February 1964 **PROGRESSIVE ARCHITECTURE**

New sheet vinyl floor

Armstrong DORELLE VINYL CORLON

designed and priced for commercial interiors

This new sheet vinyl floor offers long-term beauty and performance and costs only about 70¢ sq. ft. installed.

Dorelle Vinyl Corlon meets needs of modern commercial interiors where traffic is heavy but color and design are important, too. And it costs only 70¢ sq. ft. installed—far less than other commercial-weight sheet vinyl floors. This is a tough, long-wearing vinyl floor, developed to take the pounding and scuffing of millions of feet, yet stay fresh looking with normal maintenance. In most characteristics—resistance to abrasion, indentation, alkali, and staining; recovery from compression by heavy furniture and the indentation of spike heels; economy of maintenance—this new vinyl floor is superior to battleship linoleum.

SCALED FOR COMMERCIAL USE

The colors and design of Dorelle were planned specifically for commercial interiors. Its seven colors, all soft or neutral, are coordinated with Armstrong Vinyl Cove Base and Armstrong Wall Corlon. The subtly grained design is scaled to give a monolithic effect in large areas. Colors and design go uniformly through the thickness of the vinyl to the backing.

EASY TO MAINTAIN

Because Dorelle comes in 6′ rolls up to 90′ long, it can be installed with a minimum of seams and

can be coved or flashed up the wall to eliminate baseboard crevices—important advantages in hospitals, "white rooms," and other interiors where cleanliness is essential. Dorelle is resistant to grease, dilute acids, and most alkalis and chemicals. All these qualities make Dorelle easy and economical to clean and to keep clean.

INSTALLED AT ALL GRADE LEVELS

Its Hydrocord Back (available only on Armstrong floors) allows Dorelle to be installed above, on, or below grade, except where excessive alkali or hydrostatic pressure makes the installation of any resilient floor impractical.

MORE INFORMATION

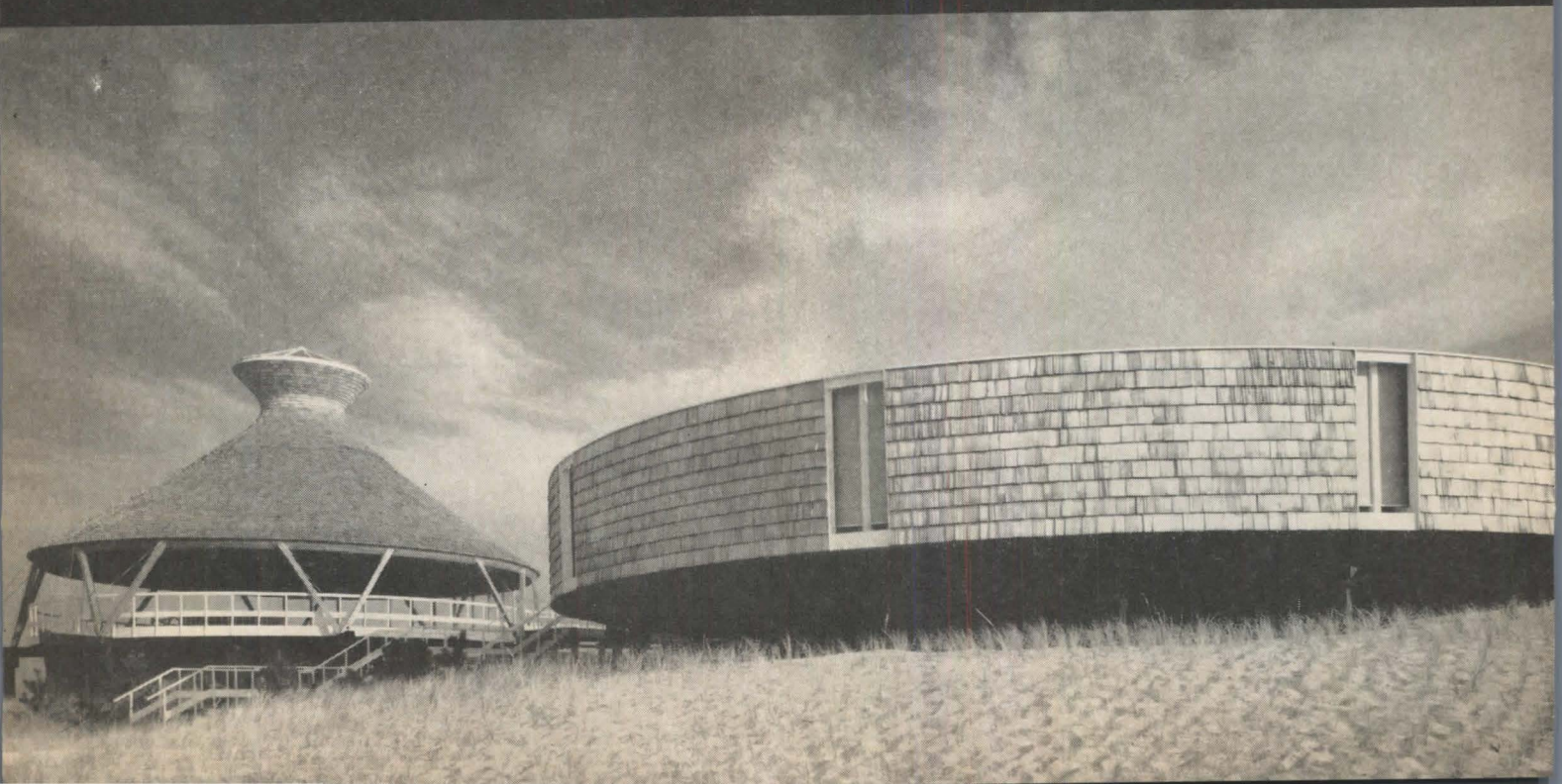
For more information on Dorelle —or on any of Armstrong's wide range of commercial floors—contact your Armstrong Architect-Builder Consultant at your Armstrong District Office. Or write directly to Armstrong, 302 Watson Street, Lancaster, Pa.

Dorelle, Corlon®, and Hydrocord® are trademarks of Armstrong Cork Company.

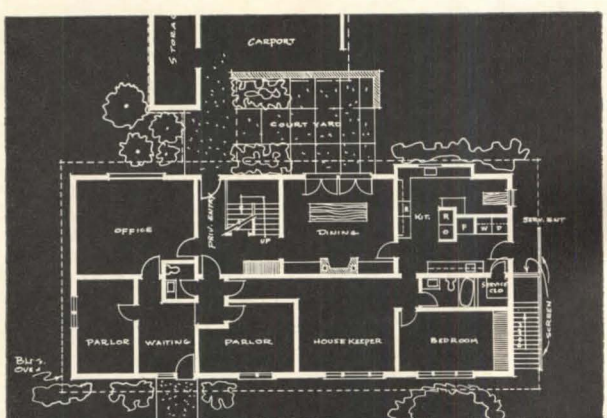
Armstrong VINYL FLOORS

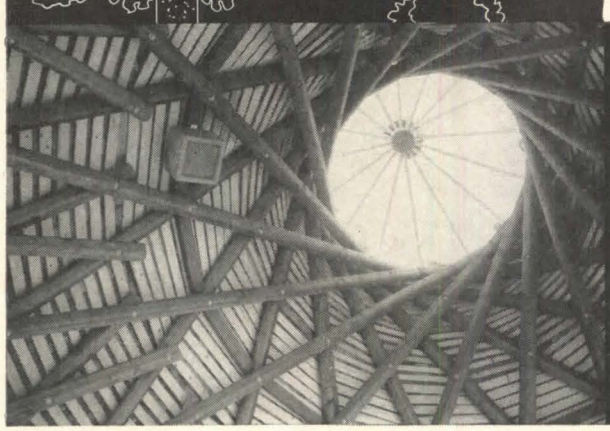
Good commercial proposition:

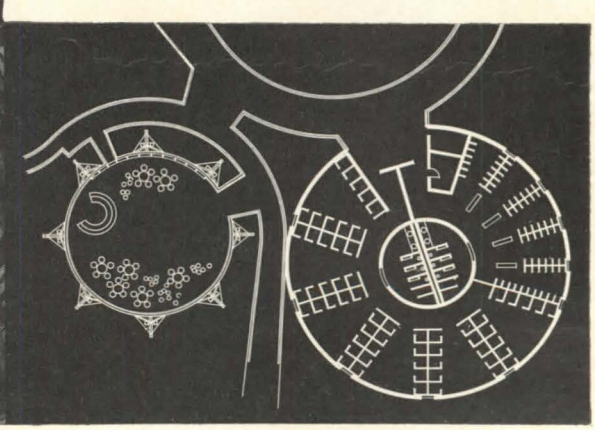
Red Cedar Shingles & Handsplit Shakes



The unmatched color and texture and mood of this classic natural material offers exciting design opportunities for light commercial construction. And, beyond beauty, cedar shingles and shakes offer the practical advantages of superior wind and hail resistance, insulation, light weight, strength and durability. In fact, a cedar roof lasts for decades. If you would like more information about this unique material, write: Red Cedar Shingle & Handsplit Shake Bureau, 5510 White Building, Seattle, Washington 98101; 550 Burrard Street, Vancouver 1, B. C.



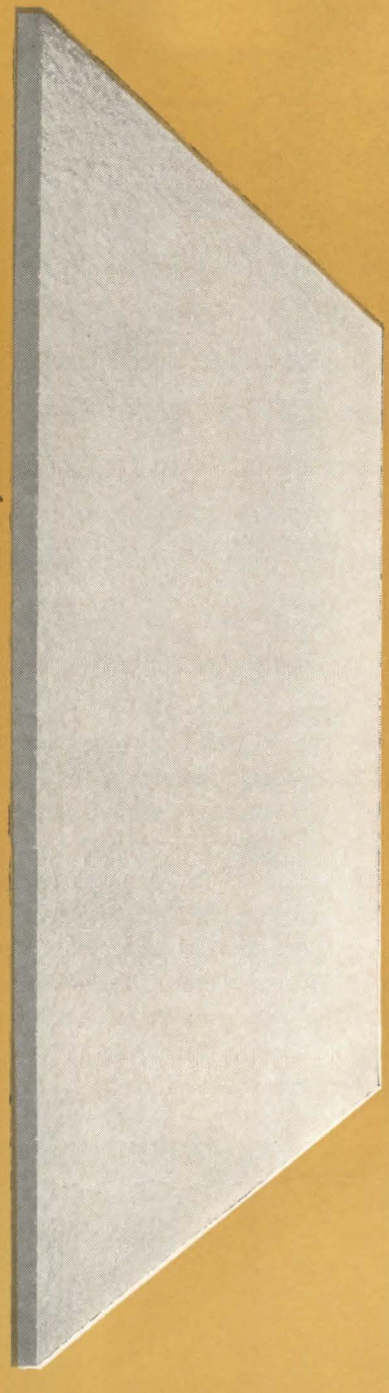




Above left: **Rectory/Our Lady of Lourdes Church, Vancouver, Washington. Architect: John Storrs. The mansard second story is Certigrade No. 1, 16″ Fivex shingles with a 5″ exposure.** Below, left: **Pavilion and Dressing Rooms/Harbour Beach Club, Westhampton/Long Island, New York. Architects: Whittlesey & Conklin. Sidewalls are of Certi-Split 24″ x ¾″-1¼″ handsplit-resawn shakes with 10″ exposure. Roof is Certi-Split 18″ x ¾″-1¼″ handsplit-resawn shakes with 5½″ exposure.**

THE CROWNING TOUCH OF QUALITY • RED CEDAR SHINGLES & HANDSPLIT SHAKES •

URETHANE FOAM INSULATION



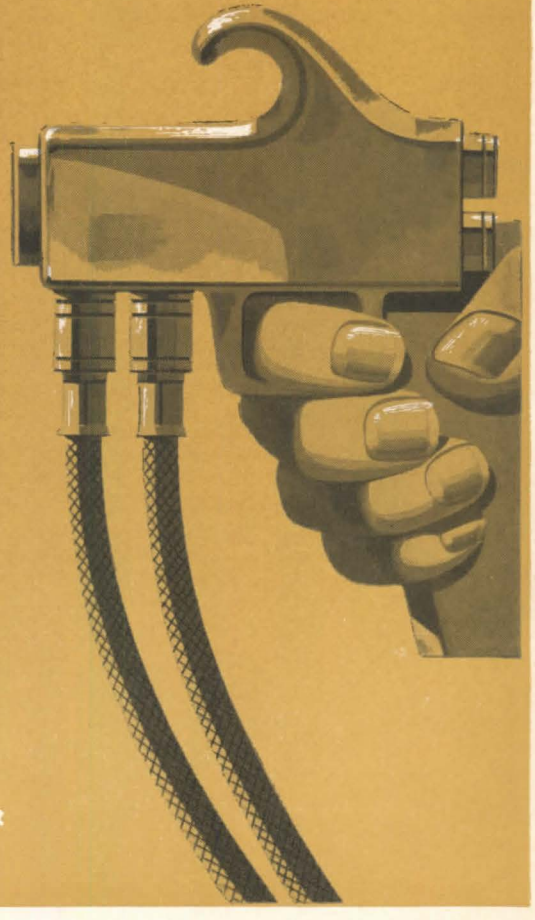
flame resistant

easy to apply

low in cost

structural strength

best on the market



Foamed-in-place urethane bonds to any surface; provides permanent structural stability; seals cracks, voids and seams; prevents condensation and sweating; resists mildew, dry rot and deterioration; muffles sound. And these are all **bonus** features. The main reason for specifying urethane foam is because its insulating efficiency is twice that of the next-best insulating material on the market. Write for all the facts.

MOBAY CHEMICAL COMPANY

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MOBAY
First in Urethane Chemistry

THIS MONTH IN P/A

Cover COMPOSITE PHOTOGRAPH OF PAUL RUDOLPH AND HIS ART & ARCHITECTURE BUILDING (page 108) Photography by Damora

Frontispiece ENTRY SIDE, YALE ART & ARCHITECTURE BUILDING Photography by Damora

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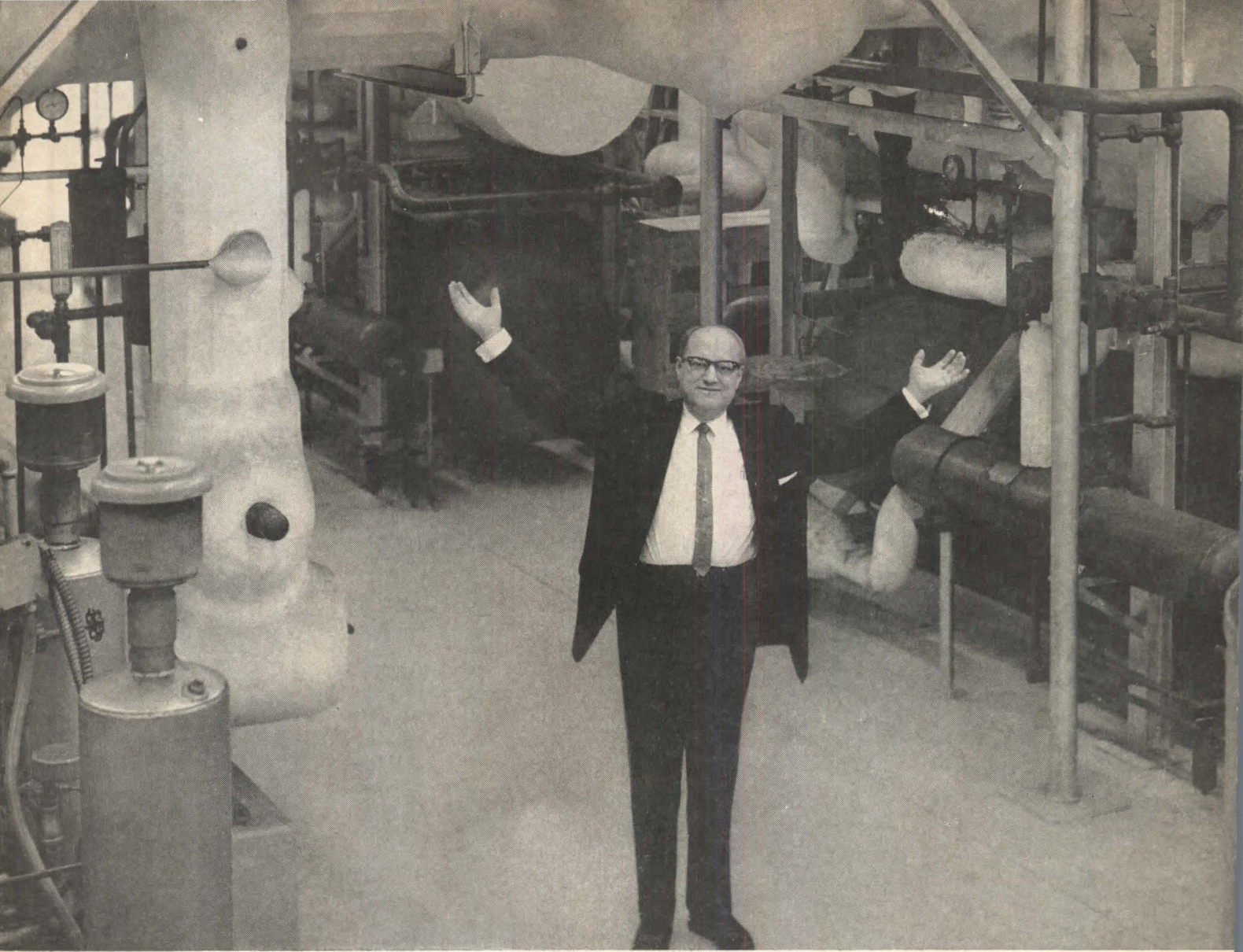


"OUR 640-TON ELECTRIC HEAT PUMP will keep our entire 220,000-square-foot plant and offices at 70° year-round, regardless of outside temperatures," says Frank Flick.

"TOTAL ELECTRIC SPACE CONDITIONING FOR OUR PLANT WAS THE BEST RECOMMENDATION OUR ARCHITECT MADE"

Frank Flick, President of Flick-Reedy Corp., Bensenville, Illinois, reports on the advantages of using flameless electricity as a single source of energy for all plant heating, cooling and lighting

"Without any doubt, one of the most important new design elements in our new Flick-Reedy plant is total electric space conditioning," reports President Frank Flick. "By following our architect's recommendation and using electricity as our only source of power, we have obtained a markedly more efficient operation.

"Greater plant cleanliness, for example, has enabled us to improve the quality of the hydraulic cylinders and sealing fittings manufactured by our two divisions. And automatic year-round air conditioning—with heating and cooling both provided by our electric heat pump—has resulted in a sharp drop in absenteeism and a consequent increase in production.

