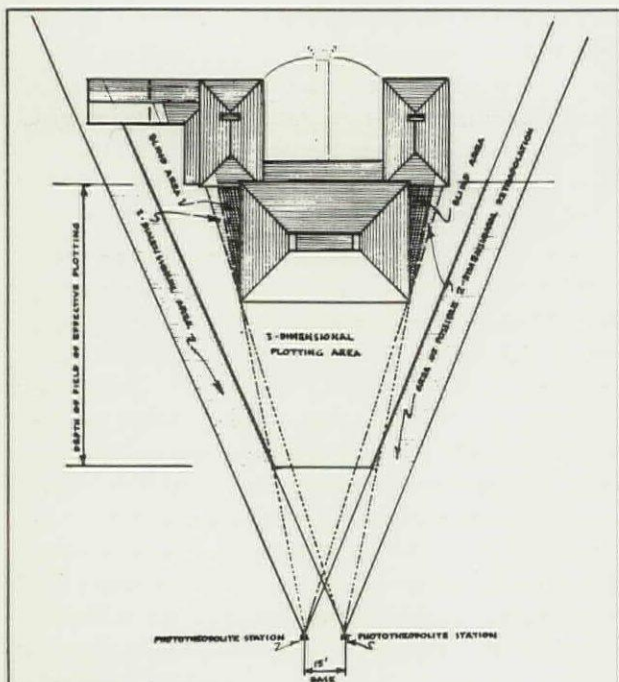


SOUTH ELEVATION OF ADENA - RESIDENCE OF THOMAS WORTHINGTON NEAR CHILlicothe, OHIO  
 DESIGNED BY DENJAMIN H. LATROBE, ARCHITECT. ERECTED 1804-1807. RESTORED AND MAINTAINED AS A MUSEUM  
 BY THE OHIO STATE ARCHAEOLOGICAL AND HISTORICAL SOCIETY SINCE 1953.

TRACED FROM A DRAWING MADE WITH AN A-7, AUTOGRAPH FROM A STEREOPAIR OF PHOTOGRAPHIC PLATES TAKEN WITH A WALD PHOTOGRAPHOLITH T-90 BY PERRY E. BORCKERS, AIA, PROFESSOR, ARCHITECTURE,  
 AS PART OF A "TEST OF PROCEDURES IN ARCHITECTURAL PHOTOGRAMMETRY," A PROJECT UNDER THE LOWEHOY FUND, COLLEGE OF ENGINEERING, THE OHIO STATE UNIVERSITY.

Scale 1/8" = 1'-0"  
 Metric Scale

SCHOOL OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE THE OHIO STATE UNIVERSITY		DATE
ADENA PROJECT - TEST OF PROCEDURES IN ARCHITECTURAL PHOTOGRAMMETRY	DEPT. LEAD JOHN MORSE	10/15/57
PERRY E. BORCKERS AIA	1/8" = 1'-0"	2



LIMITS OF ONE STEREOPAIR  
 USED IN PLOTTING SOUTH  
 ELEVATION OF ADENA  
 NEAR CHILlicothe, OHIO.

SCHOOL OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE THE OHIO STATE UNIVERSITY		GRADE RESEARCH
TITLE ADENA PROJECT - TEST OF PROCEDURES IN ARCHITECTURAL PHOTOGRAMMETRY	REMARKS DIAGRAM OF ONE STEREOPAIR	DATE 4/6/1957
NAME PERRY E. BORCKERS AIA	SCALE 1/32" = 1'-0"	SHEET NO. 2

while but not complex subject for photogrammetry. It is a building of austere and pleasing proportions deserving recording with the other work of Latrobe. Fortunately, it is maintained as a museum by the Ohio State Archaeological and Historical Society since a restoration which was completed in 1953. No measured drawings of the building existed.

It was an unusual pleasure to watch the plotting arm of the Autograph A7 trace out the lines of Adena, drawing mouldings and details with an objective sureness containing none of the anxiety of architectural conception. There was satisfaction in recognizing the architectural draftsman behind the 7 in 12 and 6 in 12 slopes of the hitherto indeterminate hipped roofs. There was anxiety about the orientation of the photographic plates when one three-dimensional "model" contained a wall leaning outwards at the top, a deformation which was confirmed later at the site by dropping a line from a second-story window. There was the great temptation, with the depth dot of the Autograph playing across the surface of the walls, to trace the outlines of every stone in a lengthy but convincing display of the virtuosity of photogrammetry. There was the difference in apparent proportions between the orthographic projection and the two-dimensional photograph which sent one back to the building to





LEFT PHOTOGRAPH OF A STEREOPAIR OF THE SOUTH FACADE OF ADENA.

meditate and decide that the orthographic projection was more truthful to reality.

While the exterior and interior plotting of Adena still continues, the project in architectural photogrammetry has moved into more complex structures with the intent that this extremely accurate process be developed not only to record the buildings of our historic past but to understand the structures of the future.

## The Postman Seldom Rings The Bell

EACH MORNING THE POSTMAN brings a fat package of mail to my door, and each morning I wait his coming with anxious expectancy.

My secretary places it before me in neat piles, and I finger my letter opener until they satisfy her methodical soul. First, thumbing through them hurriedly, hoping for a possible check, I then settle back to the exciting daily adventure of opening the mail.

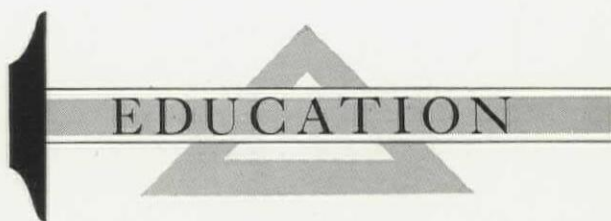
This is what happens to me some 300 or more days each year.

1. A roofing company sends me a copy of a house organ announcing in bold headlines "Double Domino for the Willie Horvaks." With no ill will toward the Horvak twins, I file this in my waste basket.
2. The next three items are from architectural journals requesting me to (a) renew my subscription, (b) buy five subscriptions for the price of four, (c) take advantage of the reduced price on a 10-year subscription.

3. Six assorted pieces of literature showing advertisements of building materials quite obviously designed to secure dealers for the product.
4. Seven folders on building materials offering full Architectural Service along with their product absolutely free (the Architectural Services, not the product).
5. Four different folders designed to sell various products to speculative builders.
6. Eight attractive booklets designed to sell various products to housewives.
7. About every third or fourth day the mail will contain a neat letter-size folder with an AIA file number giving information and a concise specification for a building product. This generally comes from a member of the Producer's Council, who has discovered that most architects only file material bearing AIA file numbers.

After forty years of this, one might be expected to lose something of his initial enthusiasm for the postman's arrival, but I never have. Each morning I await his coming only to be again disillusioned by house organs, home bulletins, and hogwash. Architects are just incurable optimists, I guess.

HUBERTUS JUNIUS



MARVIN J. SENTER, HIGH SCHOOL PRINCIPAL in Pago Pago, American Samoa, has written the *Journal* pleading for publications of any sort—books, new or old, fiction or non-fiction; magazine subscriptions; reference works, etc.—to be used in the high school, which also serves as a public library for the island. Mr. Senter points out the lack of printed matter in the islands. He states that since schools are supported by governmental appropriation rather than by local taxes, the amount spent on publications must be limited. The educational situation in Samoa is critical at the present time, with only one-third of all eligible children being permitted to enter high school because of teacher and building limitations. Any assistance of an educational nature will be most welcome and will be used to the fullest advantage. It may be noted that postage rates to the island are the same as domestic rates in the United States. Correspondence may be sent to Mr. Senter at Pago Pago, Tutuila, American Samoa.

# Library Notes

AMONG THE SPECIAL COLLECTIONS which the Library is endeavoring to develop is one on AIA chapter publications. Although still incomplete it seems worthwhile to make a preliminary report on this historical collection in this centennial year.

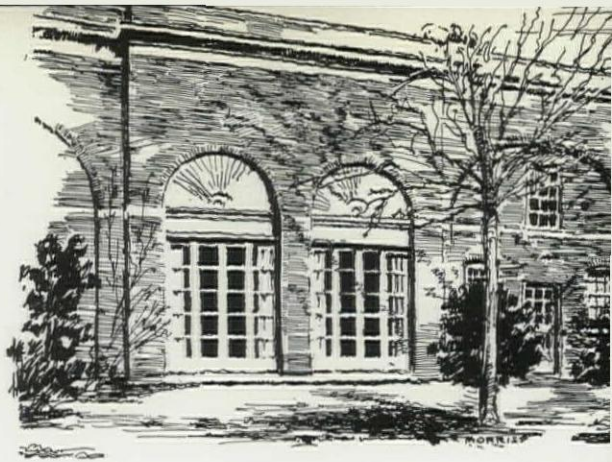
In this note chapter publications will be construed as referring to any serial publication issued by or on behalf of a component of the Institute, either chapter, state association or region. Thus separate publications such as guides, directories, etc. will not be considered here, although the Library wishes to have all such publications as well.

These chapter publications vary considerably in format ranging from a one or two page mimeographed bulletin to the slick paper *Monthly Bulletin* of the Michigan Society of Architects extending up to eighty pages. In addition there are publications which are not primarily architectural in character but which contain sections serving as an official chapter publication. These likewise vary in format from a newspaper, the *St. Louis Construction Record*, to regular periodicals, such as the *Virginia Record*, and *Southern Building*, which serves the Gulf States Region.

But whatever the format, these publications represent an essential source for the history of the component concerned and the AIA and the Library should have its files as complete as possible. Eventually we hope to publish a complete listing of all AIA component publications, for which we need the assistance of chapter archivists to make sure we have records of discontinued publications.

When the Librarian came in 1951 he found that although chapter publications were well read, little thought was given to their systematic preservation. Such copies as could be found in the files and elsewhere were assembled and current copies were asked to be sent to the Library for final filing. Some have been received as gifts and as opportunity offers, letters are written asking for missing issues and back files. It is a time-consuming task and the Librarian is grateful to those who make a big task easier. How nice it would be if all chapters sent in bound files annually!

Despite all these efforts we have only two files of more than ten years' duration bound complete to date. These are the *Empire State Architect* of the New York State Association of Architects, 1941 to date, and the West Virginia Chapter publication which began as the *Monthly News Letter* in 1944 and became *Chapter Chatters* in 1947.



One long file which lacks only two issues of being complete is the *Ohio Architect* published by the Architects Society of Ohio. The issues lacking are Feb. and March 1949, vol. 7 nos. 2-3.

Short files which have been bound and are complete to date are:

Arizona Chapter. *Bulletin*. June 1952-September 1953 (all published)

Orange County Chapter. *Bulletin*. 1953 to date

Pasadena Chapter. *Information Please*. July 1949 to date. The chapter office reports we have all issues of which they are aware but does any chapter member know for certain that there were no issues for March to Sept. 1951 and Jan. 1952?

Kansas City, Mo. Chapter. *Skylines*. 1951 to date.

Another short file nearly complete is the *New Hampshire Architect* 1949 to date which lacks only vol. 1 no. 2 Sept. 1949.

There are several of the major chapter publications which have been published a long time of which the Library has only recent years bound and in most cases possesses only very few of the early issues. We have the following volumes complete and bound:

Southern Calif. *Bulletin*, vol. 15 1951 to date

Chicago Chapter. *Bulletin*, 1951 to date

Michigan Society of Architects. *Monthly Bulletin*, vol. 21, 23, 25, 1947, 1949, 1951 to date

*Northwest Architect*, Minnesota Society of Architects, vol. 16, 1952 to date

*Charette*, official publication Pennsylvania Society of Architects, vol. 30, 1950 to date

*Wisconsin Architect*, vol. 12, 17, 19, 1949, 1951 to date.

We will welcome any assistance in filling the files noted above or in supplying copies or information concerning other chapter publications. We believe that we are receiving most all chapter publications currently but the irregularity of some and lack of numbering of others, make it difficult to determine the completeness of our files.

## BOOK REVIEWS

THE TEMPLE OF JERUSALEM. By André Parrot. 112 pp. 4¾" x 7¼". New York: 1955: Philosophical Library, Inc.

This slim volume is one of a series on "Studies in Biblical Archaeology." M. André Parrot, an eminent French archaeologist, gives an account of the several buildings of the temple in Jerusalem. The book is written (or at least the English translation makes it seem as if it is written) in a style which the layman may follow with but little difficulty and the more serious student will be pleased by the footnotes and bibliography. Throughout M. Parrot uses original sources (largely the Bible itself and Josephus for later details) with ample references to recent studies in the field.

The first temple, built by Solomon in the tenth century B.C., rightly has the longest section devoted to it. It was composed of three major sections: an outer porch called the ulâm or elâm, a main temple area, the hekâl, and a smaller back room, the debîr, which became the Holy of Holies. These three features are preserved in all later restorations. The earliest temple showed the influence of Egyptian and Mesopotamian architectural forms. It was destroyed between 597-586 B.C. by Nebuchadnezzar.

Ezekial's vision of a new temple is described briefly in the second chapter. The second actual temple was built after the return of the Jewish people from Babylon. It lacked much of the gold and bronze decor of the earlier structure. Although it was violated in 168 B.C. by the Seleucid ruler Antiochus Epiphanes, and in 63 B.C. by the Roman general Pompey, it was not destroyed violently but merely rebuilt by Herod.

The Herodian temple was built of white stone with gold panels and golden spikes (to keep away the birds). It undoubtedly was influenced by Greek architectural details and adornment. Christ knew this temple and predicted its destruction which came in A.D. 70 by the Romans under Titus. Never again did the great Jewish sanctuary rise.

A final chapter on the Haram-esh-Sherif traces briefly the later structures (all religious) on the site and describes the mosque which stands there today.

The line drawings which illustrate the text are easy to follow and the photographs greatly enhance the book which presents for the first time a complete history of an important architectural monument of the ancient world.

DR. LAURA V. SUMNER

BIOGRAPHICAL DICTIONARY OF AMERICAN ARCHITECTS (DECEASED). By Henry F. Withey, AIA and Elsie Rathburn Withey. 678 pp. 6" x 9". Los Angeles: 1956: New Age Publishing Co. \$15.00.

The author, a member of the Southern California Chapter, served as Official Historian of the Institute from 1940 to 1945. Since then he and his wife have been conducting continuous research on records throughout the country to assemble biographical data on architects who lived and practiced during the past two hundred years.

The volume includes brief biographies of about two thousand architects, from the amateur gentleman- and carpenter-architects of the 18th century to the professionals of the recently passed generation. There is a mass of information here, unobtainable elsewhere and of great value to the student and historian. It is to be regretted that even a superficial study of the book reveals several errors and omissions—minor but annoying. For instance, Alexander B. Trowbridge is not included, although his name is mentioned in the biography of his partner, Frederick L. Ackerman. Yet Mr. Trowbridge was senior to Mr. Ackerman and very distinguished in his time, having been Dean of the School of Architecture at Cornell and Consulting Architect to the Federal Reserve Board. However, omissions are probably inevitable in any book that attempts to be comprehensive, and in spite of them this is a valuable book that should be on the shelf of every architect that is interested in the past, as well as every student and historian.

J. W.

THE IDEA OF LOUIS SULLIVAN. By John Szarkowski. 170 pp. 9" x 12¼". Minneapolis: 1956: University of Minnesota Press. \$10.00

Last year marked the 100th anniversary of the birth of Louis Sullivan, so that the publication of this volume was appropriately timed. John Szarkowski first became interested in Sullivan's architecture while teaching at the Albright Art School in Buffalo. Granted a Guggenheim fellowship, he continued his research and took the photographs reproduced in this volume.

His initial aim was a desire to produce a satisfactory record of the Prudential Building in Buffalo. He soon found that he was seeing the structure as a real building "which people had worked in and

maimed and ignored and perhaps loved." Accompanying this feeling came the realization that if, to the casual products of the photographer-journalist, where was evident the life so vital to the building, were added an understanding of architectural form, there would result a powerful critical medium. In this manner the author approached his goal of re-enlivening by means of photography, the fundamental concepts born in Sullivan's work.

To his photographs the author has added selections from Sullivan's writings and those of his contemporaries, designed to reveal the spirit of the man, his time and place. There is also a biographical sketch of Sullivan with historical photographs. Of more than passing interest is the prologue in which the owner, J. R. Wheeler, comments on the building of the Farmers and Merchants Union Bank in Columbus, Wisconsin.

The result as here presented is vital and illuminating. The character and strength of Sullivan's architecture are forcefully displayed. The author has made a notable contribution in his sympathetic depiction of Sullivan's work.

GEORGE E. PETTENGILL

ACOUSTICS FOR THE ARCHITECT. By Harold Burris-Meyer and Lewis S. Goodfriend 134 pp. illustr. 8¼ x 10¼. Reinhold Publishing Corp., New York 1957. \$10.00.

Harold Burris-Meyer, a pioneer in applied psychoacoustics, is a Consultant on Acoustics in Washington, D. C. He was formerly Professor and Director of Research in Sound at Stevens Institute of Technology.

Lewis S. Goodfriend is a Professional Engineer, Editor of *Noise Control*, and former Editor of the *Journal* of the Audio Engineering Society.

The purpose of the book is concisely stated in the Foreword by Dean Harold Hauf, AIA, of Rensselaer Polytechnic Institute:

"Architectural acoustics can no longer be thought of as a branch of knowledge reserved solely for physicists and acoustical engineers. Since many of the problems of sound control may arise from or be prevented by basic decisions in architectural design, the architect must develop a feeling for acoustical factors as a part of his general competence in the handling of materials and space.

"The information presented in this book should form a part of the architect's general background of building technology whether or not he, individually, ever makes an acoustical design. As is the case with most of the special scientific and engineering considerations that go into design, the compli-

cated cases and even some of the less complicated ones must be left to the specialists. However, the architect may contribute materially to the solution of acoustical problems if he appreciates which factors of design have an impact on acoustics, and also if he can foresee acoustical situations that require the services of an expert. The specialist may then be brought in during the early stages of design to help produce a successful building rather than having to be called later to correct difficulties."

The basic as well as practical nature of the book is indicated by the chapter headings:

The Problem; What Sound Is and How It Behaves; Structure; Materials; Shapes and Surfaces; Electronic Devices; Surveys, Computations, and Tests; Acoustical Design Procedure.

The last chapter comprises actual acoustical design computations for 18 types of buildings. There are numerous photographs of completed work, equipment, and valuable diagrams and charts.

This is an excellent example of the type of combination theoretical and practical primer-handbook which the reviewer has discussed with the publishers. It is to be hoped that similar concise and useful books will be prepared for the other basic sciences pertinent to building design.

W. A. T.

FORM IN CIVILIZATION. By W. R. Lethaby. 214 pp. 4½" x 7¼". New York: 1957: Oxford University Press. \$2.75

The first edition of this basic book came out in 1922. It is time there was another, for Lethaby's thinking, as Lewis Mumford points out in his Introduction, is as needed and as vital today as it was during the first two decades of the century. As Mumford says, "No one ever put the case for functionalism better than Lethaby did long before Le Corbusier's manifestoes appeared; all the better because he saw that it was an ordering principle in every aspect of life."

TIDEWATER MARYLAND—ARCHITECTURE AND GARDENS. By Henry Chandler Forman. 226 pp. 7½" x 10". New York: 1956: Architectural Book Publishing Co., Inc. \$10.00

The second of a three-volume set on the old houses of Maryland, this book by Dr. Forman is completely illustrated with his own drawings and photographs as were his previous volumes. The text is detailed and interestingly written, and represents years of careful and loving study on the part of the author.

# Letters to the Editor . . .

EDITOR, *Journal of the AIA*

My friend Henry Hope Reed, Jr. has let his eloquence carry him away in his May article in *Harper's*, "The Next Step Beyond 'Modern' ". He is a better diagnostician than physician. The cure he proposes is worse than the disease he identifies. There is wide agreement with his thesis that the architectural phase of "scrubbed and unadorned structures of glass and steel" has "run its course." In modern times every style runs its course rapidly. The vanishing style lingers on while the new phase is afoot. Our newest style is clearly to be seen in the rich new embassies going up under the auspices of the State Department, in banks such as the Manufacturer's Trust Co., in office buildings such as Seagram's rising on Park Ave., in dozens of new churches and synagogues here and in Europe. These buildings are a positive contemporary evolution far superior to that which Mr. Reed wistfully seeks for in his off-beat campaign for still another eclectic revival.

Because the great innovators of the last few decades, Ludwig Mies van der Rohe, Le Corbusier, Gropius and Frank Lloyd Wright, do not seek out from the enormous storerooms of the past the same objects for reverence as those favored by Mr. Reed, he accuses them of being afraid of the masterpieces of the past, whereas each of these giants has publicly acknowledged his debt to the past and his admiration and sense of humility before its works. Mr. Reed himself is very selective in his dredging of the past. He has no praise for the great medieval cathedrals. He dreams of royal palaces and the periods when fantastic elegance was paramount. In his laments we hear echos of the sea-time chatter of the circle of Stanford White and Edith Wharton, or of Horatio Alger envying the luxurious mansions of the Robber Barons of the Gilded Age, seeking a spurious security in superficial magnificence.

Mr. Reed stresses the profound influence of Viollet-le-Duc on his age, which included Frank Lloyd Wright, born in 1869. but it was an influence directed as much against rationalism as for it. For example, Colonial Williamsburg may be regarded as an expression of Viollet-le-Duc's principle "To restore a building is not to maintain it from further decay, to repair or to rebuild, it is to re-establish it in a complete condition which might never have existed at any given time." Mr. Reed quotes John Summerson who is the author of *Architecture in Britain 1930-1830* (not *History of English Architecture*), but Summerson discusses Viollet-le-Duc in another volume, *Heavenly Mansions*, in which he shows that Viollet-le-Duc did allow for "aesthetic adventure" and for elements that were purely ornamental. It is also important to recognize that Viollet-le-Duc had little respect for originality.

The picturesqueness which is just as important a characteristic of the work of Richardson, Wright, and Sullivan as their "rationalism" also was an influence from Europe and hence not "American."

Modern architects do know where to turn for inspiration, to the past just as generations before them have done. That they do not face in the same direction and use the same focal distance as Mr. Reed does not indicate that they "do not know where to turn." Self-searching in the other arts is not confined as Mr. Reed implies to the pupils of Jacques Maroger. Hoffman's and Albers' very much more numerous students are also occupied with this pursuit though in their hands the search does not culminate in a revival of grisaille friezes.

What *Harper's Bazaar* does about the backgrounds for its lovely models is surely of less worldwide significance than the buildings that GM erects for its Technical Center.

Do the alternatives posed by Reed exhaust the possibilities—"shadow of the ghost of Viollet-le-Duc," self-imitation, the return to a Beaux Arts Classic tradition? Others include the steady refinement of existing trends, the exploitation of the structural potential, the enrichment of forms and surfaces as is being done in Mexico, Italy, and the United States by such men as Rogers, Peressutti, Wright, LeCorbusier, Stone and the sculptors notably Bertoia, Nivola, and Murkko. Their work has freshness, beauty, appropriateness, and does so without dependence on the out-moded taste of J. P. Morgan, Senator Clark and Lady Mendl.

Grave injustice is done to the breadth and range of the American heritage by singling out some derivative facets for admiration and omitting the more creative ones, works by such men as Bogardus, Sullivan, Jenney, A. J. Davis, A. J. Downing, Elmslie, the Brothers Greene, and Maybeck, as Mr. Reed has done himself recognized elsewhere. Our tradition is not confined to white marble mansions, classical banks and Beaux Arts museums. The circumstances of abundance do not necessarily require ornateness—consider the Parthenon—and still less necessarily any specific third-hand vocabulary.

The classical spirit is one of the poles of the intellect, a constituent in all thinking. It can never be ignored, nor can it become exclusive without stultifying consequences. The example which Mr. Reed emphasizes so heavily of this expression in our history, the Chicago Fair of 1893, was in its own day seen more discerningly as a combination of classical forms and picturesque composition, "one of the fairest flowerings of the picturesque."

The chauvinist attribution of the use of the dome upon a drum as a symbol of the democratic state to an American idea ignores the fact that the prototypes were Irish governmental buildings in Dublin.

Architectural scale is a complex subject too lightly implied by Mr. Reed's "architecture needs scale" to be something fixed and definite. Scale may be human, demomorphic or monumental, and infinitely varied. Furthermore, in any of these varieties of scale, the type may be established entirely without reference to ornament. Bricks, clapboards, shingles, stones, doors and window sizes may establish the visual scale. This can be seen in the totally unornamented seventeenth century New England house such as the Whipple house in Ipswich, Mass., or the bare stones of a Richardsonian gate lodge, or the grandeur of the Unite d'Habitation at Marseilles. Only the architectural novice will fail to find esthetic reward in contemplating an unornamented building, thus depriving himself of the more subtle pleasures to be savored in the handmaidens of scale, proportional and spatial relationships. It was a similar weakness of John Ruskin's criticism of architecture to emphasize the moulding and to miss the soaring vault.

The bourgeois world of the *nouveau riche* in the nineteenth century was unable to appreciate the subtleties of architecture as it had been understood by the great masters. Instead it relished quantitative embellishment, the richer, the costlier, the more obvious, the greater its satisfaction. Modern architects and patrons are more sophisticated, the blatant corruscations of mass-produced ornament seem tawdry to them. More basic and more subtle methods are used to express our concepts of purity, simplicity and refinement.

Finally, it is false to imply that our architecture is unimaginative, when in fact it is extraordinarily imaginative. Our invocations to beauty involve the manipulation of the whole building into graceful, poetic forms, floating, soaring, dynamic, as can be readily seen in our stadia, auditoriums, churches, and exhibition halls, achieved without direct reference to tradition. Our architects have breathed new life into an art which was dying of inanition and imitation, clothed in sepulchral

robes misinterpreted by Mr. Reed as christening garments. Mr. Reed's "Grand Design," his "pomp and glory," are a tomb and dirge.

CARROLL L. V. MEEKS  
President, Society of  
Architectural Historians

EDITOR, *Journal of the AIA*

When an architect makes a stupid blunder, for want of a better name, he calls it a mistake. He cannot duck out of this predicament by blaming an ignorant jury, nor can he brush it off by saying that the higher court reversed his decision. That architects make mistakes is obvious. The question is what profession does any better? I have read some pretty sorry specifications in my day, but I have yet to find one that is as confusing as an insurance policy, or has as many unnecessary words.

We hear a great deal about the architect's shortcomings. I am wondering if other professions sometimes make mistakes too. Does anyone know of a doctor who can cure a common cold? And if there is a lawyer who, when handling the sale of property, can prorate taxes and insurance accurately, I've never heard of him. The reason that architects' mistakes are so apparent is that the opportunity for error is enormous, and many clients are satisfied with nothing less than perfection. By comparison, a surgeon has it easy. His patient is under anesthesia when he is rendering service. A lawyer's client may be in jail, thus allowing him to work up the case unmolested. Naturally in medicine, law and politics it is impossible to make a mistake, since apparently, these occupations do not acknowledge their capacity to do so.

While it is commendable to strive for perfection and analyse every possible weakness, why invite every Tom, Dick and Harry to exploit our errors? Frequently when architects meet, from the lowest level to the highest level, they are inclined to invite a speaker to criticize their faults. I have heard plumbers, merchant builders and others, when invited as the guest of architects, gloat over the oppor-

tunity to find fault with the work of their hosts, and the derogatory remarks are faithfully recorded by the press. It is a fine thing for architects to discuss their shortcomings among themselves, but why drag in a lot of outsiders who don't know any more about architecture than they know about brain surgery? From experiences with a variety of clients, the architect already knows what clients expect. When a big name is pulled up on the rostrum to tell us about our business, he is thinking only in terms of his own specialized experience. No individual can speak as a typical client, since no one individual is a typical client. The typical client is a non-existent imaginary character—the composite of all clients.

It is time to decide if we wish to set ourselves up as error-makers and continue to invite the public to take pot shots at us. If so, then why do we want a public relations program, since one tends to cancel out the other? The most influential and potent profession in the country today is the legal profession. How often do they ask the public to exploit their shortcomings?

This is not a plea for smug complacency. We should continue to strive for better service, but that can be accomplished just as well by critical self-analysis as by asking some Monday Morning Quarterback what's wrong.

JOSEPH WILLARD WELLS  
Auburn, Alabama

EDITOR, *Journal of the AIA*

The letter of Mr. H. A. Waechter about the late Dean Emerson prompts me to make an addition.

I was a student in the School of Architecture during Dean Emerson's administration and, though I did not always realize it at the time, I gained greatly from my contacts with him. I must have been a very difficult student and surely often offended him.

Later on through the years our paths crossed with increasing frequency. We were often in violent disagreement about what was right for architecture and I suppose some of the time I was right and some o

the time he was. The important thing about this is, though, that he had the highest Puritan standards which meant that even when he disagreed completely with a point of view he did not try to prevent the point of view from being expressed. There were a number of years during which he allowed me through the Bemis Foundation to bring to our campus modern architects who now can be seen to have been of the highest stature but with whose work

in those days anyway he had no real sympathy. Still the classrooms of M.I.T. were open to them. This is the hallmark of a great man and if Mr. Waechter feels that he can speak only of some of the personal qualities of Dean Emerson, which I also can do with great feeling, I would have to add that I think all the cumulative evidence would now show that though he had often and perhaps usually not had personal sympathy with the directions in which

architecture was going, he managed a liberal school in which people could in the long run make up their own minds. The roster of men now practicing in America who were in the School during his administration would afford positive evidence that Dean Emerson was a great dean as well as a great human being.