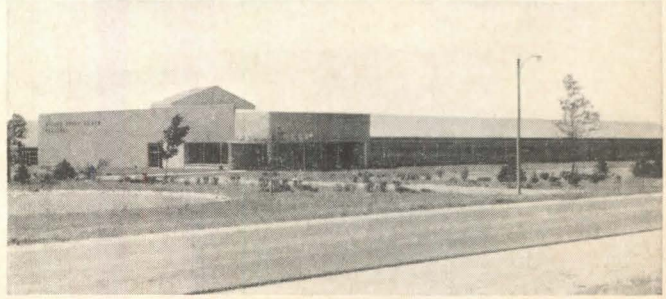
"On the basis of our own experience here at Flick-Reedy, I would strongly recommend that anyone involved in industrial design look into the advantages of total electric space conditioning as soon as possible."

For architects and consulting engineers, total electric space conditioning offers the modern method for combining heating, cooling and lighting into one efficient operation using a single source of energy. In many cases, recommended lighting levels can provide a substantial part of the heat as well, thereby reducing the size, space requirements, and cost of heating equipment.

If you are interested in finding out ways in which total electric space conditioning can help you in the design of industrial and commercial buildings, contact your local electric utility company. They will welcome the opportunity to work with you.

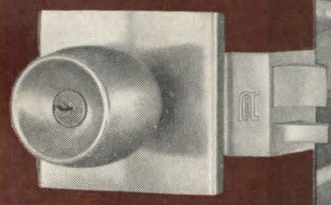
BUILD BETTER ELECTRICALLY

Edison Electric Institute, 750 Third Avenue, New York 17



CITED FOR "IMAGINATIVE BOLDNESS," the award-winning Flick-Reedy plant features total electric design. Architect-engineering firm was Zay Smith & Associates, La Grange, Illinois.

Doors are to dramatize...



RUSSWIN

VIEWS

Future of the Profession and Architects' Responsibility

Dear Editor: Your Editorials in the OCTOBER/NOVEMBER 1963 P/A certainly indicate that you should be brought up to date on a number of points.

First, the AIA is not "gripped with fear" nor "frantically searching for a substitute solution." The Institute began in 1960 to examine the profession and itself in calm and deliberate fashion. We adopted the premise that these are changing times requiring a changing profession.

In fact, we believe that the years ahead will be unlike anything before in the history of architecture. The opportunities and challenges in design will be greater than ever and, indeed, will be in terms of total environmental design. The nature of practice will undoubtedly be different and will indeed be along the lines of "comprehensive architectural services." This will become "standard practice."

Since the AIA adopted these concepts, we have been instituting activities and projects in a planned and purposeful manner to move steadily toward the major objectives. Seemingly you have heard only of the "expanded services" project, which may have drawn more attention at first than other equally important programs. The comprehensive services project is no flash in the pan. The two-year series of articles in the *Journal* will produce only the first book on the subject. Subsequent, expertly written texts on subjects such as finance, land assembly, feasibility studies and cost estimating, together with regional seminars, will develop a long-term extension education for AIA members in new methods of practice.

Let me tell you of other far-reaching projects we have underway: [*Here follows a description of all the Institute activities.*]

Does this sound like an Institute running scared? Quite the contrary, obviously. We know what we want to achieve and are going about it with the greatest unity of purpose ever seen in the AIA.

Now, about this leadership business. I don't know of a leader in our profession who assumes that leadership is attained by assertion. It must be earned. That is why we are intent upon developing our capabilities.

Further, we fully comprehend the team requirement for total environmental design. The design professions will produce such design and, under various circumstances, one or another of the professions will exercise a share of leadership. Generally speaking, we believe the education of the architect—and especially under the new educational ideas we are promulgating—qualifies the architect for the chief conceptional responsibilities in the solution of most environmental problems. This has nothing to do with the yardstick of dollar cost of the parts and systems of a building, which you erroneously cite as a measure of the importance of design services.

Our relationships with the design professions are directly maintained through our AIA-Engineers Conference Committee and the newly formed Interprofessional Commission on Environmental Design. The Committee includes the National Society of Professional Engineers and the Consulting Engineers Council; the Commission includes the American Society of Civil Engineers, the American Institute of Planners and the American Society of Landscape Architects. We know from our sister professions that the AIA is not the only society faced with necessities to meet the challenges of these times. In common with us, they share our determination not to let the decision-making processes fall into the hands of nonprofessionals. They share our determination to educate the public to the importance of design to today's communities.

Your November Editorial makes oblique reference to AIA's "existing policy." I must presume you are referring to our ethical code—our Standards of Professional Practice. At our next convention, the membership will consider revisions of the Standards. The revisions, after three years of study, will add some phrases and eliminate some phrases—both with the intent of bringing ethical concepts into line with modern practice. In general, the requirements upon the architect for competence and responsibility are being increased—as well as his freedom of action in the early stages of large projects for group clients. No revision, however, will detract one iota from the requirement for a professional performance.

Finally, the Institute advances the architectural profession by building upon the three basic cornerstones of architecture—art, science, and business—in a way that no specialized group devoted to any one of these vital elements of architecture could attempt to do.

We are always interested in editorial criticism, but like to see it cognizant of what AIA is now and not yesterday. May I suggest that you need endure no puzzlement about anything the AIA is doing. The information is always available.

J. ROY CARROLL, JR.
Washington, D.C.

[*The preceding letter from the President of the AIA was followed three weeks later by the letter reproduced below.*—ED.]

Dear Editor: I have just read your Editorial of the November, 1963, issue [*sic!*].

I would like to comment on two points which were raised.

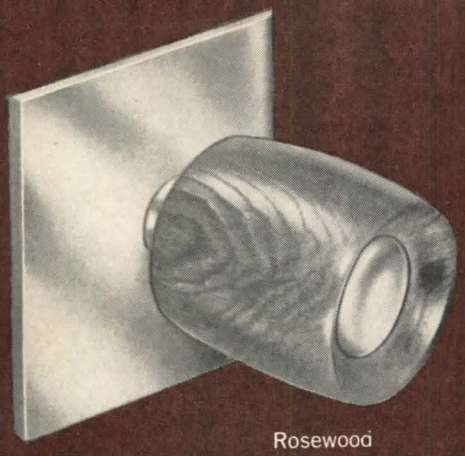
First of all, it should be possible for a professional society such as The American Institute of Architects to speak first in the interest of all of our citizens; and this is precisely what we have tried to do. We are also interested in upholding the standards of our profession and the interest of all of the corporate members of The American Institute of Architects. These two objectives are perfectly compatible.

Sometimes, as you can well imagine, the opinions of the members of the Board of Directors are as diverse as the opinions of the some sixteen thousand architects across the country whom they represent. This should be no surprise to you or any other well-informed person. The point is that Institute policy is determined by the *majority* of our delegates at conventions, and by a *majority* of the members of the Board of Directors.

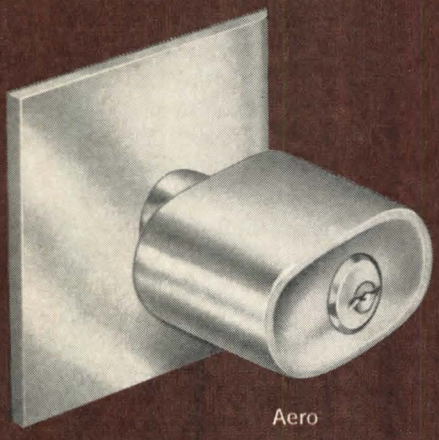
I would say that the policies thus formulated in the last few years have always been "on the side of the angels," and I would be interested in knowing what single policy The American Institute of Architects has espoused which put the interest of its members above the interest of the society which it is serving. [*See the following letter; also, p. 60,* DECEMBER 1963 P/A.]

Our AIA Commission on Education was charged to concern itself with the relationships of all of the design professionals to each other and to the problem of designing man's total physical environment. The preliminary report of our Commission on Education recognized a need to have all of the design professionals educated within a single school.

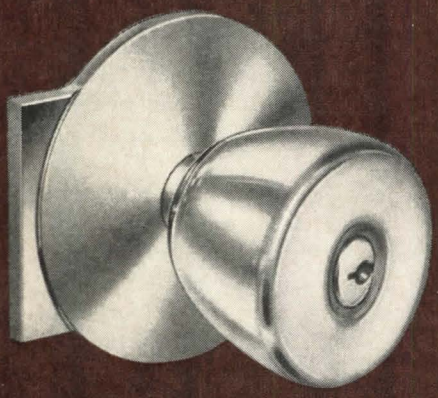
Their proposal suggests that an A.B. degree might be requisite for admission; that during the first year of such a school all of the design professionals would take the same courses; that each design professional from that point on



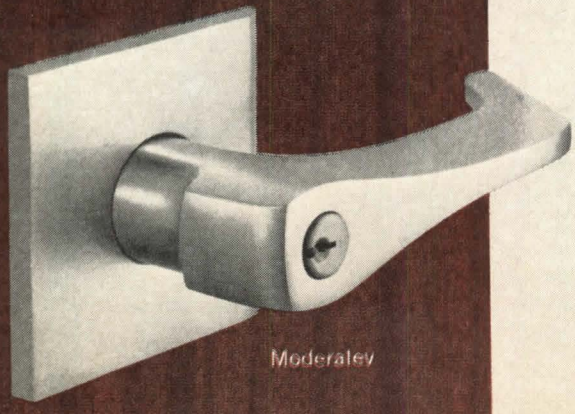
Rosewood



Aero



Mystic



Moderaley

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*TRADEMARK

would develop his own particular specialty; and that, finally, all during these years of study, groups of these different design professionals would collaborate in the school in the development of various projects.

The American Institute of Architects hopes that a suitable Foundation will provide sufficient funds so that this preliminary report of the Commission on Education can be studied in depth to the benefit of society in general, all design professionals, and the present professional schools.

I cite this example, and there are many, as one in which the Institute is trying to find a solution for an important problem, and is approaching it on the basis not of "protecting the architect," but serving best all of our citizens.

Now, I would like to speak on the subject of criticism. For one architect to "knowingly injure falsely or maliciously, the professional reputation, prospects or practice of another Architect" is deemed unprofessional conduct. This quote is taken from The American Institute of Architects' Standards of Professional Practice. Its intent is perfectly clear, and I see no reason to change it.

With regard to specific design propoposals for a building or a group of buildings, I would like to suggest that the press, and especially the architectural press, approach this problem somewhat differently than at present. If a building is to be criticized, adequate photographs and plans should be shown, and the architect responsible for the design should have an opportunity to describe his reasons for producing his particular design. In an adjacent column, criticisms of his building could appear, and I am sure that most architects would not object to such a presentation as long as they have the opportunity to present their own case for the building they designed.

Finally, if criticism needs to be aimed at the appropriateness of a public structure or its location, I believe a position objecting to it should be taken by a component of our professional society rather than by an individual. I believe, also, that such a position should not be taken unless the matter is first thoroughly aired with ample opportunity for proponents and opponents to present their opinions before, say, a chapter meeting. I should also point out that local chapters could very well take such positions on local matters, state components on state matters, and the national organization on national matters. What I am saying is that I do not believe a single one of our chapters should try, by public pronouncement, to represent themselves as expressing the point of view of all one hundred and sixty chapters, on architectural matters, at the national level.

It should be called to your attention that the AIA, contrary to what your Editorial says, *does not* have a double standard. Its present organization is, I believe, truly representative of all of its members, and I am, as I indicated above, unfamiliar with any action taken by The American Institute of Architects which could be construed as either a proposal of a minority of its members, or an action not in the best interest of all of our citizens.

J. ROY CARROLL, JR.
Washington, D.C.

Dear Editor: Your Editorials deserve the serious attention of all architects, but especially of members of the Institute, in view of the fact that the AIA has been intensively projecting for its membership a role of prime responsibility for the coordination of the disciplines necessary to the design of "total physical environment." It is presupposed that without such co-ordinating initiative, beauty is unattainable. However, the capability and desire of the membership to fulfill that role is only an assumed and unsubstantial factor.

Your stated concept of responsibility to the public weal, transcending narrow self-interest, is very relevant to the coordinative function projected upon the architectural fraternity. But its meaning must be assimilated before it can be expressed in the formal tenets of the Institute.

For example, it was apparent at the recent N.Y. Chapter AIA meeting, which dealt with the proposal for competitions for commissions to design the New York City Civic Center, that there is a dichotomous aspect to the Institute's position. It is desirous, on the one hand, of enhancing the architects' (professed) functions as co-ordinator of the process of design of comprehensive environment; while, on the other hand, it maintains zealous guardianship of the architects' hereditary privileges in the architectural marketplace.

The implicit conflict of interest (in its effect upon our attitude toward the public weal) constitutes a condition which can undermine the effectiveness of the architect—as you clearly inferred.

The composite avalanche of technological and economic (as well as the civic and social) pressures demand more sophisticated criteria of architectural performance. Hence, new levels of knowledge and objective competence (which raises the base on which the architect exercises his intuition in the creative process) are mandatory. The contemporary architects' awareness has to be broader and, in a sense, more "democratic."

Thus, the burgeoning pressures of megalopolis (to which New York City's Civic Center redevelopment is a response) must be met by an architectural procedure adequate in contemporary terms. The design of the Civic Center should be formulated in the broad spectrum of awareness of the millions of urbanites, not within the inherently limited perspective of the bureaucracy which negotiates and awards contracts. In short, we (the professionals involved) have a responsibility to the "client"—not to the "building committee."

Although it was evident at that meeting that there was a healthy undercurrent flowing toward the broader interpretation of "responsibility," this was inevitably modified by the time-honored, established pattern of practice evolved from earlier, simpler days, but now anachronistically inhibiting or restrictive. Thus, the immediate issue was foredoomed to partial resolution as regard the matter of the public weal; and it shall remain thus unless a vigorous effort is made to find and promote a mode of practice commensurate with the projected goal. Failure to initiate such search would be tantamount to abdication of leadership; and the vacuum created thereby, abhorrent to the public weal, shall inevitably be filled by nonarchitectural specialists.

An image inherited from our master-guildsmen antecedents can be partially sustained by only one aspect of contemporary civilization: the realities of the marketplace, and the struggle for economic advantage. This fact, be it warming or chilling, affects all of us, daily. But it behooves us to make the painful effort to transcend motivations stemming solely from that aspect of reality, if we are to be respected and trusted for the performance of a humanistic service.

The idea you develop in your Editorial must be nurtured; and its signficance relentlessly reiterated. Its assimilation into the Body Professional, and inevitable effect upon professional ethics, cannot be anything but benign.

BERTRAM L. BASSUK
New York, N.Y.

Dear Editor: Your Editorials are thoughtful and thought-provoking. And I think

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SPECIFY THE RIGHT NUMBER OF INSTALLATIONS. The logical number of public telephones can be predetermined for any building. In this area our Public Telephone Consultants are helpful, too—for they can predict with remarkable accuracy the number of installations your building will require.

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everything that you said is true.

Your emphasis on serving "the public weal" stands out—this is the key to our professional standing. Our acceptance by the public as leaders of a team effort (which must be mounted to solve the immense building problems facing us) will surely come only if we serve the public interest first and our own interest second. Architectural practice in the tradition of the huge Los Angeles firms, complete with public relations departments, may be having temporary success, but I can't help feeling that the superficiality of their work will be found out even by the general public. Certainly they have not done quality design work and thus confer a reputation of business-like insensitivity on the whole profession. The magazines have a responsibility to unmask their works publicly—who else can do it?

If, as you suggest and I agree, the AIA should change its policy, so should the magazines that continue to glorify the great masters when they no longer do masterful work. The sterility of Mies' and Pei's recent published work is a case in point, yet they are extolled everywhere. The FAA is now about to impose uniformity on new airports everywhere with a tower design that looks for all the world like nothing more than an industrial designer's plastic model toy.

How about dedicating P/A for a year to unmasking the phoniness of much of today's work and extolling the genuine article when you find it? The so-called "theme building" at the Los Angeles airport; the Las Vegas airport building that copied TWA at Idlewild; the unbelievable hollowness of some of Niemeyer's work in Brasilia, the Milam house in Sarasota; the façaderie of the American Embassy in New Delhi would be good morsels to chew on.

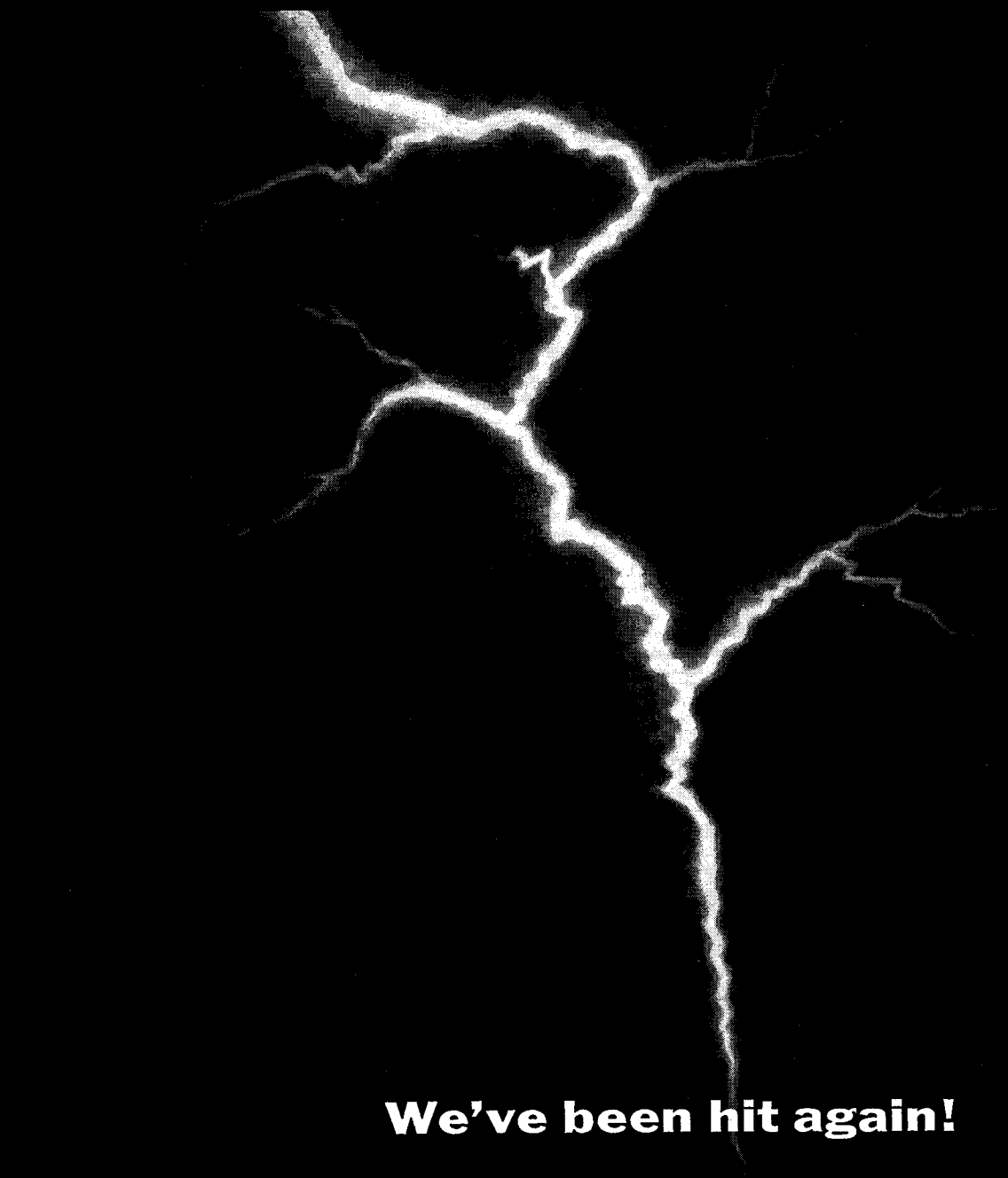
Some examples of the genuine article? Harder to find, of course, but you might start with Albini's great and too little known Museum of the Treasury of Saint Lawrence, in Genoa; some of Ed Barnes' work, some of Schindler's and Ellsworth Storey's work? I'm sure you can dig them out; you will find the serious members of the profession supporting you.