JOHN E. BURCHARD

Dean, School of Humanities  
and Social Studies, Massa-  
chusetts Institute of Technology

## MODULAR BUILDING STANDARDS ASSOCIATION FORMED

FOUR LEADING BUILDING INDUSTRY GROUPS have joined forces to boost acceptance of a program designed to hold down building costs through adoption of a basic unit of measurement.

The project got underway with election of officers and approval of by-laws of the newly-organized Modular Building Standards Association at the first meeting of the Board of Directors at White Sulphur Springs, W. Va., on Aug. 12.

The Association was incorporated July 15, 1957, in the District of Columbia under sponsorship of these groups: The AIA, the Associated General Contractors of America, the National Association of Home Builders, and the Producers' Council, Inc.

The four sponsoring organizations will institute membership programs within their respective industries.

C. E. Silling of Charleston, W. Va., architect and chairman of the American Standards Association's committee which deals with coordination of dimensions of building materials and equipment, was elected president.

"The objectives of MBSA," said Silling, "are to promote the acceptance and application of the principles of Modular Dimensioning Standards as applied to the field of planning for construction, and the dimensioning of the materials, appliances and items of equipment employed in construction and related activities."

Mr. Silling noted that the adoption of the 4-inch module as the basic unit of measure will assist manufacturers in effecting economies by standardization. Thus, they would have to produce fewer sizes. "It is a saving which can be passed down the line," Silling pointed out, "for suppliers will have less of an inventory problem; and standard dimensioning means less labor cost for installation at the construction site."

Membership in the Modular Building Standards Association is open to any person, association, firm or corporation in sympathy with its objectives. Five different membership categories have been provided for, with a corresponding schedule of dues.

The board of directors is authorized to charter local, area or state chapters to further the purposes of the association. Other MBSA officers elected were:

First vice president: James E. Coombs, a member of the contracting firm of Baker & Coombs, Inc., Morgantown, W. Va., representing The Associated General Contractors of America.

Second vice president: M. Edwin Green, of the architectural firm of Lawrie & Green, Harrisburg, Pa., representing the A.I.A.

Secretary: H. Dorn Stewart, of Armstrong Cork Co., Lancaster, Pa., representing the Producers' Council.

Treasurer: Martin L. Bartling, Jr., Knoxville, Tenn., builder, representing the National Association of Home Builders.

The movement for the promotion of modular standards, or modular measure, began in 1935 when the National Bureau of Standards of the U. S. Department of Commerce proposed a project for coordinating building material sizes. Subsequent activities in this direction have been closely identified with the American Standards Association. The movement has shown considerable progress since the end of World War II, not only in the United States but in other countries.

The increasing interest in modular standards on the part of architects, general contractors, home builders and producers of materials led to the organization of the Modular Building Standards Association.

# THE EDITOR'S ASIDES

OUR CONTEMPORARY, the *Architectural Review* (of London), is a most remarkable magazine, probably the most aggressive, forward-looking and socially useful architectural magazine published today. (This is an entirely unsolicited plug, in sheer admiration!)

Their June 1955 issue, entitled "Outrage," was a bold and documented attack on the uncontrolled barrenness, ugliness and economic waste of "Subtopia"—(a disease obviously not limited to the United States)—"the doom of an England reduced to a universal Subtopia, a mean and middle state, neither town nor country, an even spread of abandoned aerodromes and fake rusticity, wire fences, traffic roundabouts, gratuitous notice-boards, car-parks and Things in Fields. It is a morbid condition which spreads both ways from suburbia, out into the country, and back into the devitalized hearts of towns, so that the most sublime backgrounds, urban or rural, English or foreign, are now to be seen only over a foreground of casual and unconsidered equipment, litter and lettered admonitions—Subtopia is the world of universal low-density mess."

In December, 1956, came "Counter-Attack," an issue which set forth the principles with which Subtopia might be attacked, and demonstrating by numerous examples the techniques of the attack. How to clean up crossroads clutter and the forest of light poles, electric poles, wires, directional signs, telephone booths, fences, advertising, etc., that disfigure the centers and the edges of our towns; the importance of filling in the waste spaces in cities and towns in the interest of both beauty and economy; the need for keeping country *country* and town *town*, with a clean break between—all these problems and many more are discussed.

Out of this has come the Counter-Attack Bureau, with headquarters at the *Review* offices, which is already receiving countless appeals for help from communities, organizations and individuals. They are receiving advice, publicity and assistance in prodding local officials, and in cases of outstanding importance a research group is set up to make a thorough study and report, with widespread publicity following. All this is free of charge. The newspapers have supported the effort, and in particular, the London *Observer* has made a grant towards the operating expenses of the Bureau and gives far wider publicity to all cases and reports than the *Review* by itself could ever attain.

The July issue is devoted to a richly illustrated feature on "The Functional Tradition as Shown in Early Industrial Buildings." This is truly a busy magazine. It should have more American readers.



WE WENT TO THE PENTAGON the other day to see the model of the controversial chapel for the Air Force Academy at Colorado Springs, after having primed ourselves by reading the debates over it in the *Congressional Record*. Such blather. Even Congressman Mahon from Texas, who defended the chapel design, bless his heart, didn't know what he was defending, but he did a good job. The chapel appropriation was defeated by a vote on Tuesday but when brought up again on Wednesday it was passed—lest the boys get no chapel at all!

We admit we approached the chapel design with a bit of scepticism, for we had heard much and seen little since the original design was publicized two or three years ago. The exterior seems exotic at first, with its 19 aluminum "spires" (the Congressmen thought a "cathedral," as they called it, should have only one spire). But the perfect and beautiful logic of the form became apparent after a brief study. It was the beauty of the interior of the Protestant upper chapel that converted us—a great soaring pointed interior with gorgeous stained glass between the ribs of the frame, extending all the way to the ridge. Here was all the dynamic lift and spiritual fervor of the medieval cathedrals. We must hope that economy will not dictate cutting down on the stained glass, for it is not just something added; it is an integral part of the design.

The Roman Catholic chapel on the lower level is an equally handsome interior, of a different order. The broad flat ceiling apparently floats on walls of tinted glass, through which one sees the wedge-shaped concrete piers supporting the steel space frames of the upper chapel. The circular Jewish chapel, also on the lower level, is small and rich. The completion of the Air Force Academy chapel will be a great day for architecture.



# THE ARMY PACKAGE POWER REACTOR

BY ERIC PAWLEY

DEPARTMENT OF DEFENSE and AEC have jointly developed a prototype nuclear reactor package for use as an isolated power source. *Package* in this case means that each *component* is transportable—each element of the whole complex affair (not including heavy containing shell and concrete shielding) has been selected or designed for freightplane loading characteristics.

In its present form a considerable number of large-plane loads would be required and perhaps a year for construction, assembly and testing before power could be put on the line at the new site. When this is done, it could be entirely independent of supply-lines for 1½ years. It is estimated that a conventionally-fueled power plant of same capacity (about 2000 KW) would require 24 million pounds of coal to generate an amount of heat equivalent to the 11 pounds of nuclear fuel burned in a year's operation. A community of 2000 people could be powered by this unit.

The APPR-1 at Fort Belvoir, Virginia, described herein, is a special case. Its location 15 miles from the District of Columbia and its proximity to residential areas (including army personnel who helped develop and who will use it!) means that every precaution has been taken for safety. The result is one of most unportable-looking installations ever seen—with an almost inch-thick steel domed vapor chamber and heavy concrete base to contain and shield any possible nuclear "incident" including the developing internal missiles. At a remote site, much of this protection would not be provided. Also, concrete aggregate would normally not have to be lifted.

## OBJECTIVES OF APPR-1:

Intended purposes of this prototype are to: demonstrate features and characteristics of a particular power plant that will permit its use in the arctic; determine exact economic and operating characteristics; determine reliability—continuous operation; provide training facility at Fort Belvoir for military engineers, operating crews and maintenance personnel.

Military electric-power-demand is increasing rapidly with each technological advance in equipment and facilities. Arctic, desert, mountain and other remote bases, radar and weather stations may

be subject to infrequent resupply because of seasonal characteristics or distance. Lines of communication may be interrupted by enemy action. In war-areas there is need for relatively small and movable power sources (railway-mounted or floating) and need for quick replacement of destroyed services—by civil defense as well as by military forces.

## OTHER APPLICATIONS:

Beyond this military concept, however, there is an area of even greater interest to civilian architects and planners. Charles S. Haines, II, AIA, chairman *AIA Committee on Nuclear Facilities* (CNF) touched on this at the AIA Gulf States Regional Conference at Chattanooga, last fall, and in his subsequent appearance at a meeting of the AIA Board of Directors.

Development of remote sites may become extremely important new business for architects and planners. There will undoubtedly be resorts or special installations for industry seeking some isolated natural resource or water—probably the most important natural resource and one which we are doing our best to waste as fast as possible.

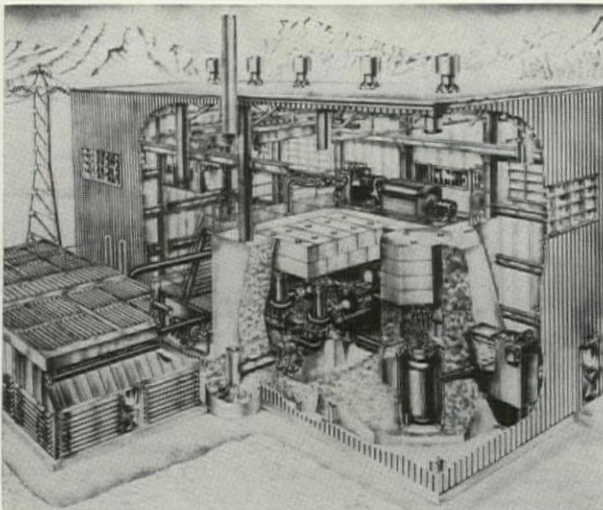
As our population grows, industrial and resort crowding will increase, particularly as automation creates more leisure. Transportation becomes a lesser problem if incentives are great but material and labor cost of running long power lines will limit remote developments until, if ever, Dr. Nicola Tesla's dream of radio-transmission of power is realized. In the perhaps long interim there are two possibilities for the remote site: Nuclear power and solar energy—and interesting things are happening in both fields.

APPR-1 is a preliminary step toward such compact power units. It is not considered improbable that the "package" can be reduced to a single C-124 freightplane load rather than many. The nuclear core itself is only the size of a barrel.

## CONSTRUCTION:

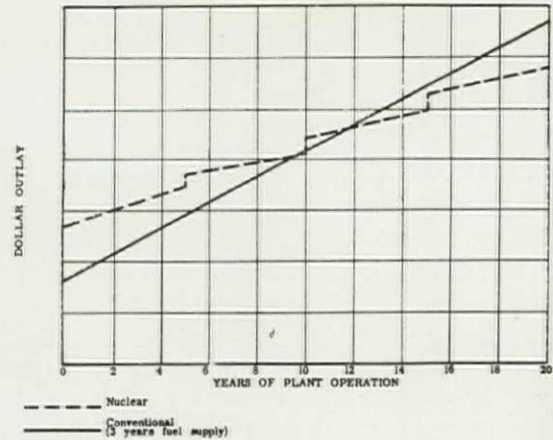
About 100 firms indicated interest in bidding on APPR-1—33 qualified and 18 submitted proposals. Alco Products Inc. was awarded the contract for the reactor itself and some accessory equipment, and Stone & Webster was engineer-constructor.

Ground was broken October 1955 and the installation opened for press preview after a preliminary run in April 1957. After a dedication cere-

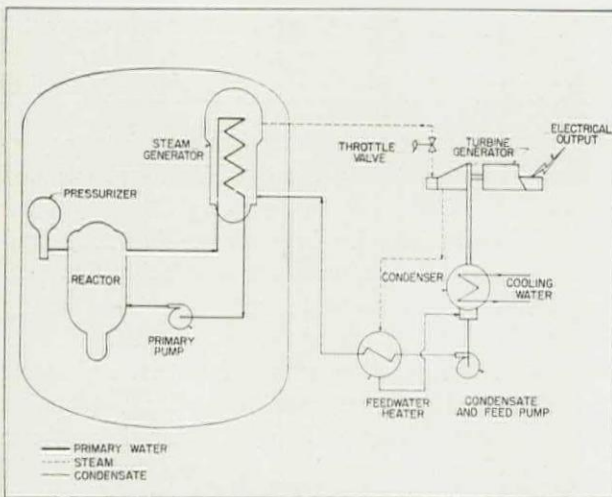


PRELIMINARY "CONCEPTUAL DESIGN" FOR ARMY PACKAGE POWER REACTOR AS DEVELOPED BY OAK RIDGE NATIONAL LABORATORY (AEC)

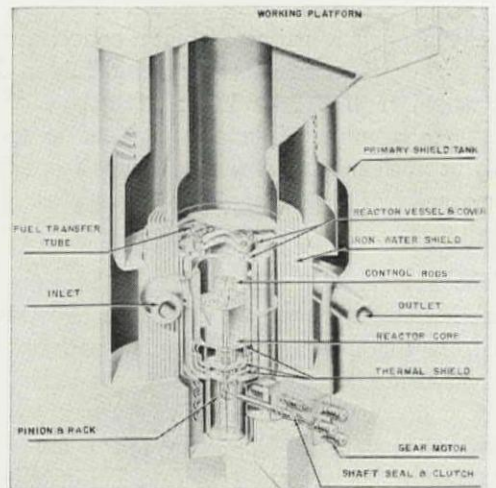
COMPARATIVE CUMULATIVE OUTLAY FOR NUCLEAR AND CONVENTIONAL PLANTS



GRAPHIC COMPARISON FROM FEASIBILITY STUDIES BY OPERATIONS RESEARCH OFFICE (JOHNS HOPKINS)

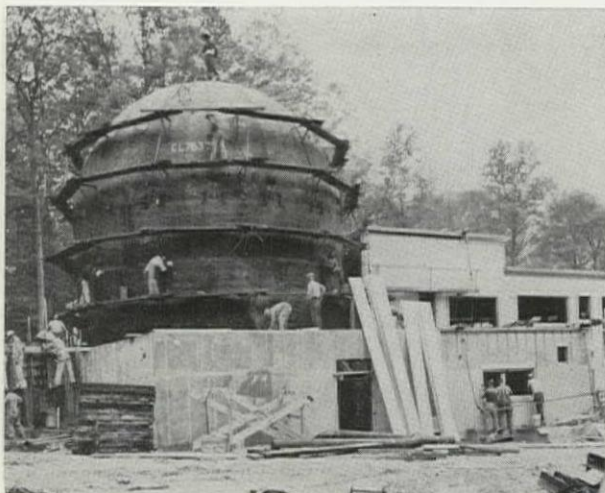


SIMPLIFIED FLOW DIAGRAM OF BASIC ELEMENTS ARMY PACKAGE POWER REACTOR (APPR-1)