Incidentally, the November issue was great—especially the Burchard article. Let's have more like that.

FRED BASSETTI
Seattle, Wash.

Dear Editor: Your Editorials indeed discussed questions of paramount importance to the future of our profession.

Continued on page 16



We've been hit again!

Last year the Callaway Design Studio received the A.I.D. International Design Award for its Northern Lights towel and rug collection.

This year... pow! We're delighted to report that the A.I.D. has hit us again.

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Please hit *us* for your free full-color portfolio.

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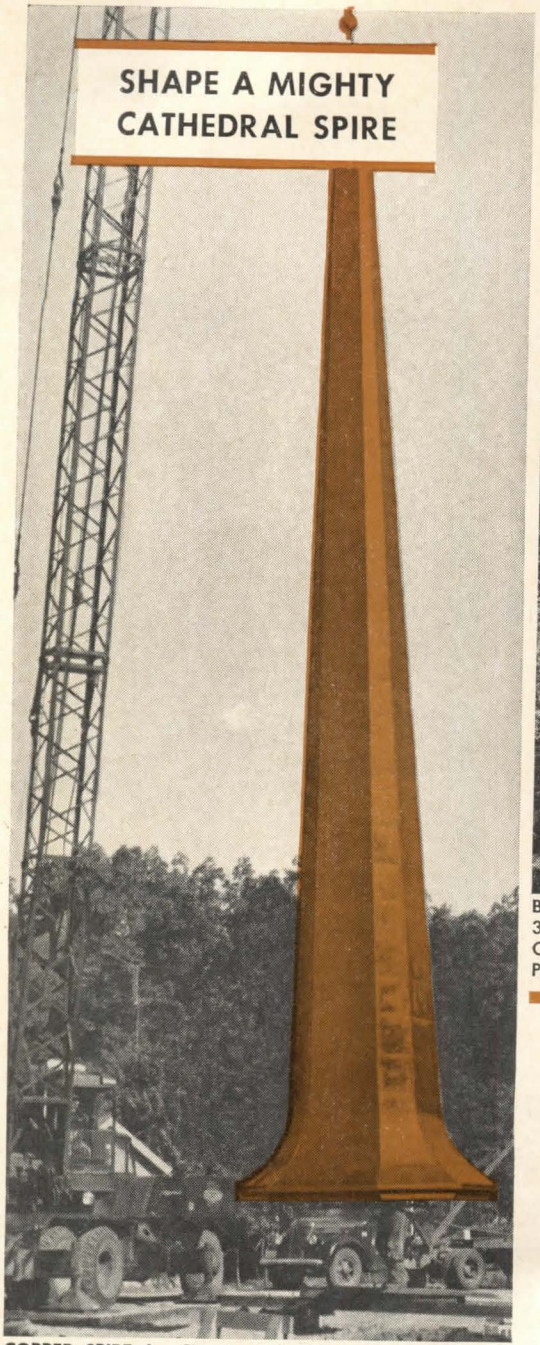

COPPER SPIRE for Church of the Open Door, Muskegon, Mich. It was fabricated from 5,000 lbs. of 16 oz. Cold Rolled Revere Copper by LIVINGSTON SHEET METAL CO., Muskegon. Spire is 81 feet high and 19 feet in diameter at the base. Revere Distributor: CENTRAL STEEL AND WIRE COMPANY, Chicago, Ill.

BATTEN SEAM ROOF on Miss Porter's School, Farmington, Connecticut, was fabricated from 30,000 lbs. of Revere Sheet Copper. Architect: MOORE & SALSBURY, West Hartford, Conn. General Contractor: FELIX BUZZI & SON, INC., Torrington, Conn. Sheet Metal Contractor: EARNEST PETERSON, INC., Hartford, Conn.

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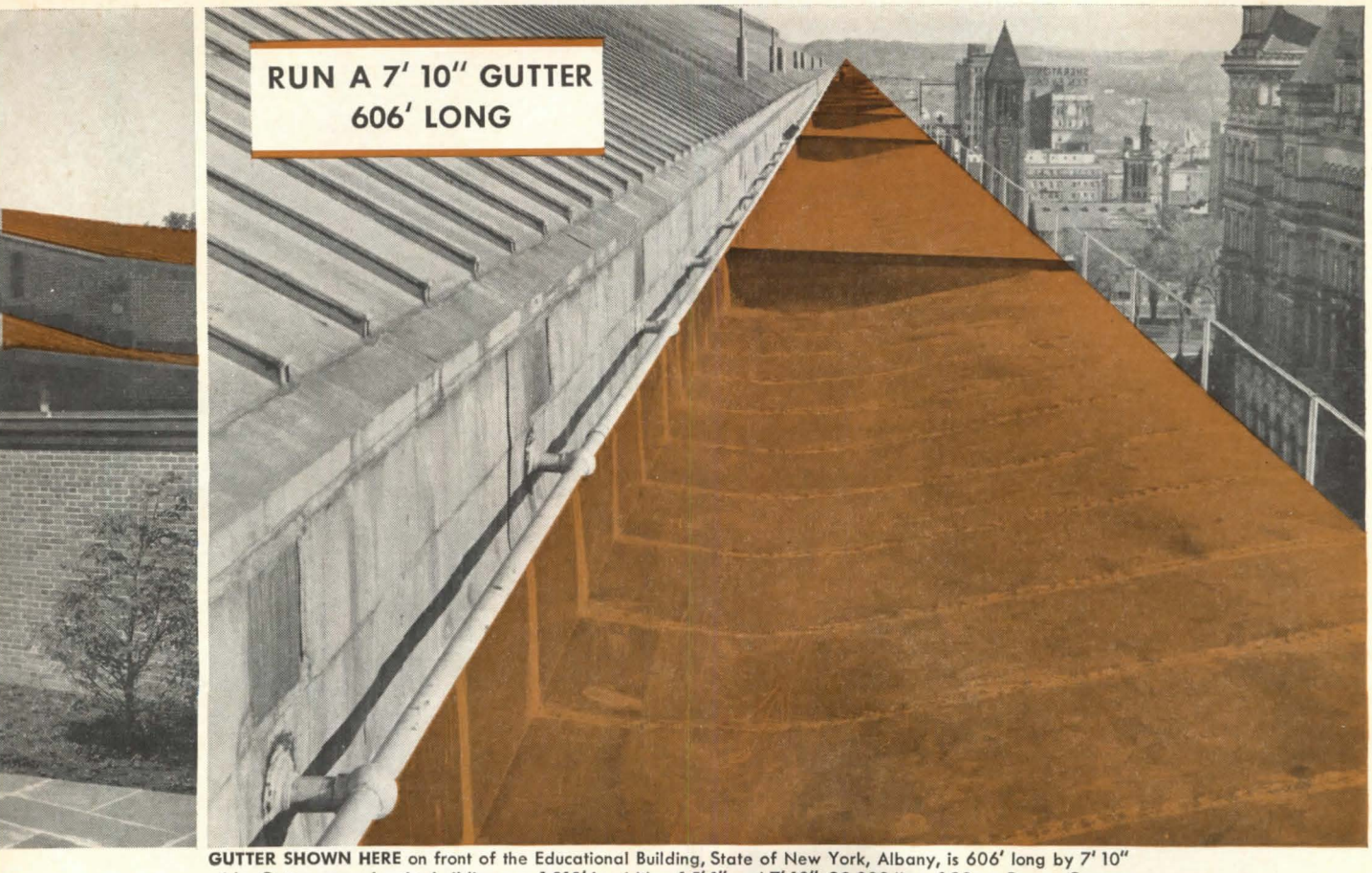

GUTTER SHOWN HERE on front of the Educational Building, State of New York, Albany, is 606′ long by 7′ 10″ wide. Gutter around entire building runs 1,818′ in widths of 5′ 1″ and 7′ 10″. 38,000 lbs. of 32 oz. Revere Copper were used. Architect: CARL W. LARSON, State Architect. Roofing & Sheet Metal Contractor: VENDITTI BROS., INC., Schenectady, N. Y. Revere Distributor: BINGHAMTON HARDWARE COMPANY, Binghamton, N. Y.

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Continued from page 12

Your discussion, however, does not in any way reflect the motives of the AIA, or the spirit of any discussions in which I have engaged on the subject of expanded services. Furthermore, you interpret the standards of professional practice of the Institute in a manner which I consider entirely erroneous, although not uncommon.

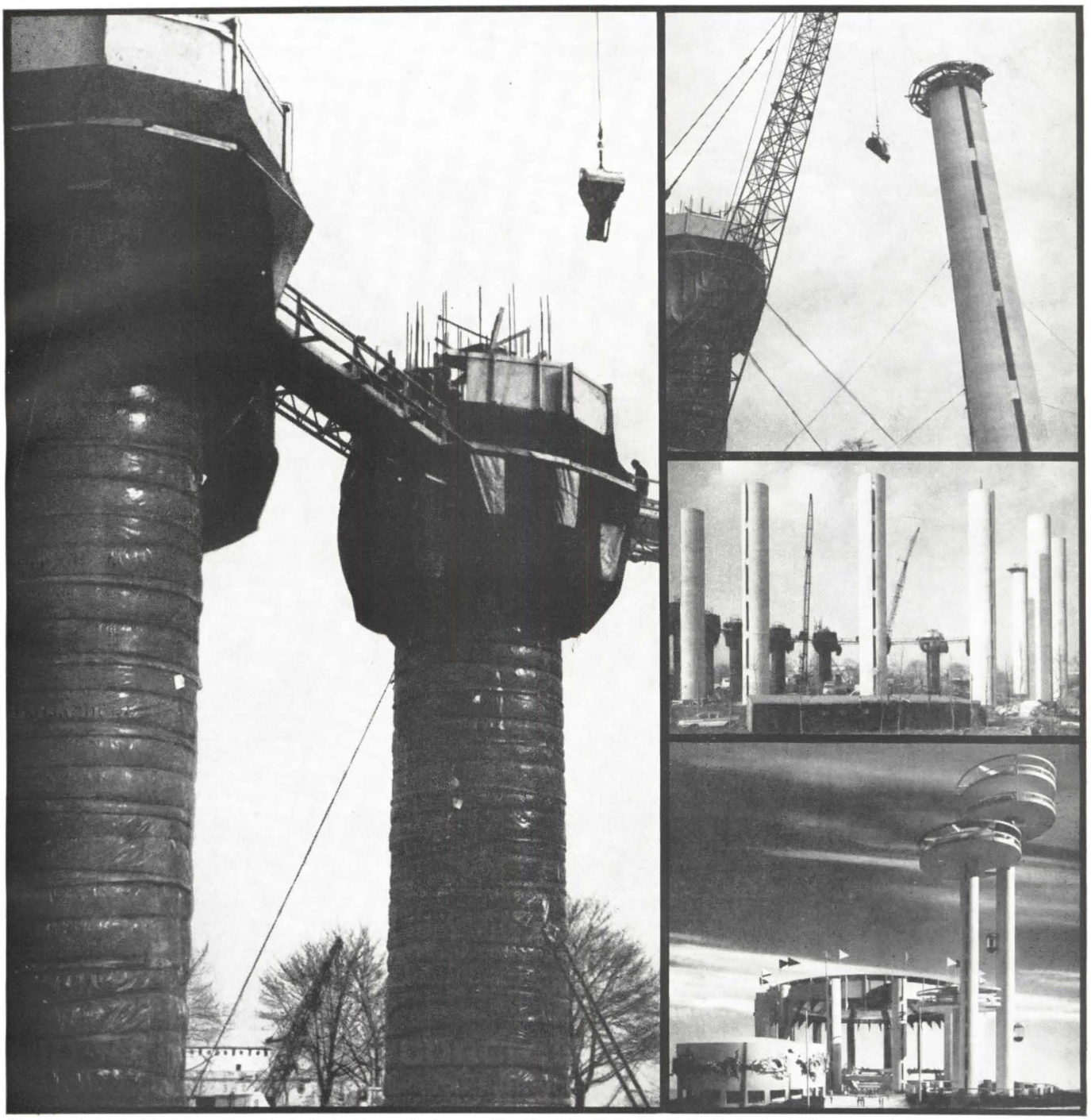
Since I served for several years on the committees which discussed expanded services and standards of practice in detail, and which recommended policies in both cases, I think I can speak with assurance in both cases. In none of our discussions on expanded services over a period of years did I hear that the Institute was "gripped by fear," nor that we had "a growing fear that inroads made by others could diminish the architect's role to the point of insignificance." Quite the contrary. The discussions, as I recall them, were always positive and constantly sought opportunities for the "profession to be of ever increasing service to society," a fundamental stated purpose of the Institute.

The misinterpretation to which I refer occurs where you indicate that the standards of professional practice inhibit the Institute from taking a stand that might jeopardize the commission of a member, or inhibit an architect from opposing a project he believes harmful to the community, simply because another architect is involved in it. No rule of which I am aware makes "such opposition unethical."

Quite the contrary. Rule 7 of the mandatory standards requires that an architect properly serve the interests of his client *and the public.* Deviation from this rule may subject the architect to discipline "in proportion to its seriousness." Rule 12 does require that an architect not "knowingly injure falsely or maliciously the professional reputation, prospects or practice of another architect," but I assume you are not referring to such a case.

As a matter of fact, more than one architect currently is opposing a project which I am advocating for a client before the City Planning Commission. I am confident that my proposal is in the best interest of the public, as well as my client, but I also recognize that there are two points of view, which I believe are equally responsible from the standpoint of the public welfare. I do not resent my colleagues' opposition, although I wish I could convince them that our proposal is in the best interests of the

Continued on page 20



New York State Pavilion, New York State Commission on the World's Fair, Lt. Gov. Malcolm Wilson, Chairman. **Architect:** Philip Johnson Associates. **Consulting Engineer:** Lev Zetlin & Associates. **General Contractor:** Thompson Starrett Construction Co., Inc. **Sub-Contractor:** (slip-form construction): The Nicholson Company, Inc. **Ready-Mix Concrete:** Colonial Sand & Stone Co., Inc.

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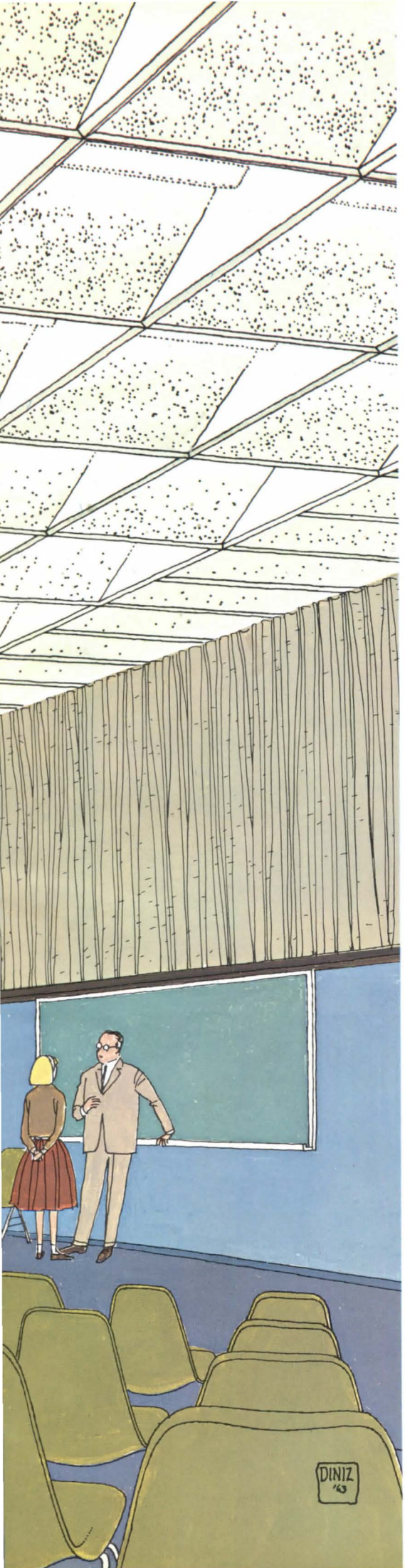

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The place is the new Choral Room of Culver City Junior High School. The ceiling is the new Armstrong Luminaire System—the first ceiling system to integrate air distribution, lighting, acoustical control, good looks, and finished ceiling surface. Hundreds of these ceilings are now in operation throughout the country.

The Armstrong Luminaire System was specified in place of the originally planned separate systems. The architect explained why. The system eliminated most ductwork and all diffusers. It simplified design and installation. Eased inspection and supervision for both air distribution and lighting systems. The system allowed concealment of light sources from normal sight-lines while providing high lighting levels, outstanding good looks.

With the Armstrong Luminaire System, all components are available from one source. All functions are supported from one grid. Each 50″ module is its own light and air distribution source. Directed entirely downward, light is uniform and glare-free—10% more efficient than conventional recessed troffers. Here, illumination levels measure 180 footcandles at the work plane. These levels are typical. The ventilation function provides uniform, draft-free air distribution.

Flat ceiling panels allow the system's adaptation to any size or shape room. Specially designed to accommodate ceiling-high partitions, it offers limitless layout flexibility. The system is available with one-, two-, or three-lamp fixtures. Even shielded, as here, lamp cleaning and replacement are fast, uncomplicated.