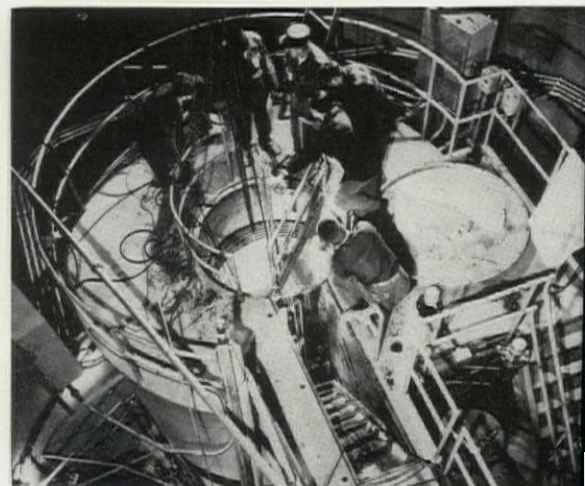


ISOMETRIC OF REACTOR VESSEL, CORE AND CONTROL ROD STRUCTURE OF APPR-1 — TWO ADDITIONAL CONTROL RODS NOT SHOWN, NORMALLY FULLY WITHDRAWN AS SAFETIES

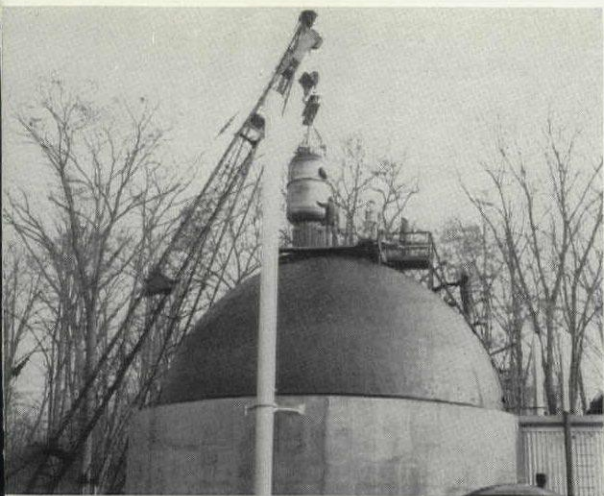
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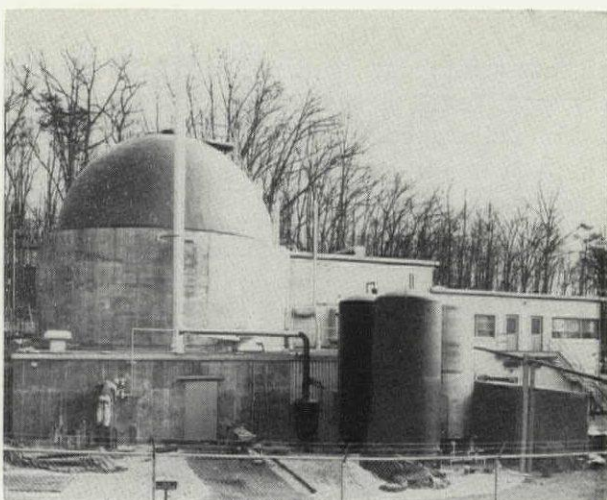
WELDERS COMPLETING EXTERIOR OF VAPOR CONTAINER RING SEGMENTS — EACH SEAM IN  $\frac{3}{8}$ " STEEL SHELL WELDED BOTH SIDES AND INSPECTED BY X-RAY



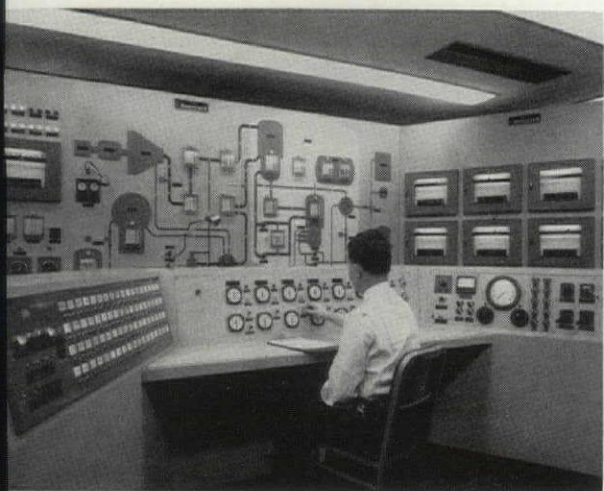
VIEW OF REACTOR VESSEL INSIDE VAPOR CONTAINER SHOW WORKING PLATFORM ON TOP AND PRIMARY SHIELD



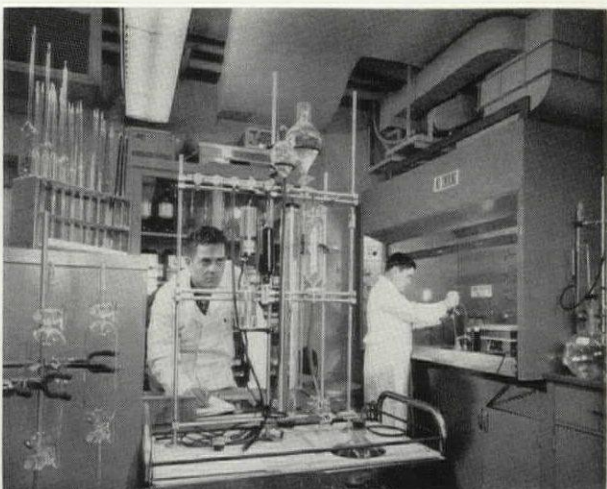
REACTOR VESSEL BEING LOWERED THRU TOP MANHOLE OF VAPOR CONTAINER (LATER SEALED) ONLY OTHER ACCESS THRU HORIZONTAL TANK PASSAGE WHICH CAN BE FILLED WITH WATER AS SHIELDING



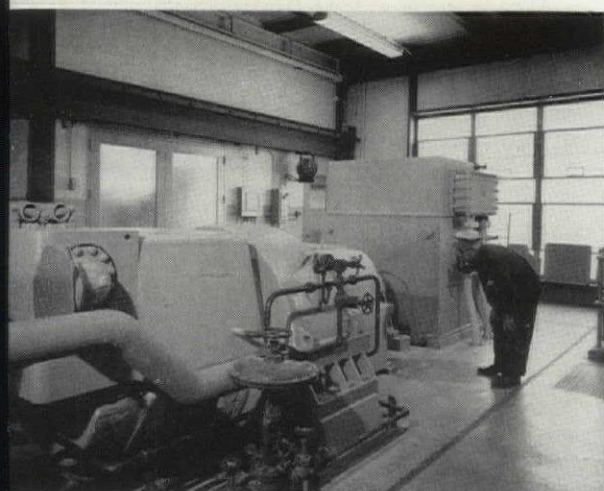
GENERAL VIEW OF APPR-1 AS COMPLETED — ALL AUXILIARY SPACES IN UNSHIELDED STRUCTURE



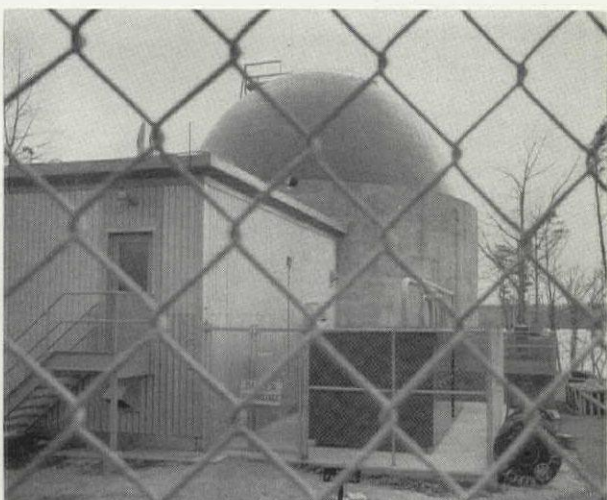
CONTROL ROOM — CONSOLE WITH ANNUNCIATOR — COLOR-GRAPHIC PANEL IN BACKGROUND — INDICATORS & RECORDERS FLANK EACH SIDE ON DIAGONAL WALLS



SMALL NUCLEAR LABORATORY FOR TESTING, WATER TREATMENT CONTROL AND TRAINING STAFF



TURBINE — RUN BY STEAM FROM SECONDARY WATER — WITH 500 KW GENERATOR



EXTERIOR VIEW OF APPR-1 WITH POTOMAC RIVER IN BACKGROUND

*All illustrations courtesy Alco Products Inc.*

mony, APPR-1 was closed to visitors for an intensive, continuous 700-hour performance test. Overall construction cost is estimated at \$3.5 million including all tests (10%). "Architectural engineering" is itemized as almost 10%.

#### FUNCTIONAL ELEMENTS:

As illustrated, APPR-1 consists of the heavy reactor enclosure and an attached, lower building for auxiliary equipment, control-room, offices, etc. It is not distinguished or even orderly in appearance, perhaps purposely so, since the military may confuse the orderliness of good relationships and proportions with expense. The turbine-generator room is inadequately ventilated by a roof-slot and natural insulation produced 100° F there in Washington's April. The control-room is better—a clear layout of identified instrumentation and open arrangement will help make it an effective training and operational station.

Instrumentation (Minneapolis-Honeywell) consists of 4 elements:

- operator's console  
72-section annunciator pinpoints trouble automatic safety interlocks provided to take over
- colorgraphic panel  
pilot lights and miniature records show relationship and operational status of plant—all piping, pumps, valves, heat exchanges, tanks, etc, are shown
- 2 recorder boards with 18 full-size indicators and recording instruments to gather and store data on APPR performances

A briefing room with model, a small laboratory and utility spaces complete the job.

#### REACTOR OPERATION:

To give some understanding of the scale of this plant, the high pressures and temperatures involved in addition to the radiation hazard, it will be enough to list a few basic data:

#### PRIMARY (RADIOACTIVE) SYSTEM:

- reactor vessel and core (431-450°F water at 4000 gpm)
- control roads and drives
- 2 coolant circulating pumps (431°F 1200 psi)
- steam generator (high-pressure water heats secondary water to produce steam for turbine)
- pressurizer
- water purification equipment (5000 gallon stainless steel primary water tank)
- shielding (steel and water primary—5' concrete secondary)

#### SECONDARY (NON-RADIOACTIVE) SYSTEM:

- secondary side of steam generator (250-407°F 200 psi)

- turbine-generator set (no shielding)  
2500 KW—4160v (3 phase—60 cyc)
- condenser, etc (no shielding)
- feedwater heater " " (250°F)
- evaporator " "
- pumps—storage tanks " "

#### VAPOR CONTAINER (HOUSES PRIMARY SYSTEM):

steel and concrete: 32' diameter 64' high  
7/8" steel w 2' reinf con lining  
10-ga steel shell inside con

Electrical power produced by APPR-1 is tied in with regular utility lines supplying Fort Belvoir, stepped down to 2400 volts, a small portion being tapped off for station services, lights, auxiliaries, etc. There is a separate battery emergency system.

#### SAFETY:

Usual control of nuclear reactors is effected by insertion of control rods of some material which reduces effective radioactivity of reactor core and cools it off. This may be done slowly and partially for normal adjustment of power or with extreme speed for an emergency "scram" shutdown.

In APPR-1, seven identical control rods which "poison" the reactor in this way are motor-driven (3"/min) thru an intricately sealed mechanism, or gravity-dropped for a scram with a clutch released time of 0.053 seconds. There are limit controls also on water pressure and temperature.

#### WATER PURIFICATION:

Radiation accelerates damaging effects of water and requires special care. The small laboratory facility has water-treatment control as one important function.

#### PLACE OF THE ARCHITECT:

Where is the architect in all this?

We have given in some detail certain program features of this pioneer installation to stimulate those members of our profession who are looking toward this new field. In this job there were sadly missed opportunities for good architectural consultation or coordination. Master planning and site planning of some AEC installations are notably bad. Building plans like this one are often expedient and piece-meal. They need the final coordination and tying-together of elements (even mechanical elements and associated personnel space) which is an architect's contribution. As one architect is reported to have said, "The military or navy engineer knows a lot about building—little about planning." This goes for the scientist as well. How man fits into the job is our part of it.



CIRCULAR RAMP — VENICE, ITALY

Photo — Giacomelli — Venice

## PARKING FACILITIES BTRG 7-2

Only the mortician can boast an equal certainty of client as the parking business. At this point in the short history of the United States we can be certain of only one thing—more and more cars on streets and roads. Probably more changes have taken place in the living habits of our culture during the last 30 years than evolved during the previous 3000 years. The new pattern is unfolding rapidly. We are already within the early spinnings of a network of superhighways linked together with vast numbers of primary and secondary roads. World and national population is locating itself in the urban and suburban areas.

The bulk of the parking problem is being handled by curb parking or surface lots. Curb parking was, at first, free and not restricted at any particular interval of time. When the density of autos increased, it was necessary to shorten the in-

tervals and to provide law enforcement to see that zoning was not violated. This, in turn, meant higher operating costs for the cities, and tire marking was eventually exchanged for meter-parking. Meters did not eliminate the necessity for enforcing parking regulations, but did reduce the number of personnel involved.

With all meter parking occupied, the excess motorists found their parking answer in the form of surface lots.

It is interesting to note that some cities have made studies of meter parking in downtown areas. Findings have indicated that as high as 50% of the meter parkers were so-called "meter-feeders" who were employed in the area and simply returned to their autos each hour to insert another coin. In most cases, costs of keeping the meter going all day was less than parking in a

private lot! Police enforcement by tiremarking is usually prescribed and reserves curb space to strictly transient parkers.

With the increase in number of cars in the downtown core, traffic problems have been accentuated. First remedies consist of removal of curb parking, designation of one-way streets, or both. With the exception of the addition of traffic control mechanisms and elevated superhighways near the core area, little more can be done to alleviate traffic congestion.

High-density areas, requiring wide traffic arteries, must provide adequate parking space. Solutions to this need can be in the form of surface lots with high land costs per stall but minimum operational costs per car, or in the form of multi-floor above or below grade structures with lower cost per stall figures but usually higher operating costs.

# CUSTOMER SELF-SERVICE PARKING DEVICES

By GEORGE A. DEVLIN, V.P. National Garages, Inc., Detroit, Michigan

Automation has found its way into the parking industry, too, in varying degrees, from ticket-spitters to full automatic operation and by industrial television.

The recent trend towards cus-

tomers self-parking in both parking lots and multilevel facilities has resulted in the development and marketing of a number of automatic devices designed to further reduce manpower requirements in such facilities.

## *Coin-Operated Gate Control*

This type of equipment is suitable for parking facilities (either surface or multi-level) on which there is a flat rate for all-day parking. It is also finding some application in facilities which operate on an hourly rate during the daytime and then switch over to a flat rate in the evening. In this type of operation the coin-operated gate equipment is not used during the daytime, but is switched on after the attendants leave and the flat evening rate becomes effective and, thereby, frequently developing additional revenue for the operation which could not otherwise be economically collected.

There are a number of different designs and arrangements of this equipment. In its simplest form it consists of an electrically operated gate, controlling a combined entrance-exit driveway, a coin-receiving mechanism, and one or more car-sensing devices in the driveway. The coin-receiving mechanism at car window height on the driver's side is located on the street side of the gate. A customer wishing to enter the parking facility deposits a coin or coins equal to the posted rate in the receiving mechanism which initiates the opening of the gate, permitting him to drive into the facility. Upon clearing the gate a sensing device causes the gate to return to the closed position. When a customer wishes to leave the facility, another sensing unit actuates the gate to open; and as soon as the car clears the gate it returns to the normal closed position. The coin-actuated mechanism is also available in a modified form to initiate the action of the gate by a key or token. This modification is particularly adaptable

to facilities catering to monthly contract customers. In order to achieve more positive control it is frequently desirable to have separate driveways for incoming and outgoing cars, and to further insure against improper entering or leaving, some designs employ a pair of gates operating in the manner of a canal lock on each driveway.

## *Automatic Ticket-Issuing Machine*

As the name implies, this equipment automatically issues a numbered and time-stamped ticket to the driver upon entering the parking facility, thus eliminating the need for an "in" doorman. It is applicable to self-parking facilities (both surface and multilevel) wherein the parking fees vary in accordance with the length of stay.

The machine is housed in a cabinet standing to approximately the height of an automobile window. It is located on the driver's side of the incoming driveway of a parking facility with the actuating unit set in the driveway approximately 8' in advance of the ticket-issuing machine to time-stamp a ticket. This ticket is then fed out through a lip in the front of the machine where it is picked up by the driver as he goes by. A single entrance drive equipped with this type of machine has demonstrated its ability to handle incoming traffic at a rate of 14 cars per minute.

In certain instances, where it is desired to have an entrance remote from any supervision by operating personnel, the automatic ticket-issuing machine is combined with a pair of gates so as to prevent cars from leaving the facility by way of the entrance drive, and this arrangement, further, insures that no incoming driver can get into the facility

without actually taking a ticket from the machine. In very critical operations, such as at airports, the automatic ticket-issuing machine combined with a pair of controlling gates and sensing device sensitive only to an automobile, is available which will insure that no car can get out of the facility through such incoming lanes, that no car can come in without the driver taking a ticket, and that no-one can get a ticket from the machine without bringing a car into the facility.

## *Differential Counting Equipment*

This equipment finds its principal application in facilities where it is difficult for the operating personnel to keep continuously apprised of the availability of parking space within the facility, and consists of an add and subtract counter connected to car-sensing devices at the entrance and exit drives. Car entering the facility register on the counter as additions and cars leaving as subtractions, thereby giving a running count of the total accumulation of cars within the facility at any given moment. It is most important in connection with this type of equipment that the sensing device at the entrance and exit drives be of such a type as to be actuated only by an automobile. Such differential counting equipment can also be connected to gates or illuminated signs in such a manner as to automatically close a gate or indicate at the entrance that parking facility is filled when a predetermined accumulation of cars is reached. In large parking facilities multiple installations of differential counting equipment is sometimes desirable to indicate the accumulation of cars in specific areas on a lot or various floors in a multilevel facility.

## OPERATION OF AUTOMATIC GATES

by F. W. DRYBROUGH, Vic's Parking Stations, Louisville, Ky.

My comments are based upon my use of movable iron posts which lock in the sleeve, to guide the automobile to the automatic gate.

Most driveways are much wider than the efficient use of any automatic gate requires. Therefore, it is important to guide the cars correctly into the mechanical slot.

As the car approaches the gate, whether going in or out, it must be guided that it is directly at right angle with the gate. This forces it to go over the treadles and likewise forces it to go by the coin box. These are both extremely important. It also means that the gate should be set back far enough from the street or pavement line to permit the straightening out of any car approaching. This allows ample room for the exit to be precisely parallel.

As of the moment, we have not found any foolproof treadles and the public quickly learned how to activate a treadle, and this is very bad because when they raise the exit treadle to get out by jumping on it or pressing on it with their feet, they have the gate up when they depart and cars coming in that way in order

to avoid payment have the effect of keeping the gate up as the last treadle they hit going in reverse lifts the gate instead of lowering it.

We are convinced that coin operations both in and out is the only foolproof system. The coin out has its drawbacks because quite often the customer does not have the correct amount of change and the tendency then is very strongly just to break the gate and go on anyhow. We are trying to install a collection when they come in for the full fee, giving them at the same time a token which will enable them to satisfy the coin box on the way out, the theory being that they could not spend the token and would be certain to have it when they came back to the car.

The marking and the lighting of these gates is extremely important, because the public in the main is not yet fully educated to their usage.

We use a twin light in the eave of the control house directly between the coin box and the gate, with one light shining on the gate and the other on the coin box. The same on the way out even though it



SINGLE-GATE INSTALLATION  
CHICAGO, ILLINOIS

may be marked "Free Exit." There should always be a piece of rubber on the underside of the gate because they will, on occasion and under some circumstances, come down on the car. With the rubber there is no harm done. Without it, a scratch is possible.

The wooden arm of the gate is naturally light and, therefore, not too difficult to break. Smart-alecks frequently show their true selves by deliberately breaking these gates with their hands. Cars often run into them, no doubt out of desperation to leave the lot when they do not have the correct change. At the moment we are having built a sleeve that the wooden arm fits into so that when one is broken it can be repaired in a very few minutes. It is much better to have the gates replaceable two feet away from the main machinery instead of actually being a part of it. This, too, is very important.

## PARKING STRUCTURES

The term *parking structures* has superseded its predecessor *parking garages* because the structures now are usually exposed to the weather on all sides. They are basically structures on which to park automobiles with form and appearance dictated by the lowest total annual cost in terms of interest on investment (land and structure

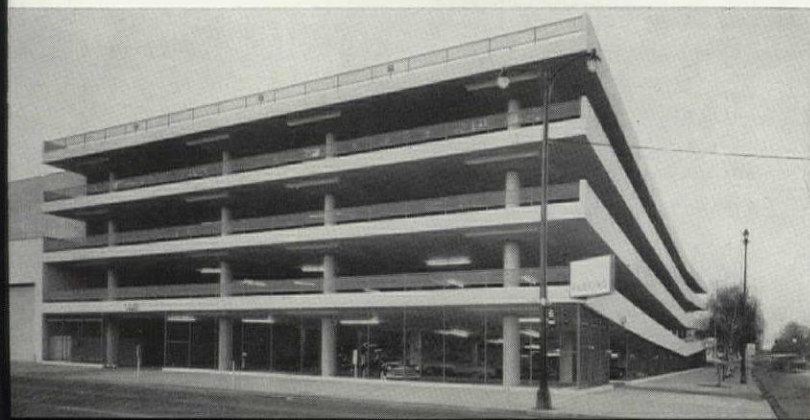
costs), operating personnel, wages, and maintenance.

Parking structures are of two basic types—mechanical or ramp systems. The ramp system may be of attendant or customer park type. The selection in method of operation is dependent upon the size and shape of the site, parking demand and peak load requirements, and investment,

maintenance and operating cost factors. Ramp garages are ordinarily restricted to larger lot sizes and relatively less expensive land values. Self-service parking requires wide aisles and long grades on ramps which reduces the "space-efficiency" below that of an attendant-parked system. Self parking operations may require up to 350 square feet per car, compared to 200-250 for mechanical systems.

Any system can suffer at the hands of street traffic if located in a highly congested area. Often, garages built in the downtown area will average several minutes departure time because street congestion will not allow autos to enter traffic at a rate equivalent to the design period of the structure.

PARKING RAMP, SALEM, OREGON — WELTON BECKET AND ASSOCIATES, ARCHITECTS



# MECHANICAL GARAGE SYSTEMS

by RICHARD B. BOWSER, Vice-President, Bowser Parking System, Des Moines, Iowa

Mechanical garages are at their best economic advantage on small (12,000 square feet or less) sites and high cost (\$10.00 per square foot or more) sites.

The minimum capacity of a mechanical garage should be approximately 250 stalls to have an economical operation. 250 stalls require 2 units which is protection against accidents or mechanical shutdowns that would completely stop a single unit garage until repairs are made. The unaffected unit can concentrate on deliveries to eliminate customer inconvenience.

The maximum capacity, with one street feeding the receiving area, should not exceed 650 stalls. Any larger garage would cause considerable traffic problems in the area.

The popular mechanical garages have the same floor arrangement and traffic flow, which is ideal. There are multi-lane "in" drives and a wide, shallow, receiving area on one side of the hatchway, and multi-lane exit driveways with non-interfering waiting stalls on the opposite side.

The popular mechanical units have a one-car per minute handling rate. We recommend that each unit is capable of serving 90 to 199 tran-

sient stalls and 35 to 40 all-day parking stalls. This combination of parking facilities results in the most economical construction, and extended operating day, and the most economical use of the units and operating personnel.

Using this recommended, 135 stalls, capacity for each elevator unit, it would require 2 hours and 15 minutes to vacate a 100% occupied garage in any sequence delivery. This 100% occupancy vacating time should not be considered in an economical garage design because with the exception of the demand generated by ball parks, theaters, etc., the maximum delivery demand period is 2 hours long, starting at 3:30 to 4:00 p. m. and completed by 5:30 to 6:00 p. m. The average garage is only 75% to 80% occupied when it ends. There are only very short periods (10 to 15 minutes) at roughly 4:00, 4:30 and 5:00 p. m. when the demand might exceed the delivery rate.

The traffic flow, capacity, and car handling rate of a garage are complicated, intangible items that cannot be described with a few words. A garage design must be a compromise of these and other factors and each location will put dif-

ferent values on each factor.

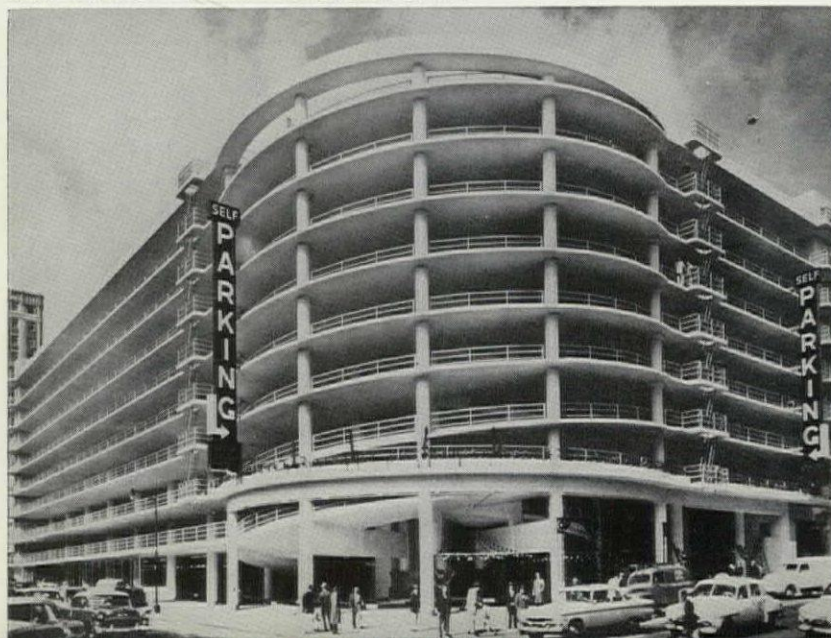
For a satisfactory operation and an economical design, an architectural engineer and experienced parking operator should combine their ideas in planning a garage.

The following list represents additional advantages of mechanical parking which are worthy of expansion and study when deciding upon a parking system:

- 1—Mechanical garages can easily be converted into office space.
- 2—Mechanical garages are being combined with office hotels, etc.
- 3—At very little additional cost space for all-day parkers can be provided that will actually give a better return on the additional investment than the fast turnover of transient stalls.
- 4—The design of future automobiles will have more effect on ramp garages than mechanical garages.
- 5—The receiving area, capacity and arrangement of mechanical garages economically provide the best receiving areas of any type parking facility.

# RAMP SYSTEMS

RAMP GARAGE — SAN FRANCISCO, CALIFORNIA



Ramp systems, as well as mechanical systems, must base their design upon car sizes slightly larger than the average. Structures of this type are reasonably permanent and obsolescence caused by changing automobile designs must be avoided. Entrances and exits must provide smooth and continuous traffic flow into, through and out of the parking structure. Adequate reservoir space is essential as well as a fee collection system which provides the greatest expediency. Customer self-service parking on ramp structures has promot-



s system very rapidly and in view uncertain labor costs in the future, presents one of the soundest investments.

On mechanical parking systems, the architect and owner have the opportunity to work with the manufacturers of a minimum of three mechanical systems on the market. On ramp systems, however, the final choice will likely depend upon the specific site involved. The adjacent illustrations indicate some of the various ramp methods which may be used. In some cases, special ramp systems have been worked out and patented. Successful operation has been reported on ramp type structures in which the entire building floors were slanted to provide the required incline.

Not shown in the adjacent sketches are:

- Single ramp—for staggered floor structures
- Opposed plane, staggered floor ramp
- Double width circular ramp
- Twin circle ramp
- Spiral floor ramp
- Sloping floor, opposed plane ramp
- Outside ramp

George Devlin, in a seminar discussion on the economics of parking at the 42nd Convention of the Florida Association of Architects, stated:

"The most radical change in the concept of park-deck design has come about since 1950. It is the customer-self-parking type of deck. Several examples were built in the early Forties; but it took the pressure of the relatively high wage rate of the last five years, plus the public demand for 'quickie' parking at low rates to supplement metered curbside parking, to prove up this design.

"In contrast to either the monthly storage-service garage or the attendant-parked transient deck, the parking deck has no receiving and frequently no outgoing traffic. Extensive waiting room, ticketing, and employee facilities are practically eliminated. Parking stalls are larger and frequently designed for head-in angle parking.

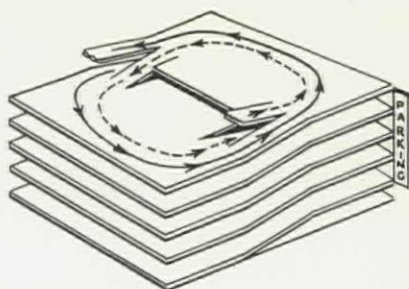
There can be no double parking. Ramps are shallower, or eliminated altogether through the use of sloping floors. Elevators and, in some cases, escalators are used to take customers from and to parking levels. Such details as drainage, lighting, and general interior appearance, become more important.

"The generally enthusiastic public acceptance of self-parking facilities, coupled with extensive operating economies, has placed many older garages in a very unfavorable economic position. A majority of the major parking facilities being built today are designed for customer-self-parking; and many of the older attendant-parked decks are being converted to this type of operation if practicable, even at a considerable loss of capacity and the expense of building-in elevators.