MORE INFORMATION. For complete information on the new Armstrong Luminaire Ceiling System, contact your local Armstrong District Office or Armstrong Ceiling Systems Contractor. For a free illustrated portfolio and photometric data, write to Armstrong, 4202 Watson Street, Lancaster, Pa. Circle #300 on Reply Card.

CREDITS: Culver City Unified School District, Culver City, Cal. *Architect:* Boyd Georgi, Altadena, Cal. *Mechanical Engineer:* Thomas H. Parry & Assoc., Pasadena, Cal. *Electrical Engineer:* William H. King, Pasadena, Cal. *General Contractor:* W. J. Shirley, Inc., Pasadena, Cal. *Ceiling Systems Contractor:* Crownco, Los Angeles, Cal.

RENDERING BY CARLOS DINIZ.

Armstrong
CEILING SYSTEMS

Continued from page 16

City as a whole, as well as the residents of the area.

In any event, if you will reread the last report on the Committee on the Profession, and the standards of professional practice, last proposed in a draft (May 7, 1963), you should find the door opened to opportunities with no prophecy of doom in the former, and many references to our obligation to the public in the latter. I regret that these points failed to come through.

ROBERT E. ALEXANDER
Los Angeles, Calif.

Dear Editor: Your Editorials on the future of the architectural profession are indeed a reflection of our times. Obviously the existing national fear psychology responsible for the death of President Kennedy has so penetrated the journalistic profession that it is no surprise indeed to see it come out in your writings. While I recognize this phenomenon, I cannot subscribe to it.

All of us in the profession who have straggled to exist through wars and depression are just too hard-boiled to be swept along with the tide. There is no room for defeatism and pessimism in our thinking, so we do not permit it.

Regarding your criticism of the AIA, here I disagree with you most wholeheartedly. The AIA is and always has been a professional organization devoted to the protection of and growth of the profession and *not* to its destruction. If the architects cannot look to the AIA for protection of their rights, then who in God's name can they turn to.

In the latest issue of the *AIA Journal*, one can see how far this fear psychology has penetrated the nation, when Phil Meathe, President of the Detroit Chapter, states that "we really are on the road to death. This death in my opinion is just."

Fortunately, we have the rebuttal by Phil Will who answers that he is "far less discouraged about the profession than Phil Meathe is."

As for me, I definitely am not discouraged about the profession, but I recognize the need to fight for it and defend it at all times so that it be more widely recognized and respected for the glorious art that it is.

I would be delighted if you would recognize the correctness of this stand, cheer up, and take immediate steps to implement this optimism in your next issues.

SIDNEY L. KATZ
New York, N.Y.

Continued on page 22

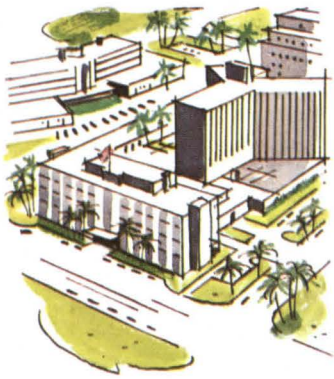
Pratt & Lambert Brings Fresh Beauty to the South

a COURT ROOM, CRIMINAL COURTS BUILDING, CIVIC CENTER, Metropolitan Dade County, Florida. CODA Associates, Architects. All paint products used in the Criminal Courts, Public Safety, Jail and State Office Buildings in the Civic Center are Pratt & Lambert.

b RESIDENCE HALL, GORDON KELLER SCHOOL OF NURSING, Tampa, Florida. James H. Kennedy, Architect. Exterior finished in P&L Alkatite Cement & Stucco Paint; Lyt-all Flowing Flat and Vitralite Enamel Eggshell used throughout interior and in classrooms and offices.

c NURSES' LOUNGE, PRESBYTERIAN HOSPITAL, Charlotte, N. C. This lovely room is finished with P&L Lyt-all Flowing Flat and Vitralite Enamel Eggshell.

d NEW MIAMI HERALD BUILDING, Miami. Naess & Murphy, *Architects-Engineers*. Pratt & Lambert products used throughout the building include Vapex Wall Primer, Lyt-all Flowing Flat, Cellu-Tone Satin, Vapex Masonry Paint, Vitralite Enamel, Effecto Enamel.



Artist's Sketch of Civic Center, Metropolitan Dade County, Florida.

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Murray Blair Wright, Architect for the four buildings, above, of the Diocese of Miami.

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Continued from page 20

Dear Editor: For several weeks now, off and on, I have been giving some thought to the central question you raised in your pair of fine Editorials on the future of our profession—whether we architects should publicly criticize work of our colleagues. If the answer to that question is "yes," as I think it should be, then the next question is "how."

It seems to me that individual architects should be discouraged from being publicly critical of the work of other architects, because such criticism can be—or can appear to be—self-seeking publicity; in addition, such criticism in the aggregate only serves to blur the public image of what architects think about architecture.

In the best of all possible worlds, the architectural profession would be self-critical publicly through AIA, and such criticism should extend to individual projects, particularly those either public or private which have a large public impact. The problem here is how to make the group action representative of its members' thinking and not just of the group's leadership, which may be personally and directly involved in the projects. Perhaps machinery could be developed for polling membership opinion in an AIA chapter for the guidance of its officers, but while I am inclined to be pessimistic about the possibility that this could happen, it would be worth a try.

The most likely way to achieve this objective is for the profession to encourage, in every possible way, journalistic criticism of current architecture. We need to cultivate an informed public opinion about architecture. PROGRESSIVE ARCHITECTURE and other architectural journals are doing this, but to a limited audience, and they are more inclined to do this by publishing what they regard as good work rather than by pointing out defects and weaknesses in poor work. On the other hand, *The New York Times*, with its large circulation to the general public, is making a major contribution in this direction through the articles by Ada Louise Huxtable, who is being accorded the same freedom enjoyed by the drama and music critics. *Time* magazine also occasionally publishes critical articles on architecture, and *Show* magazine is thinking of starting a column of criticism. I understand that *The San Francisco Chronicle* published a column and that it had a discernible effect on the community. So far as I know, these efforts to establish a tradition of criticism for architecture have been made without

Continued on page 26

TERNE, FRANÇOIS MANSART AND THE CONTEMPORARY IDIOM

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Harry Weese & Associates
Chicago, Illinois

Jens Jensen Elementary School
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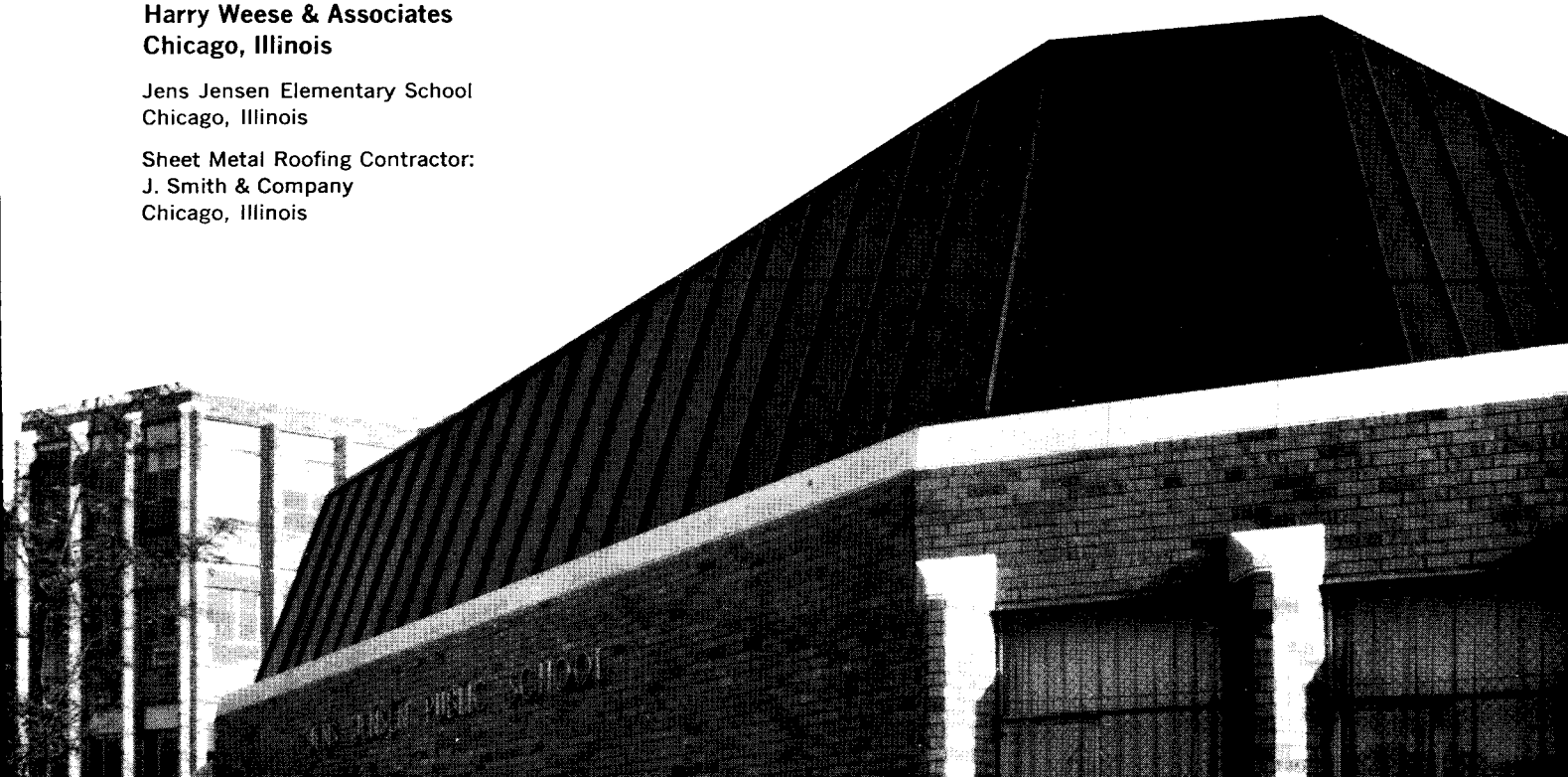
Chicago, Illinois

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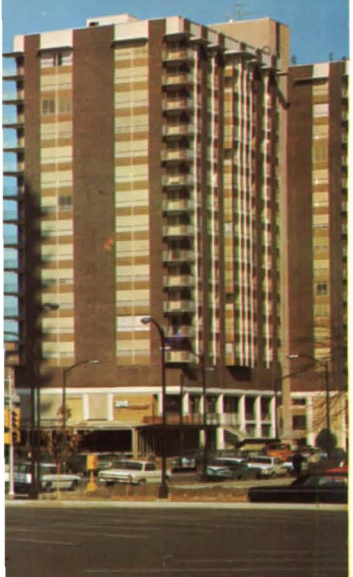

AMERICAN SAINT GOBAIN

ASG
CREATIVE IDEAS IN GLASS

Continued from page 22

any help or any special expression of appreciation from the profession-at-large. Wouldn't it help for the AIA to make a survey of the 200 leading newspapers in the country to find whether they have an architectural critic and thereby suggest they need one? Couldn't the New York Chapter AIA circulate some of Mrs. Huxtable's columns, together with something on why the *Times* decided to institute this program?

It is true that there are not many qualified architectural critics in this country, probably because there have been so few opportunities to publish, but it seems reasonably certain that if opportunities were offered, qualified critics would rapidly appear.

In conclusion, I am in full agreement with your feeling that we architects must push our professional organizations to advance the interest of the entire profession by affirmative and positive action rather than to seek the protection of the established architects by negative and repressive attitudes and actions.

FREDERICK G. FROST, JR.
New York, New York

Dear Editor: C. P. Snow, the British scientist-novelist, speaks of the two cultures in our time and the need for a third culture which will bridge the increasing gap between science and art. He believes the social arts, including architecture, must be one such bridge. To assume that an architect alone or the profession of architecture itself can do it is naive.

You point out that the increase in size of building projects and the increased technological requirements tend to make the future of the profession uncertain. I can't agree, for a total work of architecture is and was always beyond the scope of a single discipline. Any examination of a great work, whether Parthenon, Duomo, Angkor Wat or Notre Dame, places the architect as a part of a larger system. In some cases he is a "stylist," as you put it (to say this is the "last and least important rung in the ladder" is to say that in our time art is not important; were Ictinus and Borromini other than stylists?). In other cases, the inventors of a system of building (Brunelleschi and Buckminster Fuller) or of a city plan (Soria y Mata, Tony Garnier, Ebenezer Howard).

In each instance, the social and power configuration of the time, the *place, work, folk* formula of Patrick Geddes provides the climate, the materials and

Continued on page 184

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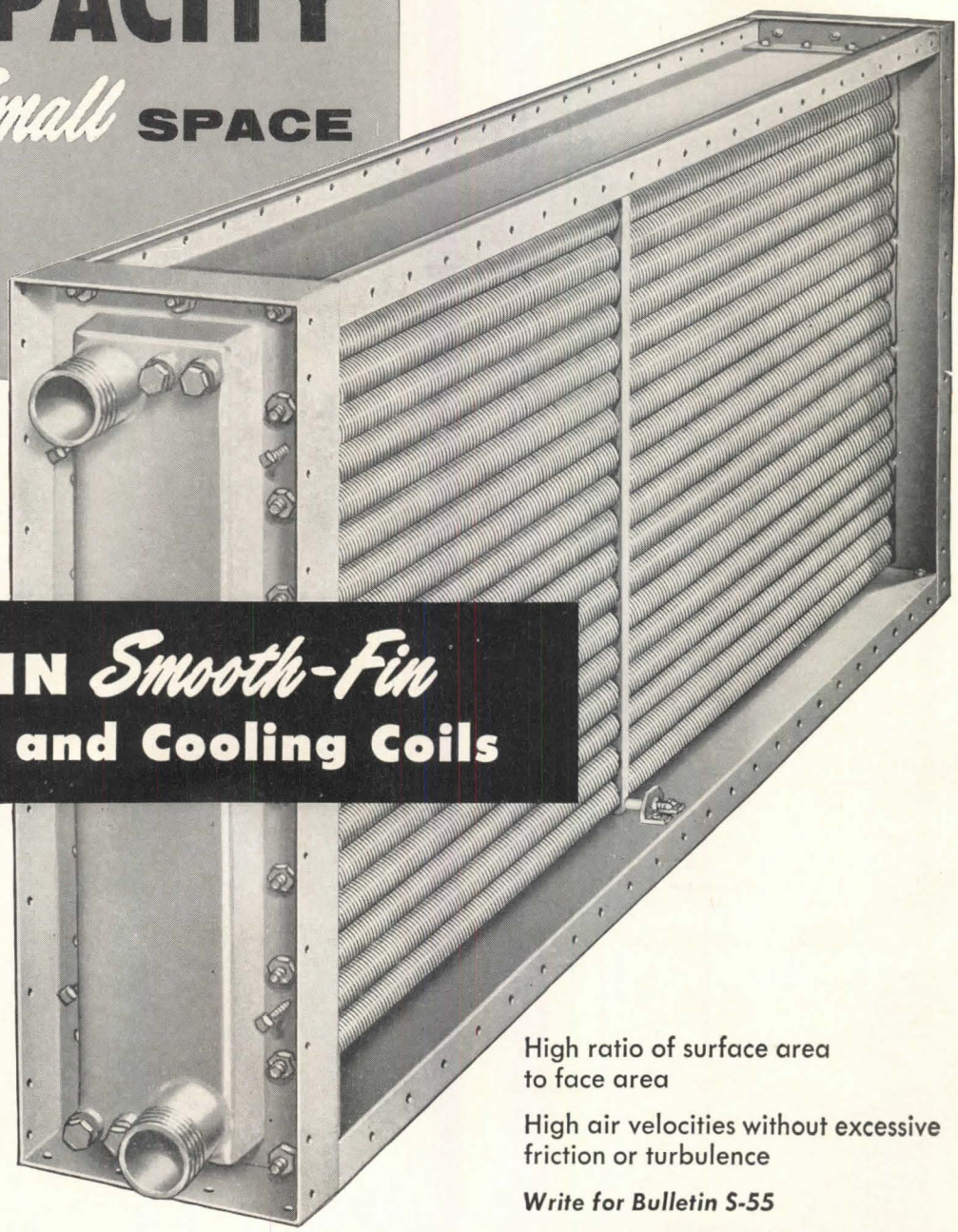

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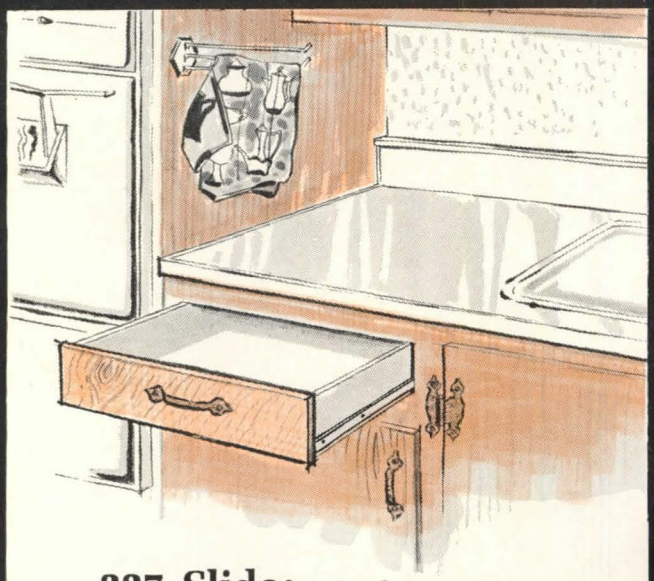

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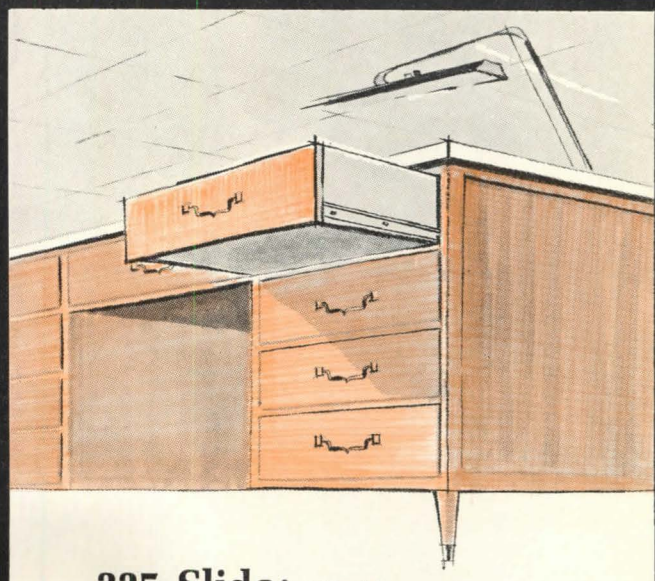

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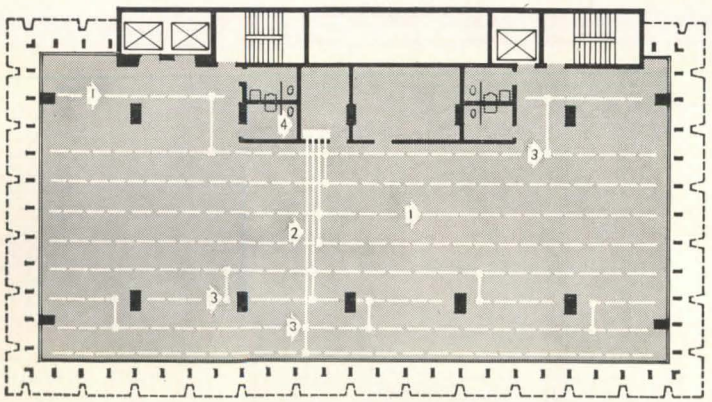

LEGEND

1 = Distribution Ducts
2 = Pyramidal Feeders
3 = Junction Boxes
4 = Electrical Panel

NOTE:

Space ducts and floor inserts to match desk module. Check with Electrical Engineer.

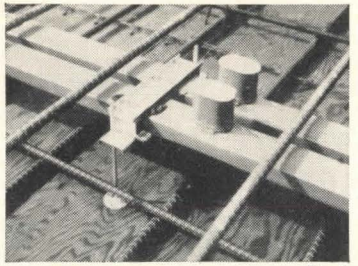

Fig. 1

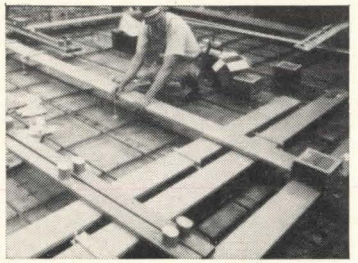

Fig. 2

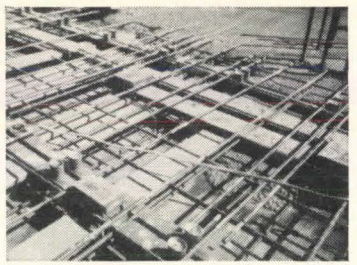

Fig. 3

Fig. 4

Today, raceways under concrete floors can be readily designed for maximum versatility. One method, a pyramidal feed system, that provides adequate capacity for future utility requirements as well as changing plant or office layouts is shown at left.

Fig. 1 shows the distribution ducts and the floor inserts. All inserts for the service fittings will be flush with the finished concrete floor. One duct is for power, one for telephone wiring. Fig. 2 shows the installation in progress. The two-level system allows feeder ducts to pass under distribution ducts. Fig. 3 shows the placing of concrete after reinforcement and ducts have been carefully set. Fig. 4 shows a typical completed installation.

In addition to the basic power and telephone services, many modern buildings may require additional raceways for other uses. These include, for example, panelboard feeders with voltages up to 600V, low potential signal services, intercoms, T.V. and programming. Designers should estimate future requirements as generously as possible.

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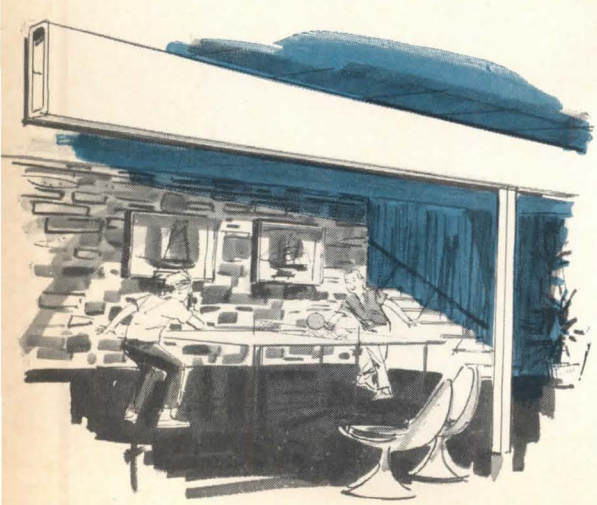
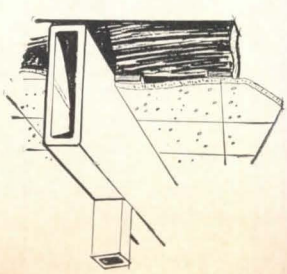
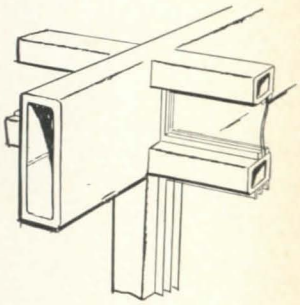




Steel for Strength



New Bethlehem sections, because of their superior finish, are ideal for use as exposed columns, beams, posts, rafters, and mullions . . . in schools, homes, churches, plant and office buildings, and other one- and two-story structures.

Available now for shipment from Bethlehem, Pa., in carload and truckload combination with structural shapes and bar angles. Bethlehem now offers you, *from a single source*, the largest and broadest structural shapes product line in the nation.

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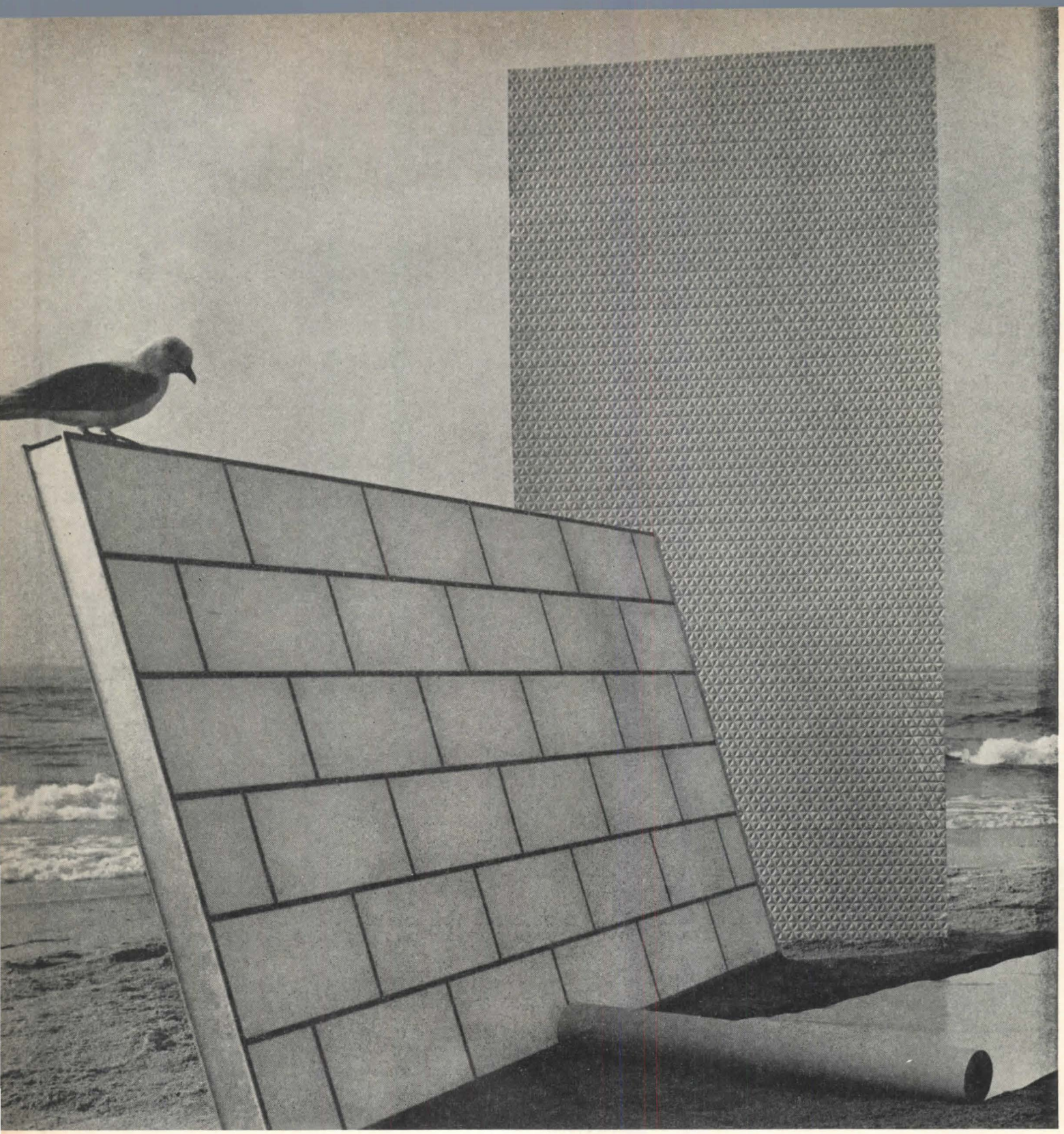

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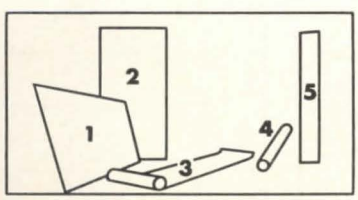

TEDLAR* PVF Film is a tough, long-lasting film-finish. How long will it last? We frankly don't know, because we haven't been able to wear it out yet. However, we predict that when TEDLAR is properly bonded to a stable material, it might last up to 25 years or more without re-finishing. TEDLAR also provides outstanding resistance to fading and chalking. To keep your next building new-looking longer, consider these five products:

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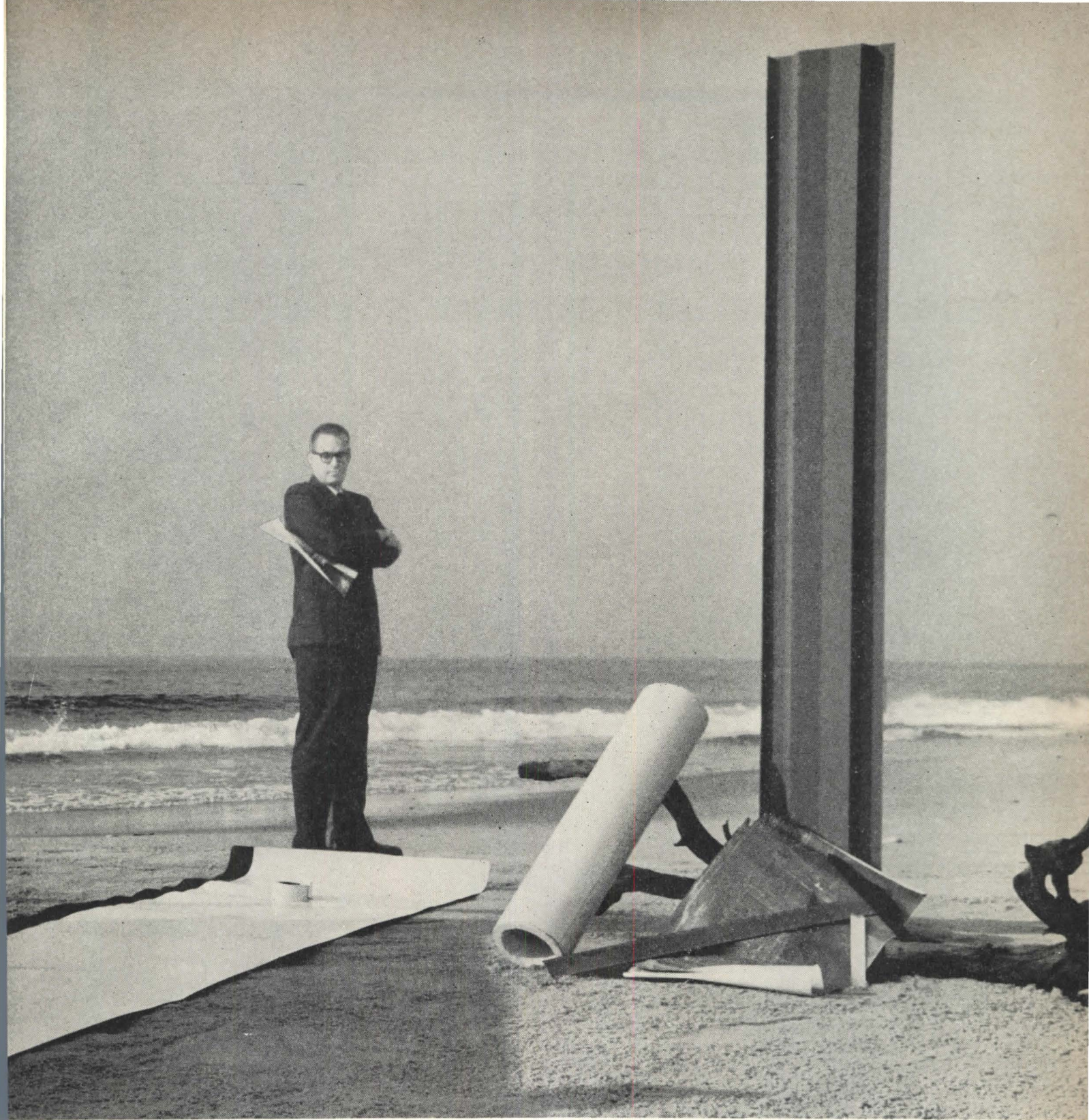
2) ARCHITECTURAL RE-FACING PANEL gives existing buildings an attractive new exterior with long life, low maintenance, long-term freedom from painting. Shown: "Egyptian" pattern, postformed in aluminum by Architectural Manufacturing Company of America, who can supply accessory framing and installation components as well as re-



the film-finish that may keep buildings looking new for up to 25 years

facing panels in a variety of sizes and designs, all surfaced with TEDLAR.

3) ONE-PLY ROOFING MEMBRANE surfaced with TEDLAR, covers any slope, any shape from folded plate to compound curves. Name: Ruberoid T/NA 200. Applied with conventional roll-roofing techniques. Pliable, very lightweight, highly reflective. Stays white through any weather.

4) MULTI-PURPOSE INSULATION JACKETING surfaced with TEDLAR. Covers tanks, process vessels, pipelines. Name: Ruberoid T/NA 100. Despite severe climate or corrosive atmosphere, stays white, highly flexible, virtually fireproof. Can be field-installed or factory-applied. Tape of TEDLAR seals joints. Shown here: rigid pipe insulation.

5) METAL WALL PANELS offer modern architectural look with excellent insulation. Surface of TEDLAR gives all-weather protection and decoration. Shown: "Shadowall"† Type D, roll-formed aluminum panel by Elwin G. Smith Company. Other types available (insulated or uninsulated; factory- or field-assembled) with finish of TEDLAR.

MORE INFORMATION. For more details about any of these products or for more information about TEDLAR, write E. I. du Pont de Nemours & Co. (Inc.), Film Department, Box 2066 Wilmington, Delaware 19898.

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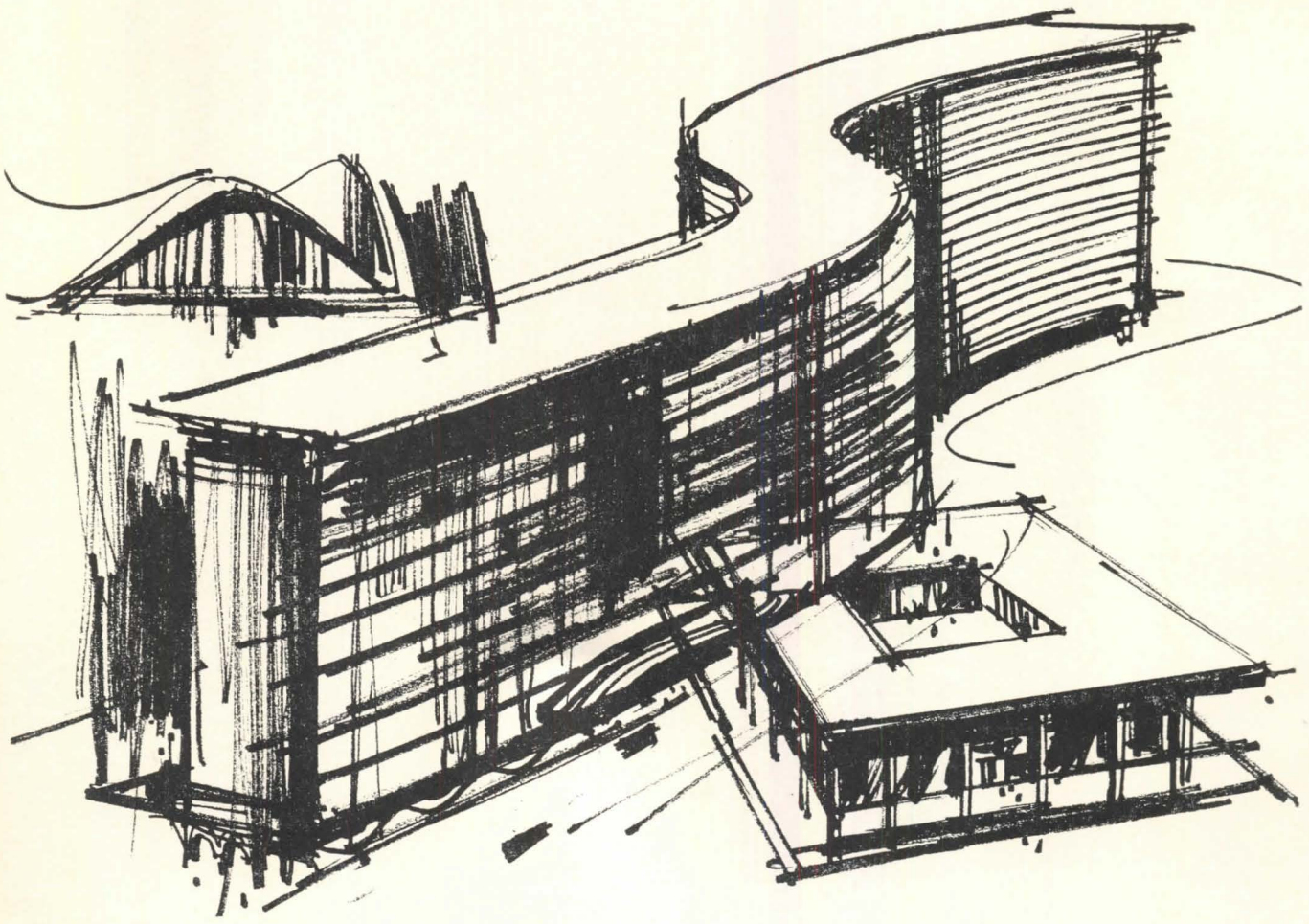