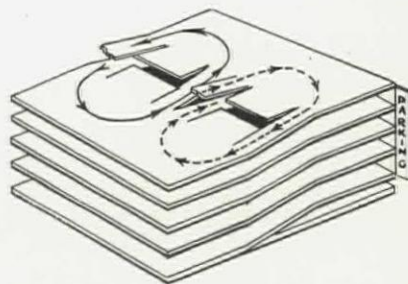
"A parking facility must be located close to one or more major generators of parking demand—the closer the better, since the most convenient parking facility, even though it must charge higher rates because of higher land cost, usually enjoys the highest demand. Although its entrance should not be on an already heavily congested street, it should not be on a difficult-to-get-at back street.

"The parking structure must not hide its function behind a false front designed to make it indistinguishable from adjoining buildings. Open sides, exposing as much of the functional interior as possible, is a parking deck's best advertisement. Open sides also result in considerable savings in construction and maintenance cost. This feature need not be incompatible with a clean and modern architectural appearance.

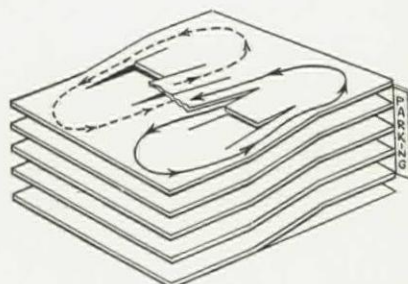
"The entrance must be generous and inviting. For highest turnover, particularly in larger decks, 45 to 60 degree angle head-in parking with one-way traffic in the aisles, seems best, although some of the smaller decks using sloping floors with 90° head-in parking and two-way traffic in the aisles have made a very good showing. Arrangement of parking stalls and travel aisles should be uniform and repetitive with a minimum number of choices presented to the customer in seeking an empty



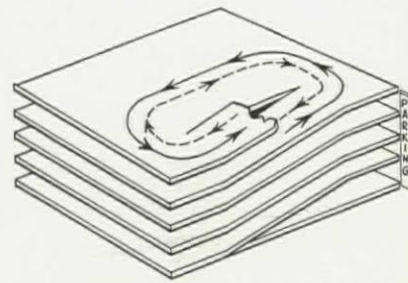
DOUBLE-WIDTH UNDIVIDED RAMP



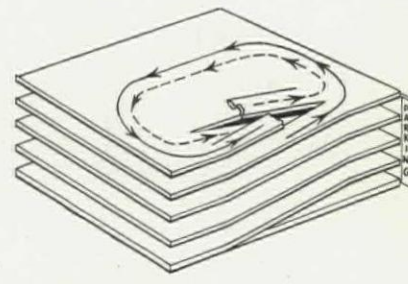
TWIN-CIRCLE, OPPOSED-PLANE RAMP



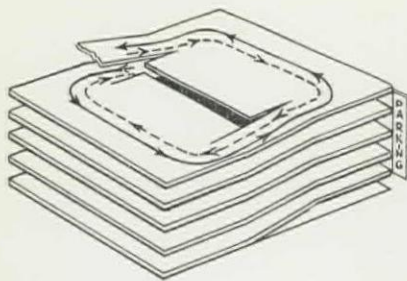
TWIN-CIRCLE, SAME PLANE RAMP



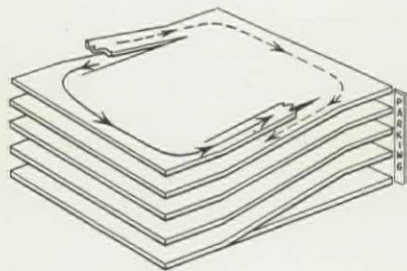
STRAIGHT RAMP SYSTEM



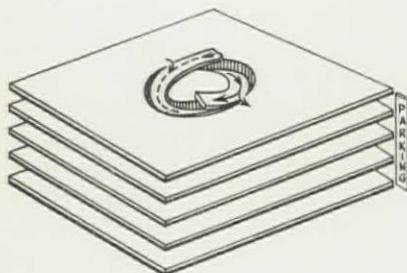
FULL FLOOR RAMP



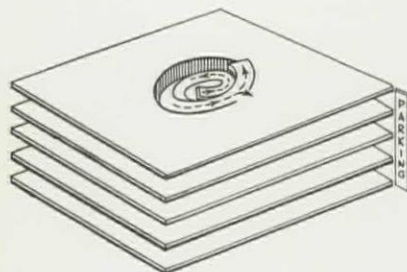
CONCENTRIC, DIVIDED  
OPPOSED-PLANE RAMP



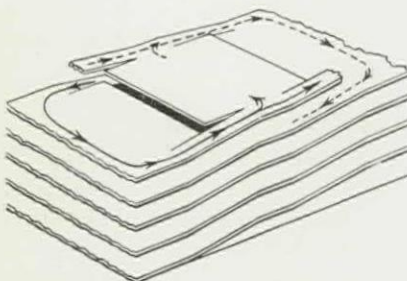
OPPOSED, STRAIGHT RAMP



DOUBLE THREADED SCREW RAMP



CIRCULAR, CONCENTRIC,  
OPPOSED-PLANE RAMP



DOUBLE STAGGERED RAMP

Reprinted from *PARKING*

stall. An express ramp is desirable to accelerate movement of outgoing cars.

"There is little to indicate any specific preference in the basic type of ramps, such as helical, straight-run, wrap-around, scissor, D'Humy, etc. However, such features as super-elevation and vertical curvature at floor intersections, warping of access drives, and surface treatment are extremely important. The average parker, if given a choice, prefers to park above grade. Working above grade has the further advantage of eliminating costly excavation and enclosing walls, as well as ventilation and, frequently, sprinkler requirements.

"Elevators should be automatic and equipped with the most modern safety features. Operating economies can be effected by designing entrance drives to accommodate automatic ticket-dispensing machines. Cashier stations, particularly in smaller decks, are usually set up to collect from the car at the exit drive. But where outgoing traffic discharges into a heavily congested street, it is sometimes preferable to collect from customers before they get into their cars, usually near the first floor elevator landing.

"It is difficult to be specific on such items as aisles, ramp and park-

ing bay widths, optimum turning radii, ramp grades, and number of driveways and elevators in relation to capacity. These factors and many more vary so much from site to site, city to city, and day to day, that they can only be considered in respect to a specific project. A delay even a year from the time of completing plans to the beginning of construction frequently necessitates complete revision of the plans if a significant amount of built-in obsolescence is to be avoided.

"A good location and functional excellence alone are not enough to assure the economic success of a parking project. Construction cost is equally important. More specifically, the cost per car space is one of the most important indices of an economic parking project. This figure is the product of the number of square feet per car space of construction times the cost per square foot. A low number of square feet per car space is the result of careful functional planning, providing more or no less area to the various functional features of the project than are necessary to a well balanced whole. 290 to 340 square feet per car is the current range for normal self-parking decks." \*

\* quoted from *The Florida Architect*

## FUTURE

The City Planning Commissions of most cities are no doubt currently working on the problem of how to avoid strangulation of the heart of the city by tie-ups in the traffic street systems. Studies and proposed solutions may involve loop-belt-highways around the business district such as the Fort Worth plan. From this belt-highway, short access streets penetrate the inner business district, and move traffic to large central parking areas. These parking areas may be surface areas, but are more likely parking structures. Such multi-story structures make it possible to park a large number of cars on a given land area without affecting the already present commercial buildings.

This does not mean that a solution to city traffic problems of this

nature need be city-owned. If land is condemned for new parking structures, the land becomes city property, leaving the private investor to work with the city on a lease basis. If the city should actually build the structure, private operation or rental or management contract is usually recommended.

New equipment and methods of handling the parking operations are certain to evolve. Moving sidewalks are now a reality which causes parity of parking structure to parking generator to assume less importance. New mechanical parking systems are being introduced regularly. But all the technological advances that can be expected, none is likely to compare with the impact of sociological changes and related community planning.

# EFFECT OF AUTO DESIGN

To date there has been very little consistency in the dimensions of the annual products rolling out of Detroit. These inconsistencies coupled with the increasing influx of foreign cars into the U.S. has made it nearly impossible to anticipate, with any degree of confidence, the future sizes of automobiles and their characteristics.

Some cars are now being used that are as long as other cars are wide. Obviously, the use of a large parking space for a small car is an ineffective investment.

Ramp angles, turning radii, curb heights, and automatic parking devices are very much affected by the basic changes in the cars themselves. Ideally a parking structure would have no columns, no curbs, and movable divider-strips to designate stalls! However, at best, all we can hope to do is anticipate what might be expected in future auto designs.

Parking structures could be designed with considerably less difficulty if automobile sizes were standardized or trends could be anticipated accurately for 30 to 40 years. Automobile manufacturers justifiably point out that their products are based on consumer demands and that economic survival depends upon satisfying that demand.

## AVERAGE AUTOMOBILE CHARACTERISTICS

	1929	1953	1957	
			General Motors	Chrysler
Over-all length	15.2'	17.0'	17.4'	17.9'
Over-all width	5.7'	6.3'	6.4'	6.5'
Wheelbase	10.0'	10.0'	10.4'	10.3'
Front Overhang	—	3.0'	2.8'	2.9'
Rear Overhang	—	4.0'	4.3'	4.8'
Turning Circle	41.0'	41.0'	—	47.0'
Over-all Height	6.2'	5.3'	4.9'	4.7'

General Motors Corporation states: "While there has been a steady trend for the so-called smaller or lower priced cars to get larger, we believe that (unless the small car market expands tremendously) the present sizes of automobiles will not be altered radically in the next few years."

Chrysler Corporation says: "As to projected average dimensions for 20 to 30 years of future Chrysler Corporation cars, we simply cannot produce a sound set of figures that would prove of practical value. Because of the fluctuating character of American consumer tastes, and the variances in basic automotive design theories, such a list of projected dimensions would as well be pulled out of thin air. You are aware of the present consumer demand for long, large, and luxurious cars. At the same time, the current popularity

of smaller, foreign-made economy cars in the American market provokes conjecture as to which of these trends will hold out and be strong—twenty years from now.

The marked increase in two-car ownership is another factor to consider. Will the 'average' family of the future own one large and one small car, or two medium sized cars?"

The following chart indicates the "average" dimensions of current automobiles. The Automobile Manufacturer's Association makes annual surveys of American manufacturers to compile such data. Operators and architects alike point out the dangers in using current dimensions for structure layouts. Models and mock-ups of ramp turns and grade changes are often used during the preliminary design stages of the structure.

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#### ANALYSES

A SURVEY OF MUNICIPAL OFF-STREET PARKING WITH EMPHASIS UPON CAL. LAWS AND PRACTICE Dec. 1955, 91 p. City Administrative Officer, City of Los Angeles

A PARKING STUDY FOR STOCKTON CAL. Vols. I & II, Development Parking Needs, 31 p. & appendix The City Manager, Stockton, Cal.

PROMISE AND PERFORMANCE, Study of Municipal Parking Two Key Cities, by Publication Services, Inc., March 1955, 1 p. \$5, National Parking Assn. Sheraton Building, Washington DC

SPOT STUDIES IN PARKING RESEARCH Burrage, R. H. Highway Research Abstracts, Vol. 23, No. 10, pp. 16-40, October 1953

STUDY OF THREE TYPES OF PARKING GARAGES, Pts. 1 & 2 (Analysis of garage design; performance of garages; where each type is desirable), Lerch, Charles W. Skyscraper Management, Vol. 38, No. 5, pp. 10-12, May 1953; No. 6, pp. 12-13, June 1953

TRAFFIC ENGINEERING: A Study of a Bowser Mechanical Garage R. H. Burrage, Feb. 1957, p. 2 (4 p.), 40¢, Inst. of Traffic Engineers, Plainfield, N.J.

PARKING Magazine, National Parking Assoc., 702 Sheraton Building, 711 14th St., N.W., Washington, D.C., includes articles of varying interests. Especially good coverage can be found on case studies (specific structures, their costs, areas & characteristics of parking in relation to generation of traffic) such as banks, patented types of equipment & ramp systems, economics, operational problems & new innovations. Published 4 times per year since Spring 1954 the Winter 1954 issue is an excellent basic guide for design purposes.

# TECHNICAL BIBLIOGRAPHY

## Psychiatric Services in General Hospitals: An Annotated Bibliography\*

### The Practice of Psychiatry in General Hospitals

A. E. Bennett, E. A. Hargrove, & B. Engle with contributing authors, Univ. of Calif. press, Berkeley & Los Angeles, 1956

The contents include: (1) Staffing the psychiatric unit, the nursing staff, occupational therapy, clinical psychology, social service (2) architecture (3) medicolegal aspects of psychiatric treatment, the psychiatric viewpoint, the legal viewpoint (4) the day hospital (5) special treatments, drug therapy, alcoholics, geriatrics, group psychotherapy (6) needs, recommendations & suggestions for the future.

### Is Time for General Hospitals to Open the Door to Mental Patients

A. W. Boyle, J. C. Heidenreich & R. T. McHugh, *The Modern Hospital*, p. 66, April 1952

Adequacy of the provision of psychiatric services in general hospitals is discussed with stress on the important function these services can play in the early treatment of emotionally disturbed patients. Physical facilities required & staff needed are outlined.

### Complete Listing of the Existing Psychiatric Services in General Hospitals

C. K. Bush, issued as a supplementary mailing to *Mental Hospitals*, May 1956

Gives the name of every general hospital with a psychiatric service, its location, type of ownership, total number of hospital beds, year the unit began admitting psychiatric patients, number of psychiatric beds, size of unit, year unit was completed, psychiatric admissions during 1954, number of seclusion rooms, whether a clinic, or day or night program is operated.

### Psychiatric Unit Must Open the Doors

D. E. Cameron, *The Modern Hospital*, pp. 51-62 & 144-150, September 1956

Gives historical development of psychiatric units in general hospitals and outlines the following 6 prin-

ciples for operating a psychiatric unit:

- all admissions must be voluntary—patients should enter the hospital on exactly the same terms as those admitted to medical or surgical departments
- there can be no locked doors—problems of caring for the disturbed patient should be solved by the exercise of psychiatric skills & not by restraint
- unit must look like a hotel & not like a jail, presupposing that patients will behave to the best of their ability
- deviant behavior should be treated as an emergency in the same way emergencies are treated in other departments
- staff education must be continuous so that deviant behavior can be recognized & appropriate action taken before the emergency arises
- psychiatric patients are not bed patients & this affects architecture of psychiatric department—primary area of treatment is doctor's office, followed by occupational therapy area & living & day areas of the department—advantages of having a day care unit attached to the department are discussed

### The Role of the General Hospital in the Care of Psychiatric Patients

D. E. Cameron, *The Canadian Hospital*, p. 35, January 1948

Establishment of psychiatric units in general hospitals throughout the country is recommended. These units should be separate departments, structurally incorporated into the hospital. Psychiatric patients should enter & leave hospital on the same basis as other patients. A 400 bed hospital would require space for approximately 48 patients. Since most psychiatric patients are ambulant, treatment areas are the day room, the special therapy rooms & doctors' offices. Few special precautions are needed.