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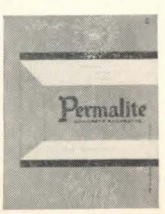

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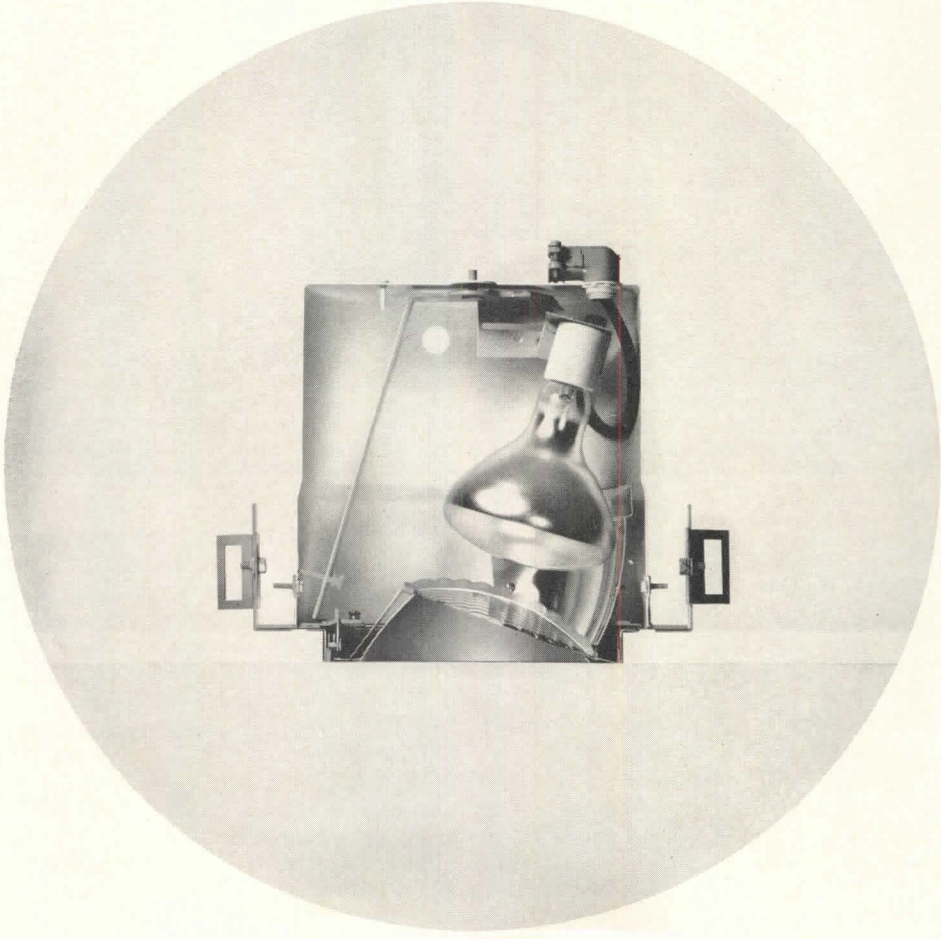

When a smoothly distributed 'wash' of light is needed—for walls, murals, displays, etc.—the unit of choice is Gotham's number 588/598. In designing an instrument of this kind, the trick is to achieve a distribution free of streaks, scallops, and hot spots. Everyone tries—few succeed. We did it by combining a specular Alzak reflector with our own carefully computed spread lens (please note that we do not just use an ordinary spread lens turned upside down). When you want immaculate, flangeless ceiling apertures, specify our number 598; for exposed surface trim, order number 588. For full data—and we mean full!—let us hear from you—

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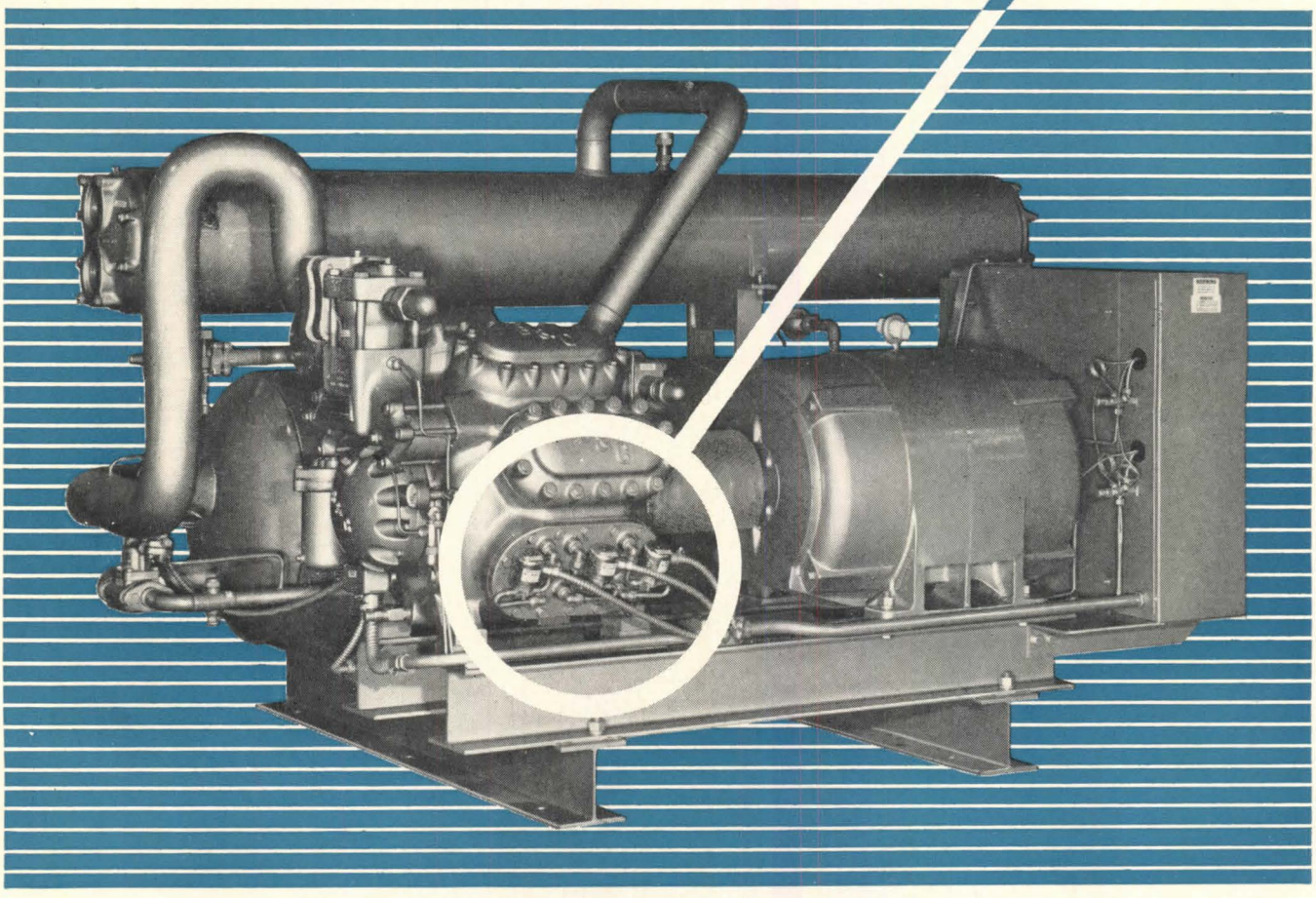

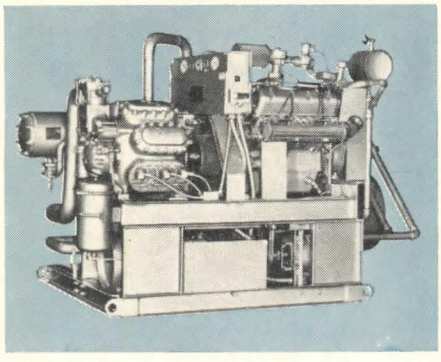

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B&G 100 ton "packages" are remarkably compact, with a low center of gravity which makes handling and installation easier. An exclusive advantage is that they are the only units on the market in which all major components, except the motor or gas engine, are designed, built and guaranteed by one manufacturer—*a single source of responsibility!*

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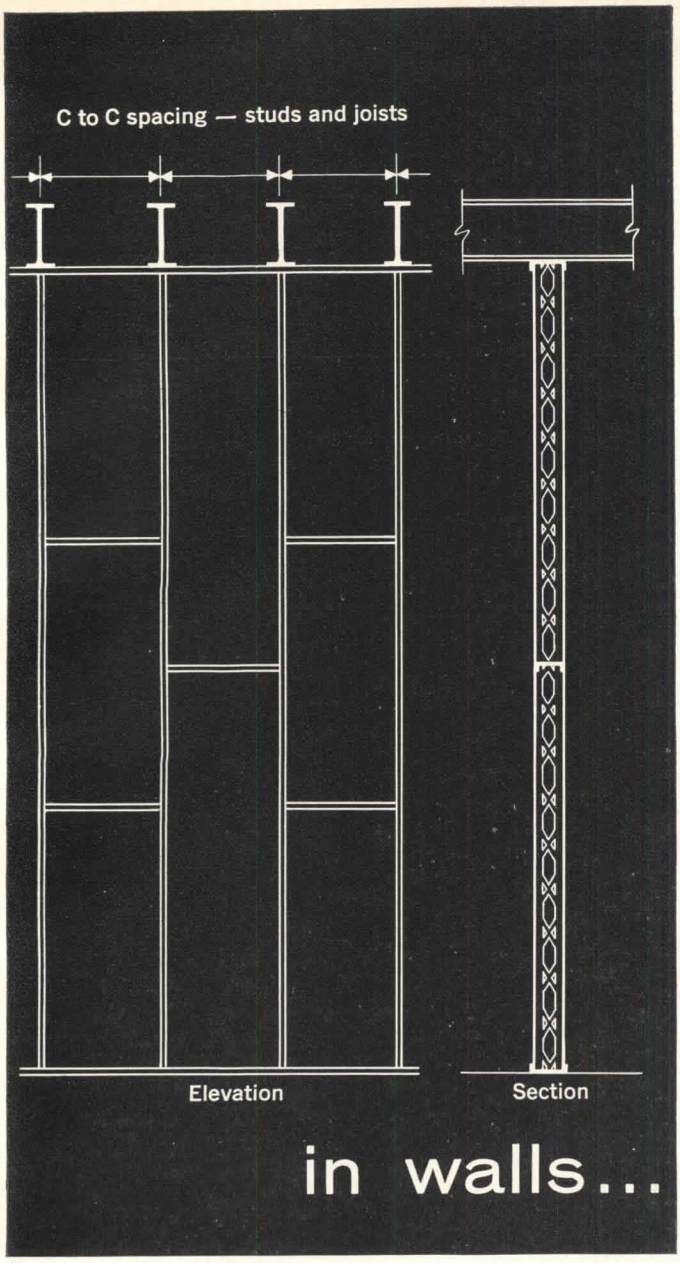
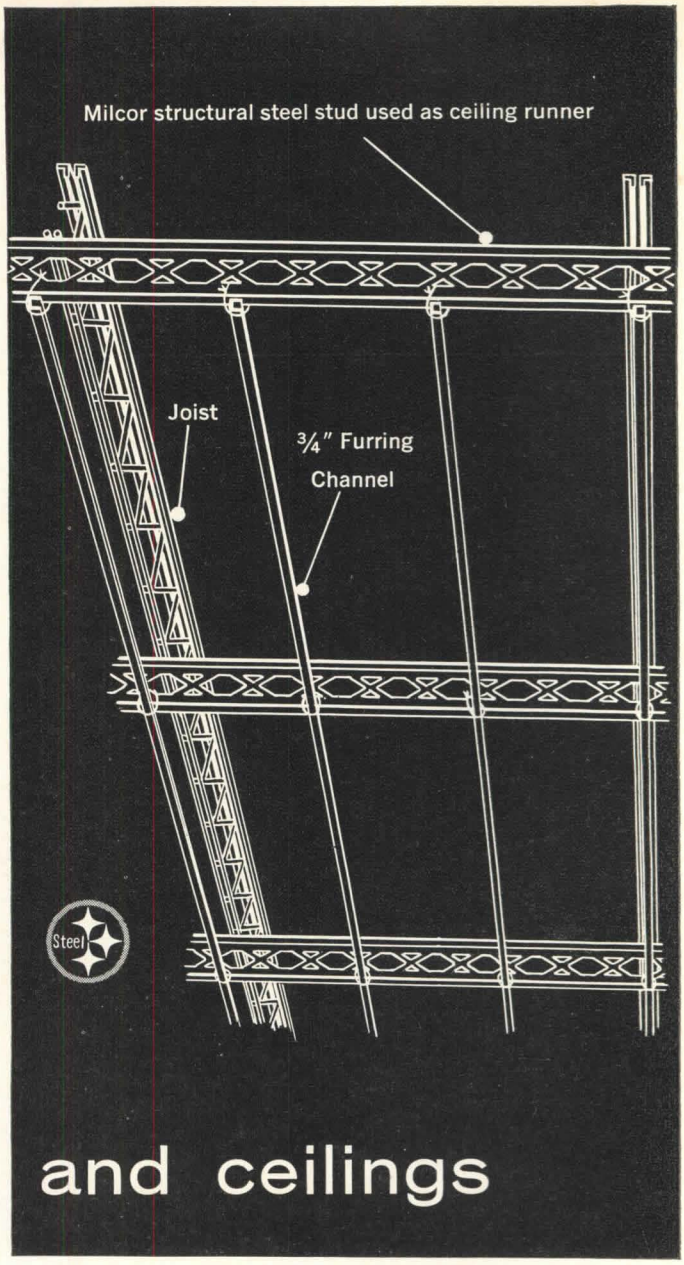
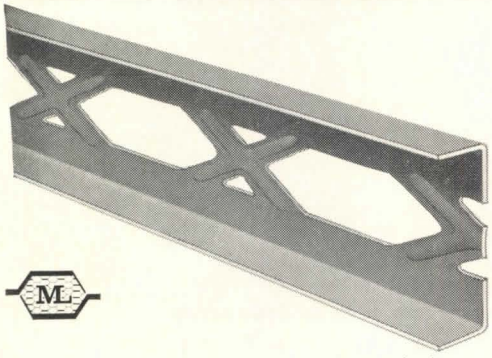
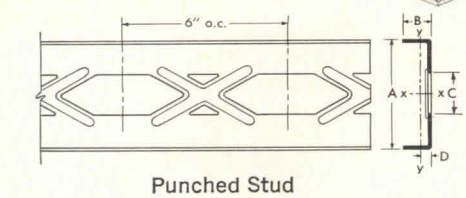


in walls...

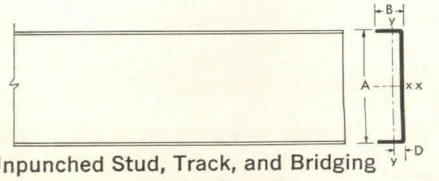


and ceilings





Punched Stud



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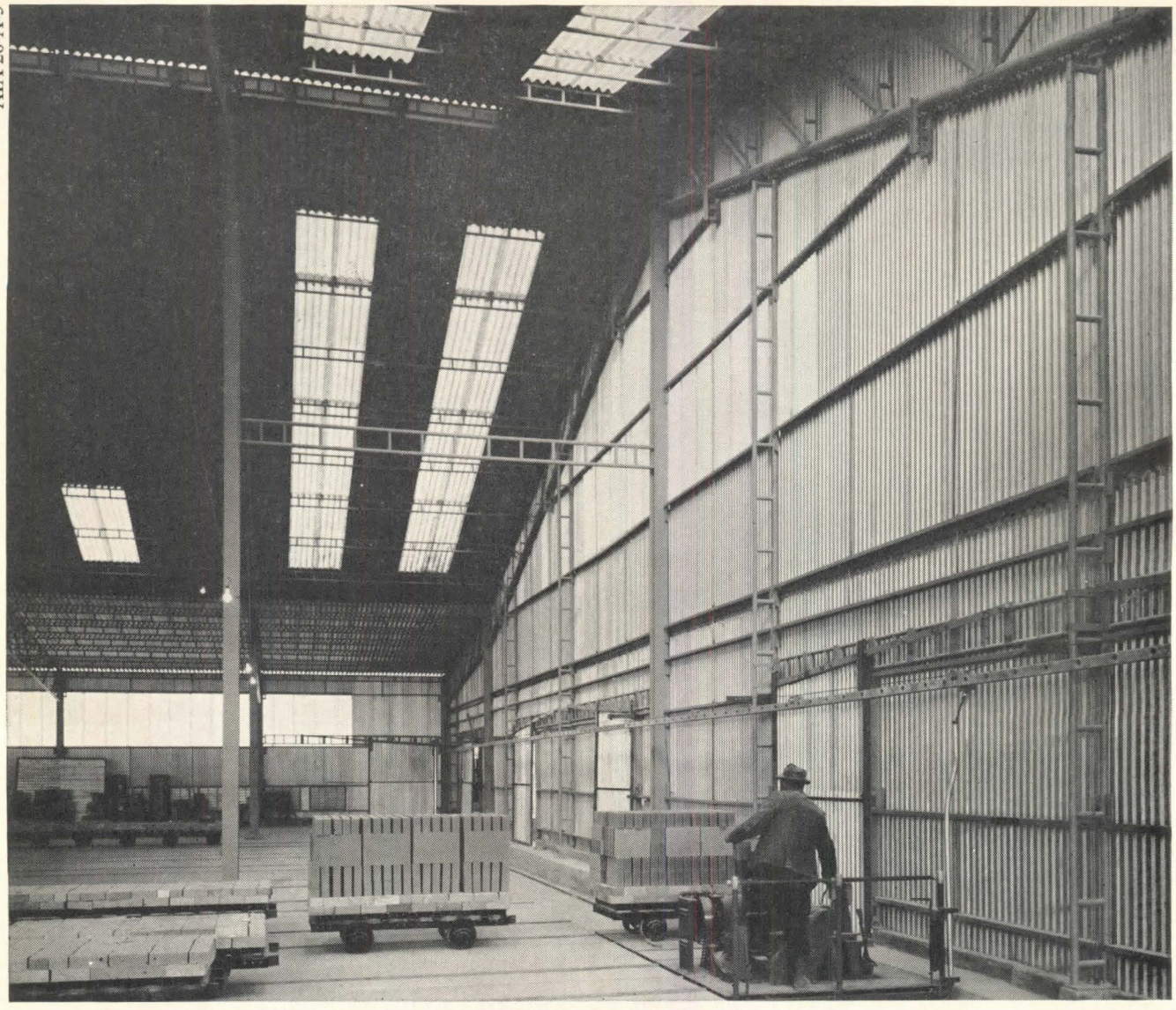

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Soft, cool light cascades through these panels—strong, plastic panels that vandals or storms can't shatter. And they're Hetron®-based panels, so they can't spread a blaze.