### Psychiatric Facilities in the General Hospital

J. R. Ewalt, *Texas Hospitals*, p. 7, December 1949

Psychiatric service of the University of Texas general hospital is described. Most psychotics & all psychoneurotic patients are cared for on open wards. Only about 25% are in the locked section at one time. All patients are admitted on a voluntary basis. Lists kinds of cases which can be cared for satisfactorily in a general hospital—all psychoneurotic disorders, all toxic & delirious reactions, most of the organic psychoses, & all the major psychoses except for the occasional very violent or disturbed manic or schizophrenic. Outlines physical facilities required in the unit—one seclusion room for every ten patients, an examination room & a small treatment room. Psychiatric unit can share the hydrotherapy facilities with other departments.

### The Role of the General Hospital in the Care of the Mentally Ill

Gayle R. Finley, *American Journal of Psychiatry*, p. 103, August 1951.

A general hospital should be prepared to treat every kind of illness & facilities should be provided for the care of the psychotic & neurotic. Staffing of psychiatric departments is outlined. Psychiatric unit in a general hospital represents a facility between the home & the mental institution. At least 80% of patients are discharged to their homes improved. Each unit should have an ambulatory out-patient department. An occupational therapy department & a psychology department are essential to proper functioning of a unit.

### Psychiatric Service in the General Hospital

A. G. Gutteresen, *Architectural Record*, pp. 204-12, November 1953

Facilities required in a psychiatric service are outlined in terms of patient accommodations & treatment

\* Prepared by Mrs. Frances Wright, Bibliographer, Architectural Study Project of the American Psychiatric Association, 1785 Massachusetts Ave., N.W., Washington, D.C. The Project was supported by Research Grant No. W-5, U.S. Public Health Service.

facilities. Details of facilities & equipment needed in service areas & suggested plans for psychiatric wards of 20 & 30 beds are given.

#### Psychiatric Ward for the General Hospital for Diagnostic Service & Short Term Care

A. G. Gutterson, reprinted from the *Hospital Purchasing File*, 1947-48 edition

A suggested type plan for a psychiatric ward for the general hospital is given. Facilities required for reception of patients, for disturbed patients, for quiet & depressed patients, for occupational & recreational therapy, & for treatment are described. Equipment needed in each room is listed. Materials & construction are discussed.

#### What Psychiatric Service Should the General Hospital Have?

S. W. Hamilton, *Hospital Management*, pp. 29-31 December 1948 & p. 72 January 1949

Development of psychiatric services in general hospitals is outlined. Contribution these units can make in providing care for the mentally ill is discussed. Describes experience at Massachusetts General Hospital. Simple facilities necessary for a psychiatric unit are described. Gives selected data for psychiatric services in specified general hospitals for the year 1945-46.

**Psychiatric Sections in General Hospitals.** An Architectural Record Book  
P. Haun with introduction by Karl Menninger, F. W. Dodge Corporation, 1950

Basic planning principles for psychiatric service in a general hospital & the questions that architects need answers to are considered. Analysis of the following facilities is presented:

- nursing facilities—nurses station, sub-utility room, nourishment kitchen, linen closet, unit supply closet, male attendants toilet
- patients' facilities—solarium, toilet, dressing room, bathroom, clothing locker room, visitors room, luxury closet
- medical facilities—examining room, interview room, doctor's office, clinical clerk's office
- housekeeping facilities—janitors closet
- bedroom facilities

Size & costs are discussed. Eight floor plans are given with comments on desirable & undesirable features. Plan for a general hospital of 200 beds with a psychiatric unit of 24 beds is presented. Bibliography.

#### The Role of the General Hospital in Care of Mental Patients

G. W. Jackson, *Texas Hospitals*, p. 10, July 1952

Points out that most psychiatric patients are ambulant & facilities are needed for exercise & recreation. Wards can be identical to other hospital wards, except that a detention room, electric shock treatment room, insulin shock treatment room, & an area for occupational & recreational therapy should be provided.

#### Psychiatric Service in a General Hospital with Special Reference to a Day Treatment Unit

A. E. Moll, *American Journal of Psychiatry*, p. 774, April 1953

Describes the day treatment center at Montreal General Hospital, which was opened in 1950 to meet growing need for psychiatric care in the community. Center is described as a compromise between inpatient & outpatient treatment. Physical facilities are briefly outlined. Treatment program, including insulin therapy, electroshock therapy, psychotherapy, occupational therapy, chemotherapy, is described & figures for the numbers of each treatment are given. Describes types of patients treated. Advantages of a day treatment center operating as part of the psychiatric unit are enumerated.

#### Psychiatric Services in General Hospitals

L. A. Osborne, *The Journal of the American Medical Association*, p. 259, September 26, 1953

Describes the kinds of patients who can be more profitably treated in a general hospital than in a mental hospital. Aim of a psychiatric service should be to work as freely & openly as possible. Physical facilities required are detailed. In a psychiatric unit provisions for eating & sleeping are no more than a background for treatment possibilities. In addition to the day rooms, occupational & recreational therapy area & offices there should be 1 or 2 special rooms for the care of disturbed

patients. There should be provision for quiet & noisy activities, & special needs for child patients should be considered.

Functions of a psychiatric service in a general hospital are enumerated & discussed in detail. Planning a unit, treatment program should be determined in advance that the design springs from functional needs & is not determined by traditional concepts of hospital construction.

#### Interpreting Medical Needs to Architects

L. D. Ozarin, *Mental Hospitals*, 23, June 1956

#### Elements of the General Hospital

US Department of Health, Education & Welfare, US Public Health Service

Two plans for psychiatric nursing units are given, one for a 10 bed unit, & one for a 30 bed unit

#### Psychiatric Disease Amenable to Care in a General Hospital

J. C. Yaskin, *The Pennsylvania Medical Journal*, p. 1081, July 1953

History of the development of psychiatric services in general hospitals is discussed briefly. Following aspects of organization of a psychiatric service are listed:

- consultation service for various medical & surgical departments
- outpatient department for handling borderline cases & for follow-up of improved cases
- separate departments for psychopaths
- department for training of personnel
- departments of occupational physical therapy, which can be used for treatment of psychiatric patients & others
- close liaison with social service department

#### Mental Hospitals

*Architectural Record*, p. 124, October 1950

"Contemporary Mental Hospital Types." Brief descriptions & plans of different types of facilities, including psychiatric services in general hospitals.

"Norton Psychiatric Clinic," 142. A description with plans & photographs.

Following are available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. (stamps not accepted)

**Methods of Testing Small Fire Extinguishers. Building Materials & Structures Report 150**

US Department of Commerce, National Bureau of Standards, 1957, 8 x 10 1/4, 9 p, 15¢

A study of methods of testing all hand-portable fire extinguishers considered suitable for application to flammable liquids. Study involved extinguishers & several varieties of extinguishing agents subjected to 10 tests, the results of which are tabulated.

**Combustible Contents in Buildings. Building Materials & Structures Report 149**

US Department of Commerce, National Bureau of Standards, July 25, 1957, 8 x 10 1/4, 18 p, 20¢

Data from survey can be applied in developing requirements for minimum fire resistance of buildings.

**key**

**bibliography** p—plans & details  
**diagrams** s—sketches  
**graphs & charts** t—tables  
**maps** v—photoviews

**Encyclopedia of The Iron & Steel Industry.** A. K. Osborne, A. Met. Philosophical Library, Inc., 15 E. 40th St., New York 16 N. Y., 1956. 6 x 9 1/4, Cloth bound, 558 p, \$25, gv

Provides a concise description of the materials, plant, tools & process, & in those industries closely related to it, from the preparation of raw materials to finished product; & defines the technical terms employed. Serves as a work of reference, rather than as a textbook.

**Technical Data on Southern Pine Architect's Bulletin No. 1**

Southern Pine Association, National Bank of Commerce Bldg., P. O. Box 1170, New Orleans 4, Louisiana, 8 1/2 x 11, 16 p

A grade use guide, including the following: Recommended grades of Southern Pine for all types of construction.

Nominal & dressed dimensions of all lumber items.

A brief description of all grades. Working stresses for solid & laminated lumber.

**American Standard Practice for Protective Lighting**

Sponsor: Illuminating Engineering Society, 1860 Broadway, New York 23, N. Y., 8 1/4 x 11 1/4, 20 p, 50¢

A guide for outdoor protective lighting to provide for plant protection; not intended for employees engaged in normal industrial pursuits.

Includes principles involved, points to be lighted, minimum degree of necessary illumination with typical equipment for protective lighting & diagrams of various types of installations.

**"Reach" for Safety**

National Steel Products Company, 424 North Mansfield Ave., Los Angeles 36, California, 5 1/2 x 8 1/2, 59 p, s

Describes & illustrates various installations of reach grab bars which contribute to patient maneuverability & safety.

Following May 1957 editions of NFPA Standards are available from The National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass., 4 3/4 x 7 1/4:

**NFPA 17 Standard for Dry Chemical Extinguishing Systems**  
42 p, 50¢

**NFPA 22 Standard for the Construction & Installation of Water Tanks for Private Fire Protection Service**  
108 p, \$1.00

**NFPA 88 Standard for Garages**  
24 p, 50¢

**American School & University**  
American School Publishing Corp, 470 Fourth Ave., New York 16, NY 1957-58, 8 1/2 x 11", 2 Vols., cloth bound, \$10, less 30% discount on standing orders for yearly copies.

The 29th Edition of this comprehensive publication has expanded into 2 volumes. Vol. 1 of 432 pages provides reference material by well-known architects and school authorities, covering a wide range of informative articles under general headings: "A Year of Accomplishment," "Ideology of the School & College Plant," "School Plants for a

Changing Society," "Theory & Nature of Special Areas," "Cost & Maintenance of School Buildings," "The College's Response to Building Needs," together with Research Reports on "Domes for Schools," "Educational Planning for an Ageless High School," "Approach to a University Library Design," and an "Educational Plant Bibliography."

Vol. 2 of 958 pages provides a comprehensive presentation of building and school, laboratory, and manual training equipment.

**ASTM Standards on Cement (with Related Information) (C-1)**

American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa., Feb. 1957, 6 x 9, 272 p., heavy paper cover, \$3

All of the ASTM standards—specifications, definitions, methods of chemical analysis, and methods of physical testing—pertaining to cement are included in this special compilation. Substantially revised since edition of October 1955. Of the 34 specifications and tests included 7 have been revised since the 1955 edition.

**The Heating, Ventilating and Air-Conditioning Guide 1957**

American Society of Heating and Air-Conditioning Engineers, 62 Worth St., New York 13, N.Y., 6 x 9, cloth bound, 1808 p., \$12.00, dtv

The 35th edition of authoritative Heating and Air-Conditioning Guide for 1957 is now available and contains much exclusive practical technical and design data.

The GUIDE has an enlarged Technical Data Section of over 1250 pages, representing an increase of more than 70 pages of new and revised information. Catalog Data Section, also expanded, includes reference material of 337 manufacturers. The increased text is due to steady growth in available technical information and completion of several projects on which various Technical Advisory Committees of the Society and many individual engineers have been engaged for a number of years. Two completely revised and rewritten chapters of especially wide-

spread interest are on Heat Transmission Coefficients of Building Materials, and Control of the Industrial Environment.

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The GUIDE 1957 is result of efforts and contributions of many engineers, as well as data drawn from all available authoritative sources.

#### Contracts, Specifications and Engineering Relations

Daniel W. Mead, 3rd ed. Rewritten by the staff of Mead & Hunt, Inc., Joseph Reid Akerman, ed. N.Y., McGraw Hill, 1956. 427 p., 6 x 9, \$7

A standard text for some 40 years, this edition has been extensively revised. Among the topics discussed are the engineer and his profession, ethics, writing for the engineer, contracts, bidding procedures, contract documents and specifications. Over 100 pages are devoted to a sample contract and specification. Although directed primarily to the engineer there is frequent reference to the architect, and the latter will find much of pertinence.

#### Light Gage Cold-Formed Steel Design Manual. 1956 Edition

American Iron and Steel Institute, 150 E. 42nd St., New York 17, N.Y., 6 x 9, 92 p., cloth bound, \$1

An up-to-date and authoritative handbook covering the design of light gage cold-formed steel structural members.

Among other changes: methods of determining the lateral bracing value of wall materials; and a new and complete list of symbols used in the Specifications have been added.

**Engineering Drawing and Geometry**  
Randolph P. Hoelscher and Clifford H. Springer. John Wiley & Sons, N. Y. 1956. 8½ x 11 dtv

Authors, who are both known for their contributions to drafting standards, have produced a text designed for engineers, with emphasis on understanding principles rather than manual skills. Theory in descriptive geometry necessary for successful solution of problems in design and drafting has been included and material has been so arranged that text may be used for a combined course in drawing and descriptive geometry or in separate courses.

#### American Housing and Its Use, the Demand for Shelter Space

Louis Winnick. John Wiley & Sons, N.Y., 1956, 143 p., 6 x 9, \$5.50. gt

The present volume is one of the Census Monograph Series, sponsored by the Social Science Research Council and the Bureau of the Census, in an effort to provide an analysis and interpretation of the data collected in the census. The author is an economic consultant for the Office of the Mayor, New York City, and from 1950-1955 was a research associate in Columbia University's Institute for Urban Land Use and Housing Studies.

In his analysis of the demand for housing space Dr. Winnick has used rooms rather than dwelling units and has made extensive use of PPR ratio (persons-per-room ratio). He finds that the national PPR is 0.69. In his introduction he presents a summary of some of his findings among which might be mentioned: "1. The improvement in housing space standards of the past half century has apparently been modest. It is doubtful whether the non-farm PPR ratio has been reduced by more than 15 or 20 percent since 1900. Furthermore, much of this gain must

be attributed to the decline in household size." "5. The average dwelling unit has been shrinking in size in many decades." "6. The most densely populated regions in the country do not suffer the most from overcrowding" and he notes that the West is more overcrowding than the Northeast.

In the various chapters he discusses measuring the utilization of housing; various factors affecting PPR ratio-income, household size value and rent, location and space trends in the housing inventory, and the changing household. An appendix contains various technical data of more interest to specialist.

An important book for its analysis of various economic aspects of housing.

**Church Building and Furnishing**  
Reverend J. B. O'Connell, 290 pp. plus 32 pp. illustrations, 6¼ x 9 University of Notre Dame Press, Notre Dame, Indiana, 1956, \$5.50 bpv

The original manuscript was the basis of lectures in the Liturgy Program 1953 Summer Session University of Notre Dame. This American edition of Father O'Connell's work has been supplemented by the plates selected by Professor Francis Montana, Notre Dame Department of Architecture.