Panels made of Hetron polyester resin are qualified to carry the Factory Mutual seal of approval and U/L label. Typically, they test within a range of 20 to 75 in flame-spread rating by procedure ASTM E84-50T.

Because this important property is **inherent** in Hetron, you get fire retardance without any sacrifice of physical properties.

You can specify Hetron-based panels as translucent or opaque, corrugated or flat, for exterior or interior use, in any of more than 20 different colors.

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For more complete information on Hetron properties and a list of expert fabricators who can supply you with the panels, please write us. Durez® Plastics Division, Hooker Chemical Corporation, 7702 Walck Road, North Tonawanda, N. Y. 14121.

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Solve your insulation problem with Hetrofoam®-based urethane foams. Like Hetron, they are inherently fire retardant. Bonded to Hetron-based panels, they provide a strong, rigid, corrosion-resistant barrier against the weather.

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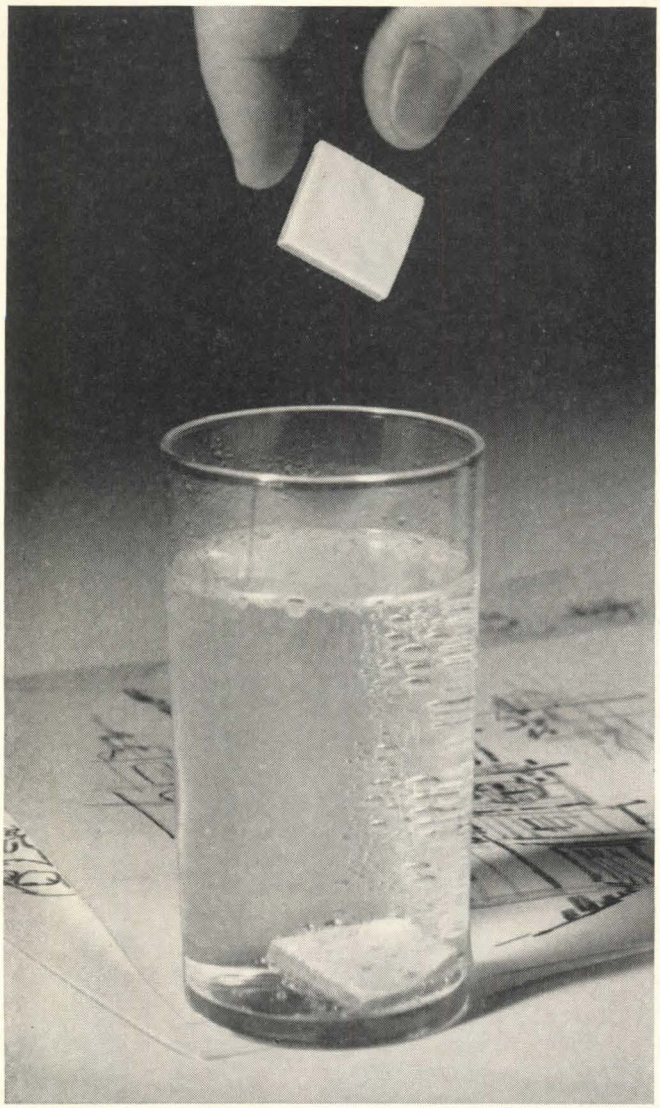

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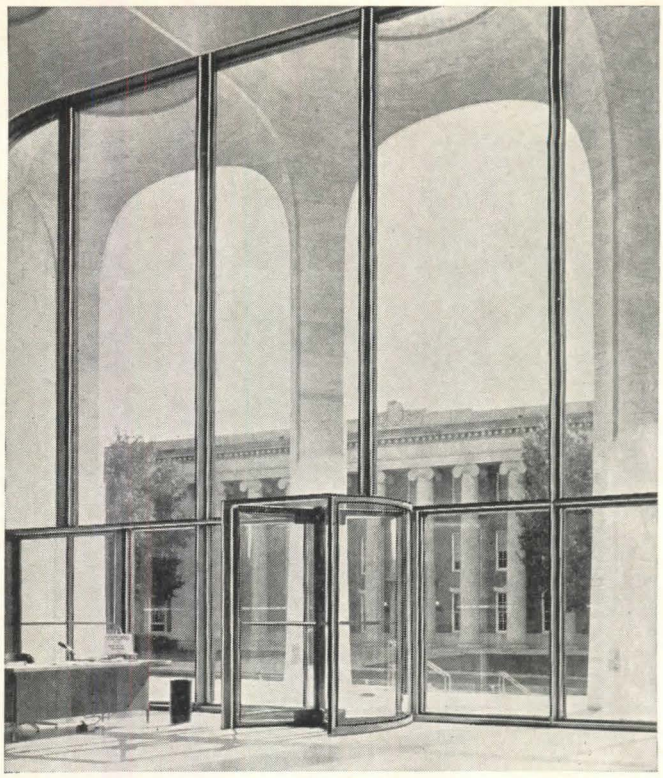

Sheldon Memorial Art Gallery, University of Nebraska, Lincoln
Architects: Philip Johnson Associates
Structural Engineers: Leo Zetlin & Associates
Mechanical Engineers: Jaros Baun & Bolles
Supervising Architects: Hazen & Robinson
Contractor: Olson Construction Company

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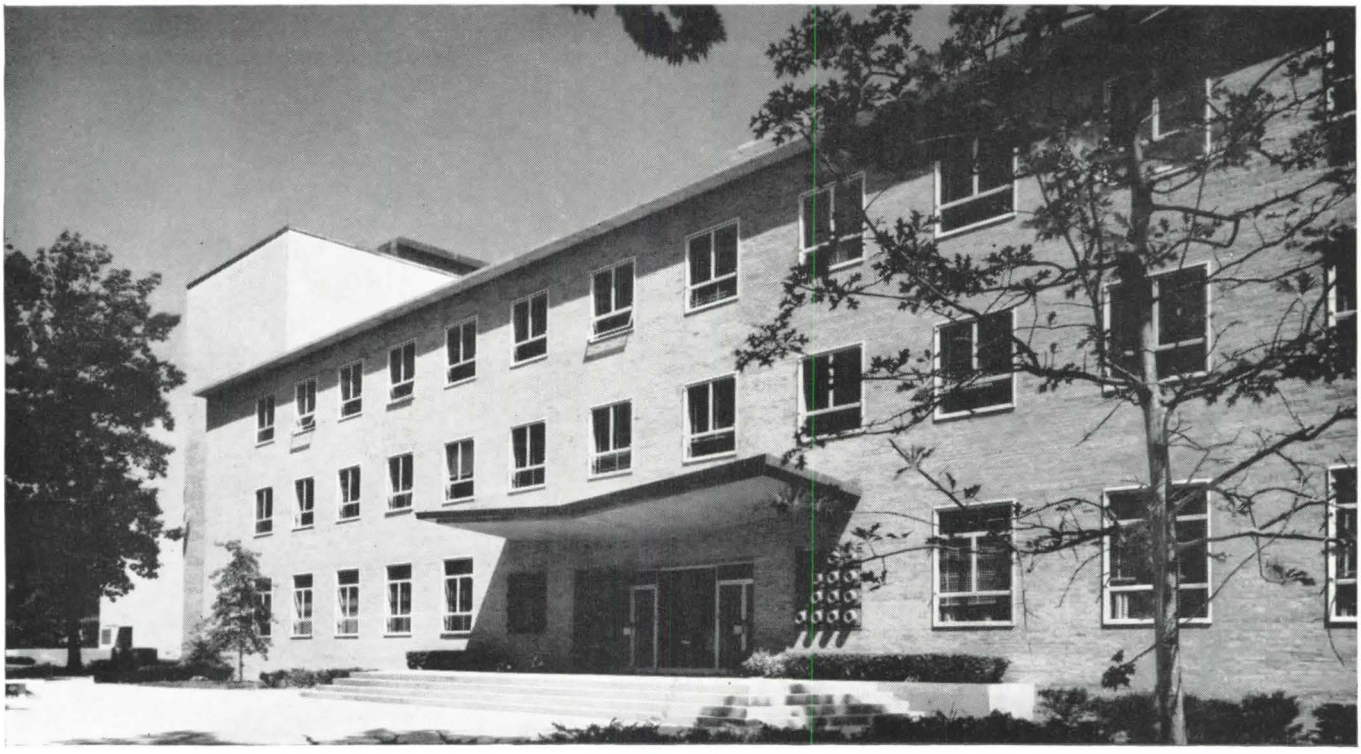

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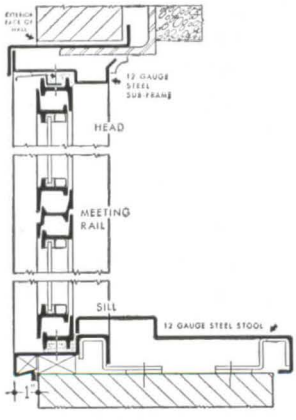
Hilyard R. Robinson, Designing Architect — *Robinson and Williams, Architects*



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Of particular interest in the construction of a building requiring large, uninterrupted floor space is the use of contoured glued laminated beams in a double curve which provides maximum roof support with a minimum of interior support. The 2″x8″ White Fir tongue and groove decking is applied directly to the beams for a light, attractive covering. An important secondary benefit is the sound-absorptive quality of the irregular wood surface.

The entire construction, in a No. 2 fire zone, is of West Coast Lumber, even to the walls which are board and batten siding of Western Red Cedar with a resawn face. Exposed trim is vertical grain West Coast Douglas Fir.

The result is a hospitable, practical building completed, minus alleys and equipment, at the astonishing figure of $7.71 per sq. ft.—an excellent example of the economical use of the standard grades and sizes of West Coast Lumber.

The retail lumber dealer conveniently located in your community is your source of information and supply for dependable West Coast Lumber.

Architects: Kruse and Fitch, A.I.A.

The standard sizes and grades of West Coast Lumber used in the building of the bowling alley were:

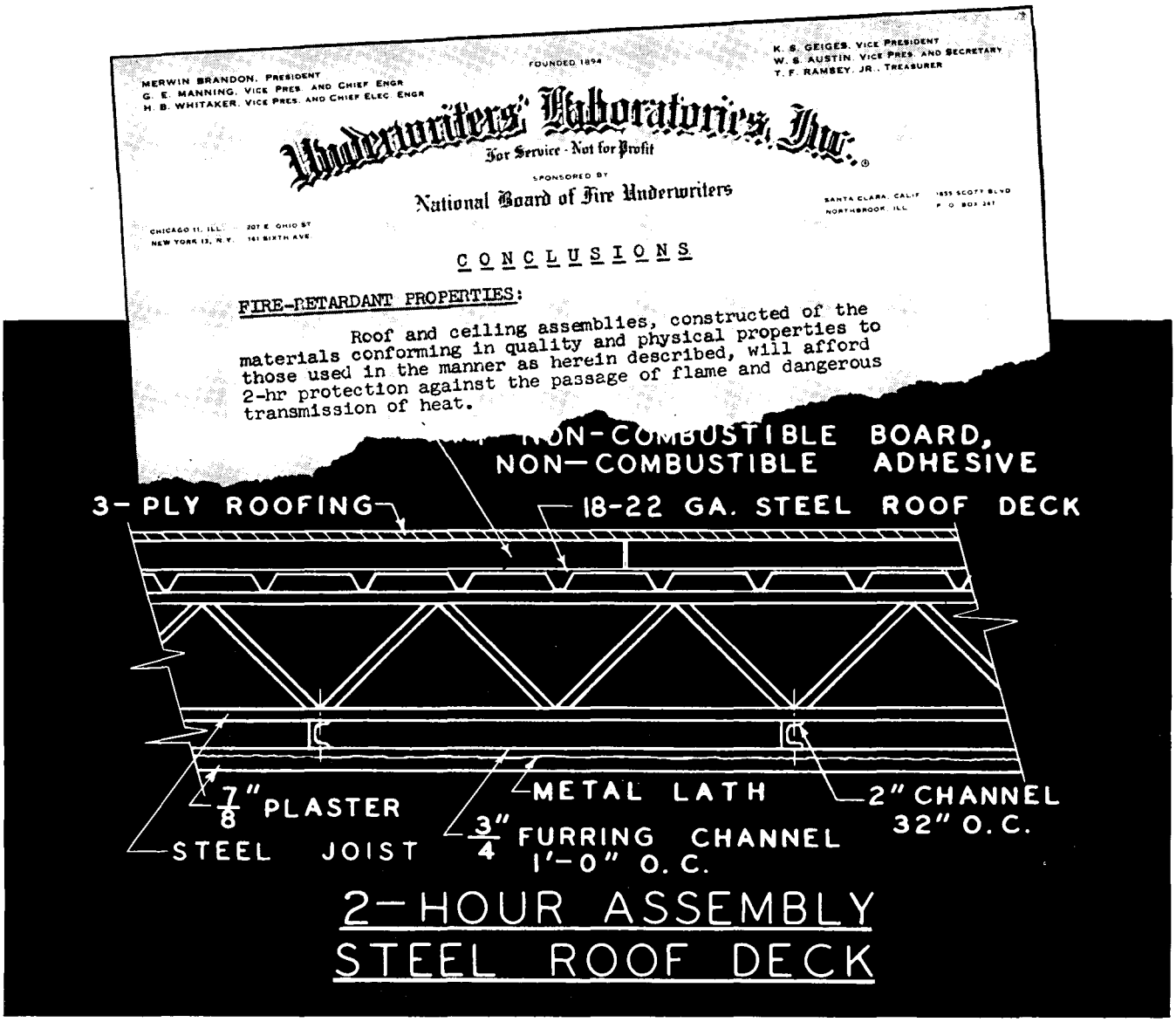
MILL 10 WCLB STAND — **West Coast Douglas Fir** 2″x4″, 2″x6″ wall framing.

MILL 10 WCLB SEL DEX 127b W. C. H. — **White Fir** 2″x8″ for the roof deck applied to the curve of the glued laminated beams.

MILL 725 WCLB C&BTR — **Western Red Cedar** 1″x10″ boards with 1″x2″ battens for the exterior.

MILL 725 WCLB B&BTR — **West Coast Douglas Fir** for all exterior and interior millwork and trim.

West Coast Douglas Fir glued laminated beams. Nine 7″x30⅞″x39′ support the roof resting on purlins of 5¼″x22¾″ spanning 45′. Sub-purlins of 3¼″x6½″ following the curve of the main beams are spaced 7′ o.c. The curvature of the glued laminated members is on a 40′ radius.



New UL two-hour fire rating for fast, economical steel roof deck construction

Now you can save as much as *ten to twenty per-cent* over conventional fire resistive roof construction, where two-hour fire ratings are required!

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You can't beat ORSAN II for value. With its moderate in-place cost, permanence and low maintenance, when you select ORSAN II you're getting the finest at "lowest lifetime cost".

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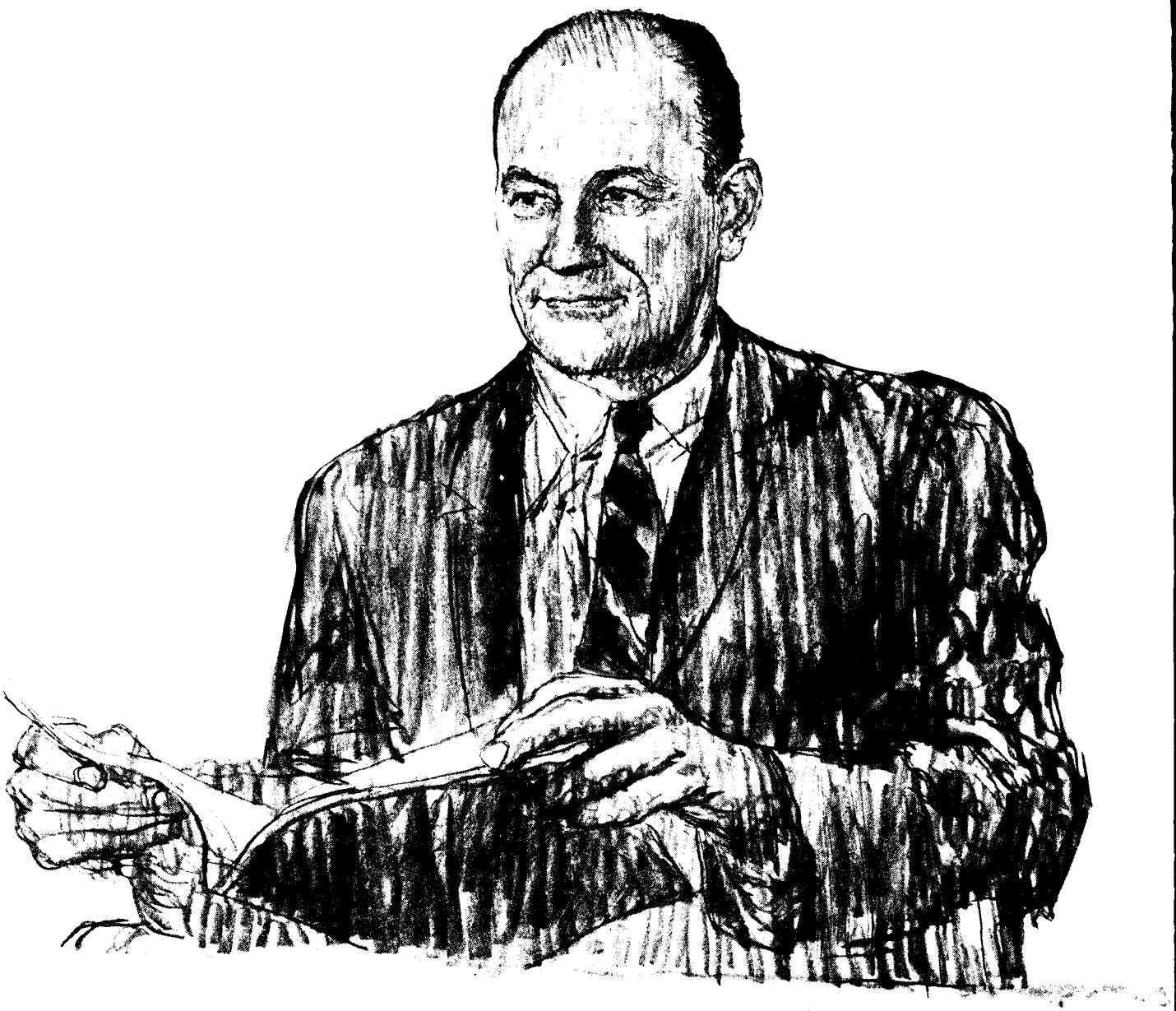
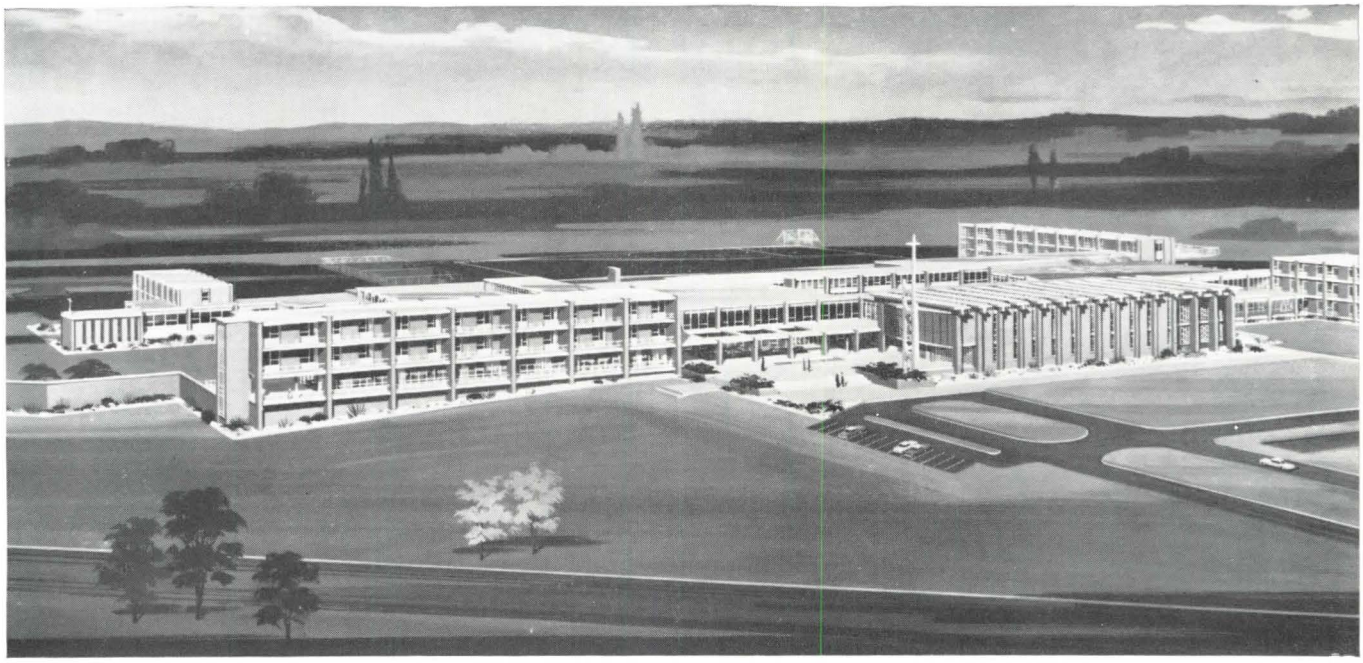