The volume is one of a series of liturgical studies under the editorship of Michael A. Mathis, CSC

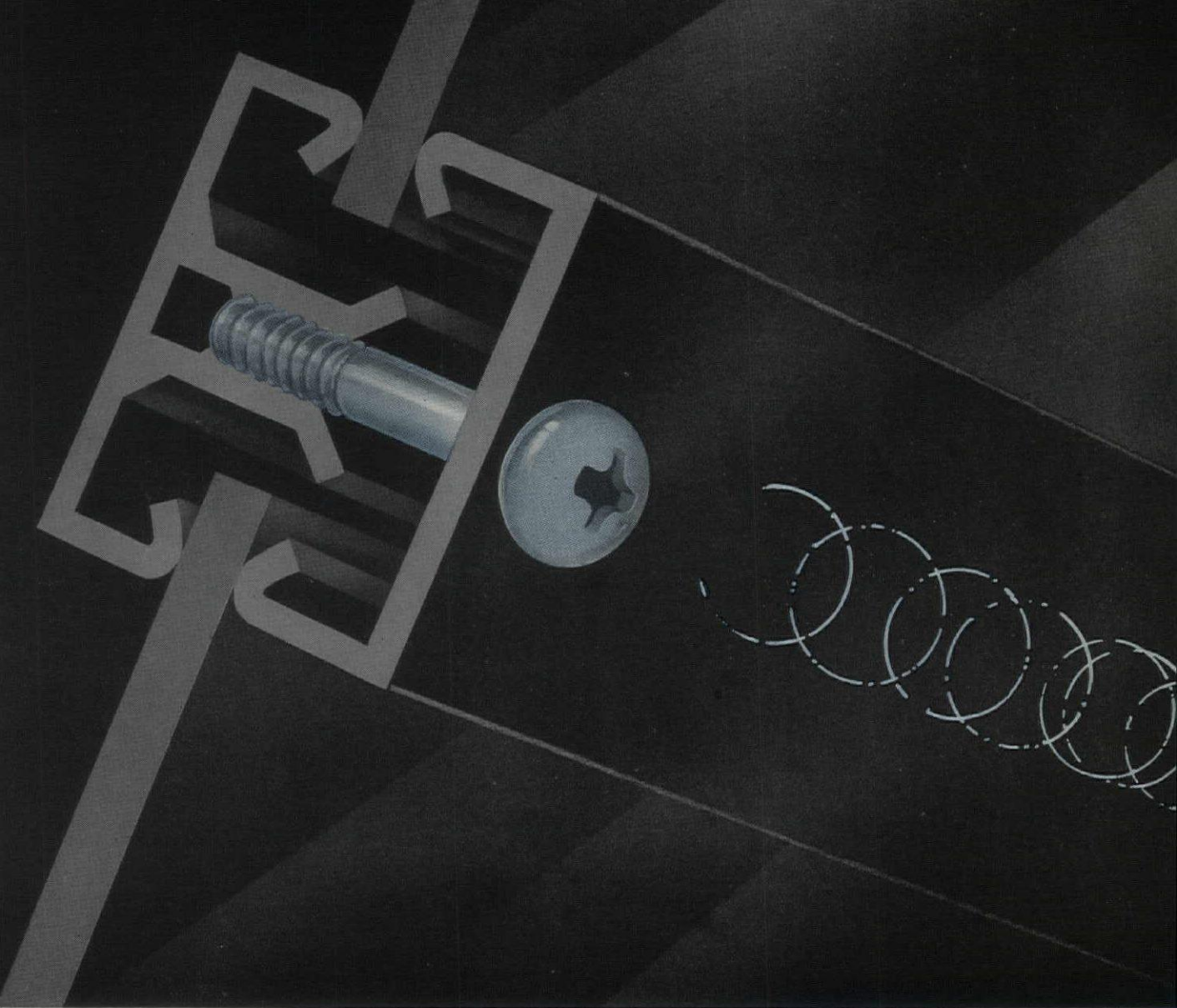
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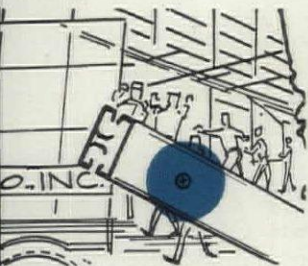


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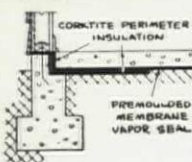
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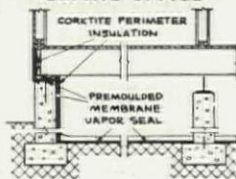
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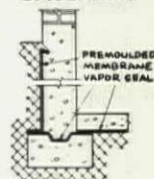
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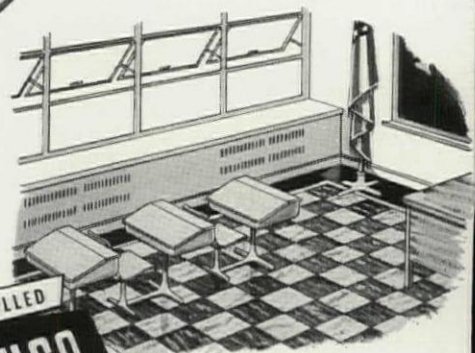
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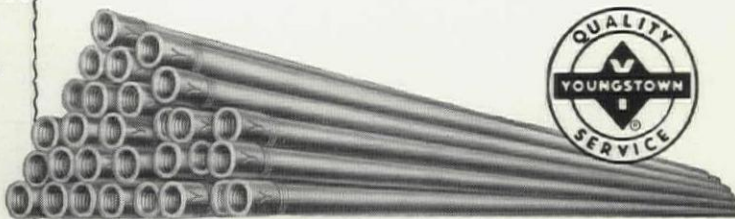
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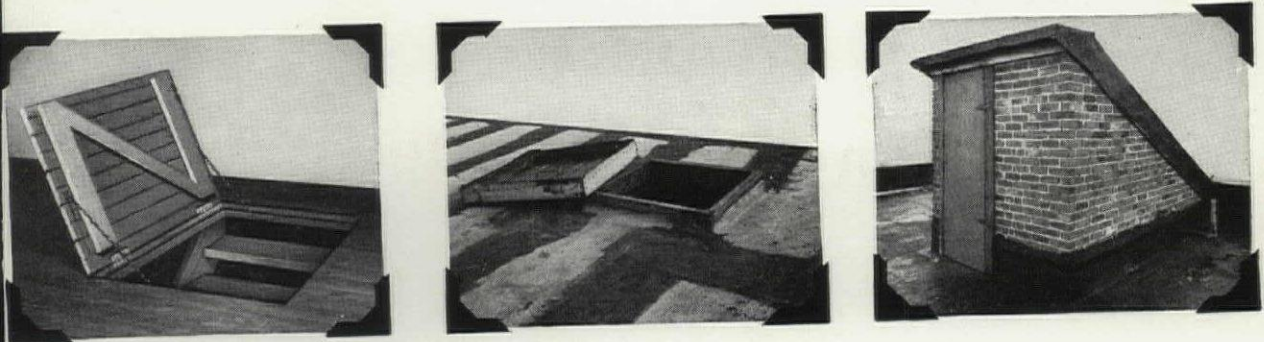
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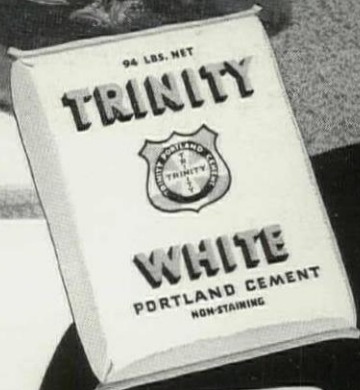
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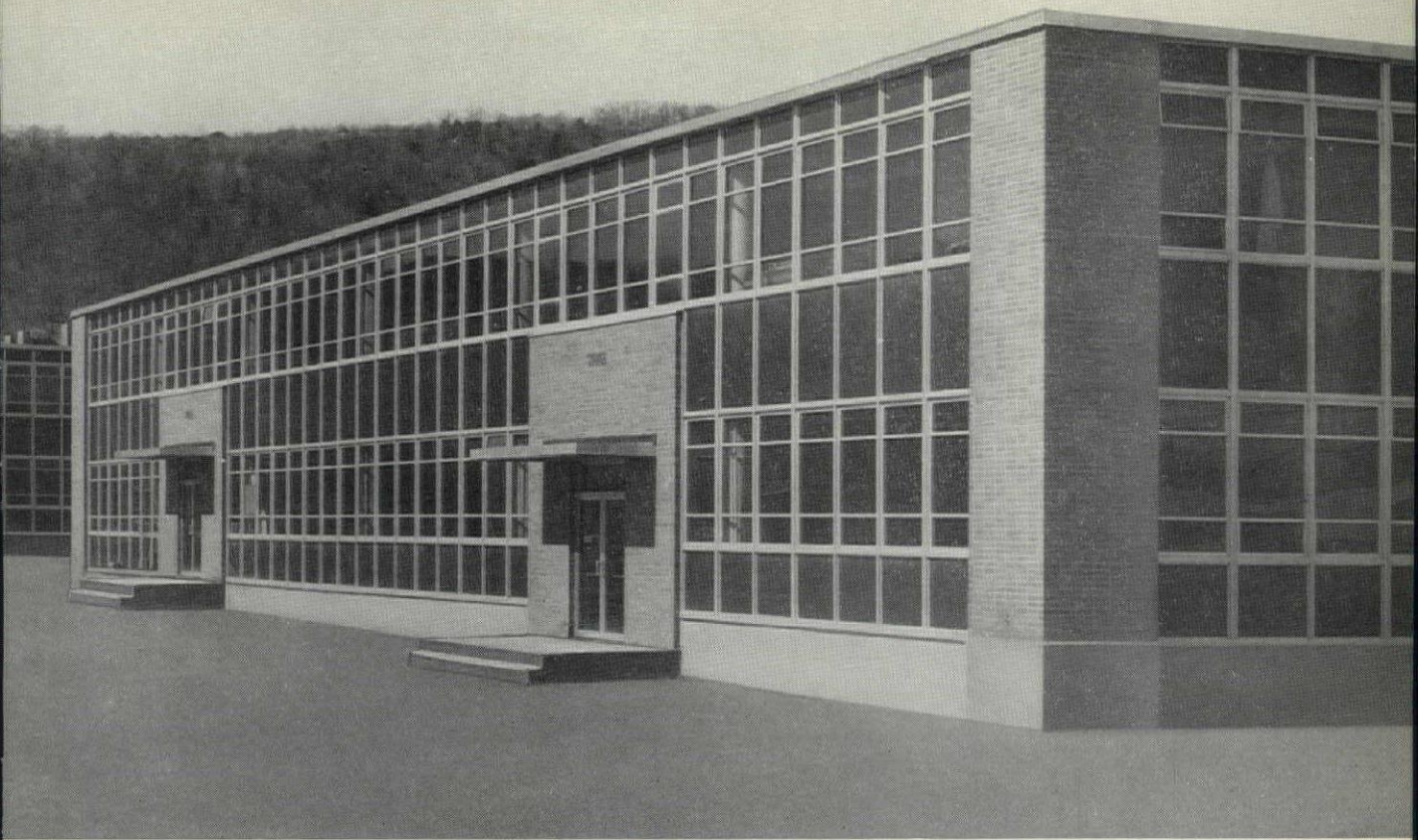
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Architect: A. T. Lacey & Sons, Broomfield, Colorado

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*by Lawrence Field*

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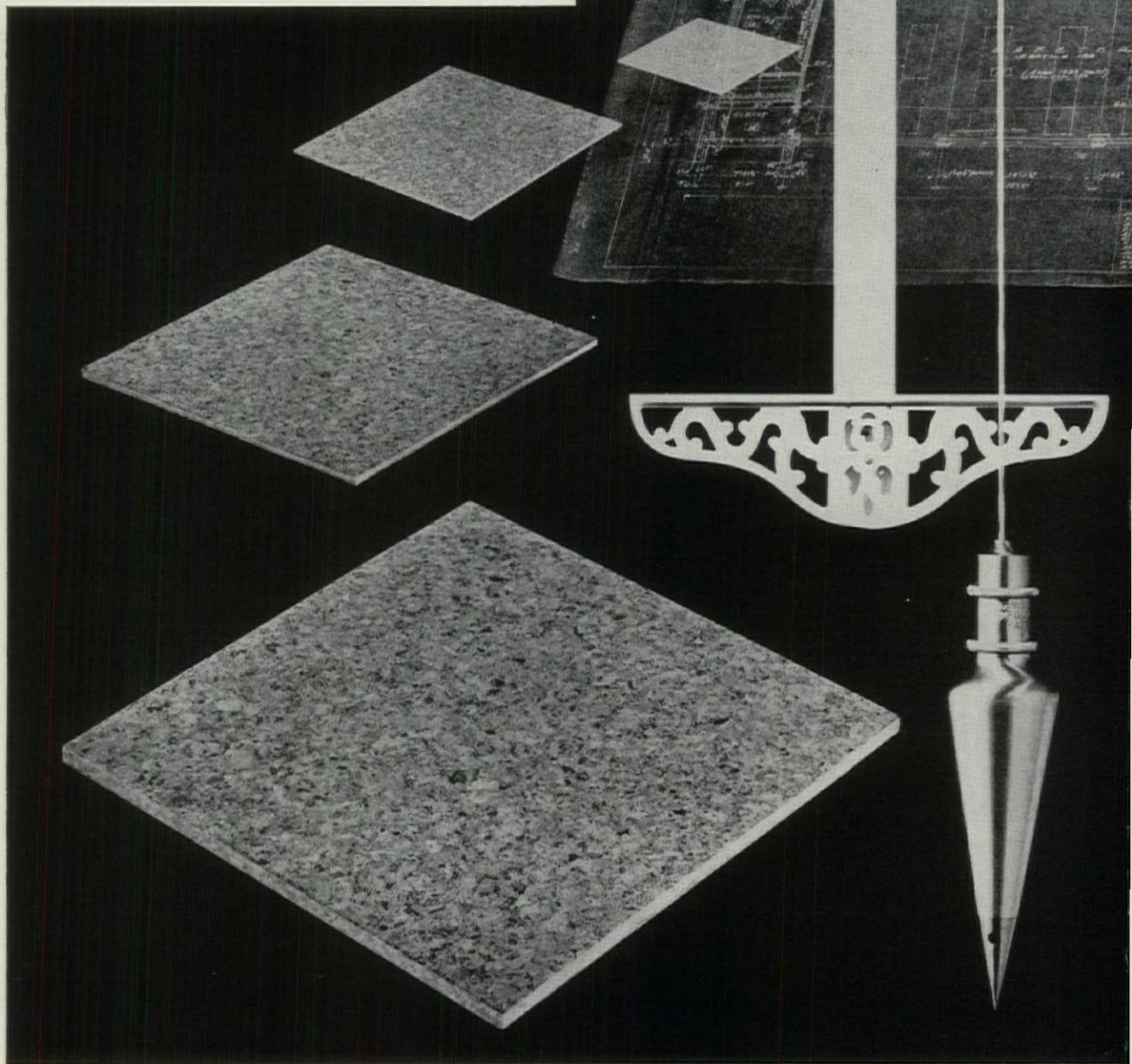
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