Architect: Brust & Brust, Milwaukee, Wisconsin
PRESTRESSED PRODUCER: Concrete Research, Inc., Waukesha, Wisconsin
PRESTRESSED PRODUCER: J. W. Peters & Sons, Inc., Burlington, Wisconsin
PRESTRESSED PRODUCER: West Allis Concrete Products Company, Milwaukee, Wisconsin
General Contractor: Gebhard-Berghammer, Inc., Milwaukee, Wisconsin
General Contractor: Nelson & Company, Inc., Racine, Wisconsin
General Contractor: Voss-Hrdlicka Company, Milwaukee, Wisconsin

Five different prestressed concrete sections featured in new seminary complex

Giant tees, ledger beams, rectangular columns, single wing double tees and hollow core floor slabs are five structural members of prestressed concrete used in the new DeSales Preparatory Seminary, St. Francis, Wisconsin. This is an example of the versatility that is winning acceptance for post-tensioned and pretensioned concrete construction.

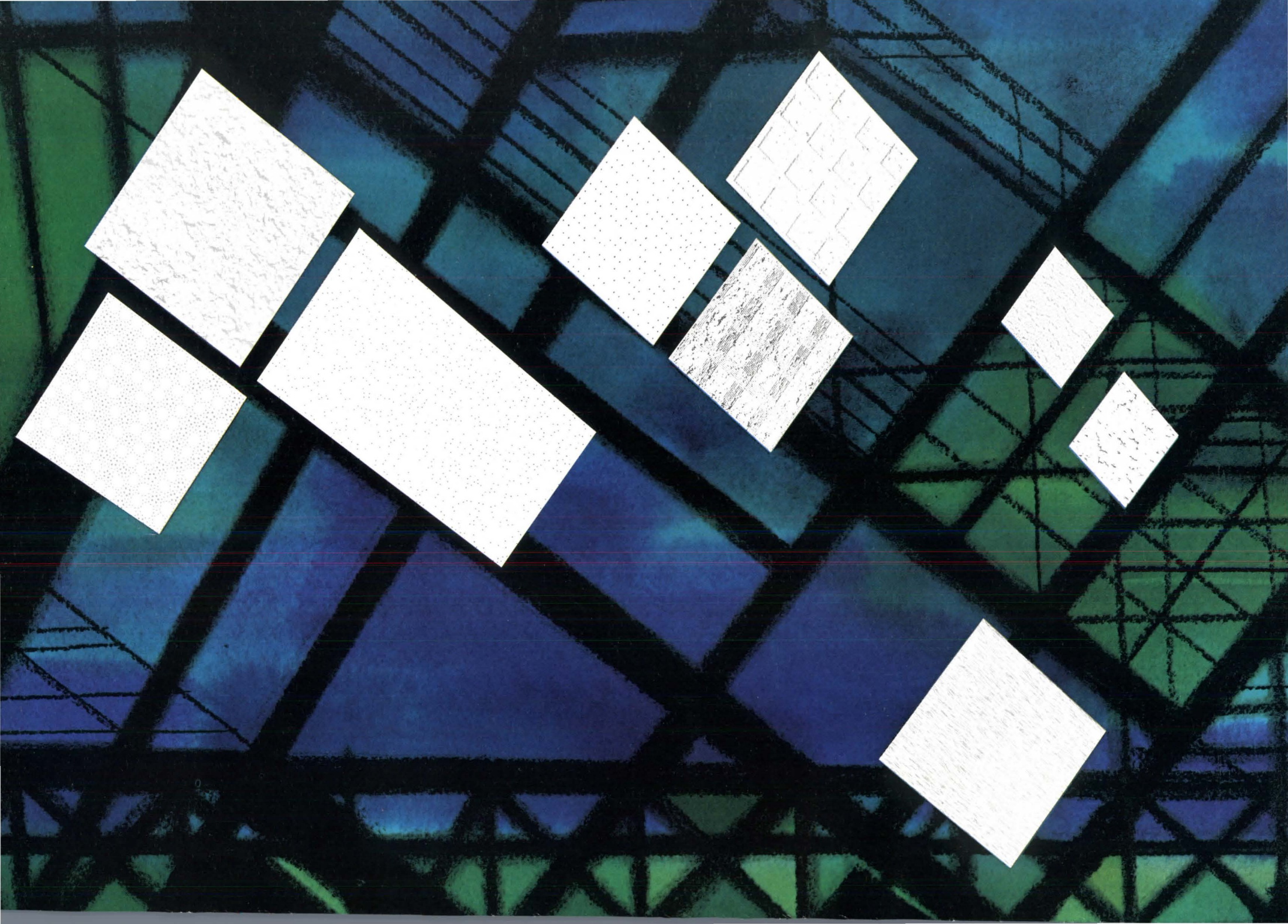
Structural framework of prestressed concrete is economical and quickly erected, yet it accommodates a wide range of design expression—as demonstrated in this project. Prestressing was by three different firms: Concrete Research, Inc., J. W. Peters & Sons, Inc., and West Allis Concrete Products Company. Prestressing strand was Union's TUFWIRE.

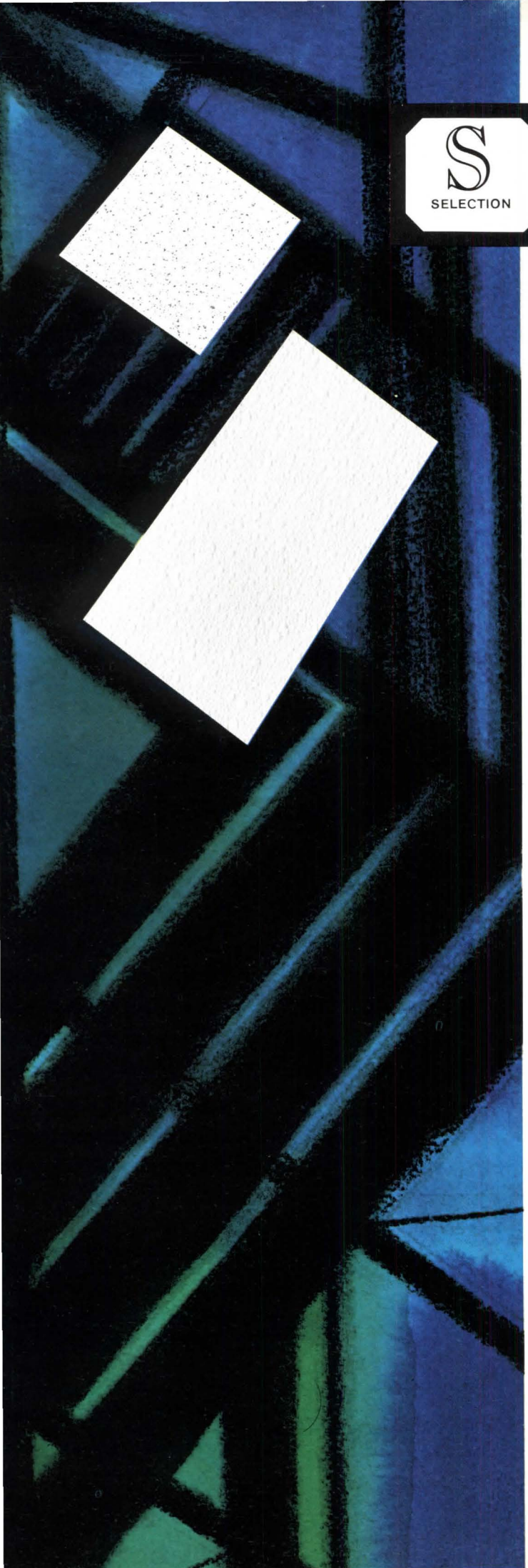
Helpful data on Union TUFWIRE Products for Prestressed Concrete is available in a free folder. Write us for your copy. TUFWIRE Strand and other Union Wire Rope Products are made by **Sheffield Division, Armco Steel Corporation, Department S-203, 7100 Roberts Street, Kansas City 25, Missouri.**

ARMCO Sheffield Division

For more information, turn to Reader Service card, circle No. 380

For more information, circle No. 311 ➤





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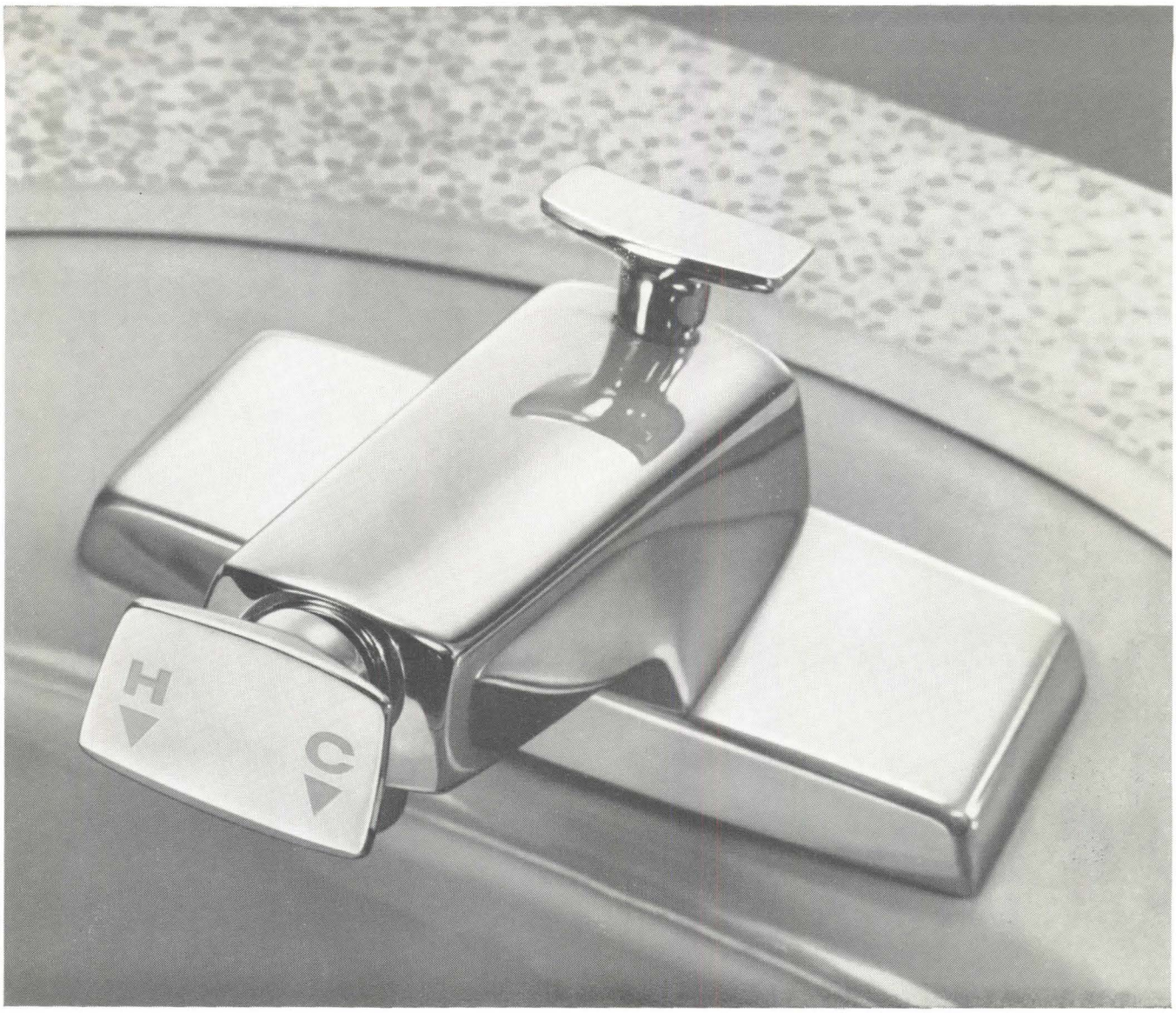

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AMERICAN-Standard
PLUMBING AND HEATING DIVISION

For more information, turn to Reader Service card, circle No. 371

For more information, circle No. 350 ➤

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Travertine—a classic new look in flexible wall covering

This new design in Weldwood® Tapistron brings to modern designers the simple elegance of an old material. Travertine recalls the antique marble of Rome and Carthage and the alabaster of the ancients. Its fine sculptured pattern will give an interesting texture to broad sweeps of wall. Or it can be used in smaller areas to complement and bring out the beauty of wood paneling. And it is ideal for covering columns and pillars. Tapistron is particularly designed for use in reception rooms, sales areas, and other public places where durability, washability, and moderate cost are as important as style and color. It bears the Underwriters' Laboratories, Inc., label. It is also approved by the New York City Board of Standards for use in New York City under calendar #784-60-SM. And it passes Federal Specification SS-A-118-b for incombustible wall coverings. You can use Tapistron with confidence—it's backed by United States Plywood.

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WALL COVERINGS

SEND IN THE COUPON ON THE BACK OF THIS PAGE FOR COMPLETE INFORMATION ABOUT THE ENTIRE TAPISTRON LINE.

Walls of this executive office designed for Alcoa are paneled with teak Flexwood. Weldwood doors are covered to match. **Designed by:** G. F. Studios, New York. **Installer:** Kalflex, Inc., New York.

You can get around a lot of problems with Flexwood paneling

Flexwood is literally flexible. It is genuine wood veneer—permanently laminated to a special backing for easy handling. In fact, you can actually wrap it around your little finger. And this is important when you want to panel a curved wall or cover columns and pillars or moldings, as in the installation below.

But Flexwood is flexible in another sense, too. Can help you do many things you may never have considered possible or practical. Where existing walls are flat and sound, you can quickly and easily upgrade an office with fine wood veneers—match doors and built-ins, too.

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Executive office of Banco Nacional de Mexico, S.A., New York, illustrates the use of Flexwood with stile and rail treatment. Stiles and rails of ½" fireproof fir plywood and stock moldings are covered with architectural-grade flat-cut mahogany Flexwood. Doors covered with matching Flexwood. **Installer:** Kalflex, Inc., New York. **Architect:** Roman Nicholas Chapelsky, A.I.A. of Duffy Inc., New York.

PROGRESSIVE ARCHITECTURE FEBRUARY 1964

NEWS REPORT

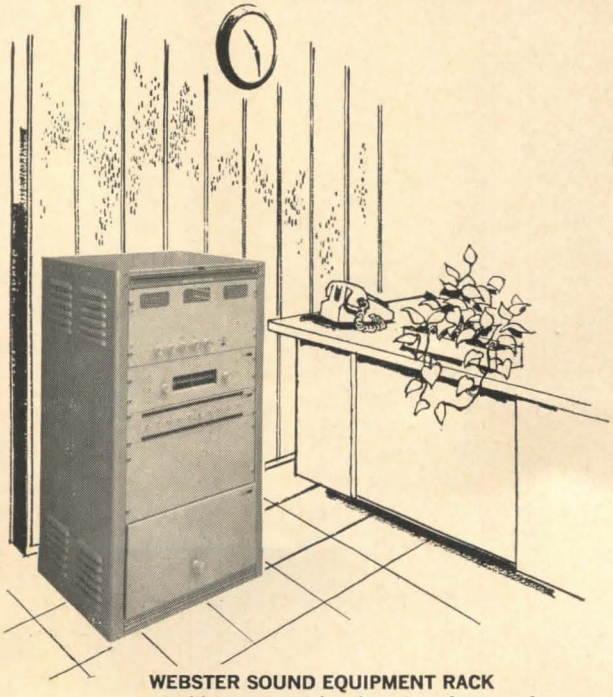
Architecture's Monthly News Digest of Buildings and Projects, Personalities, New Products

Photo: Balthazar

Largest, tallest buildings in the world will rise on the West side of Manhattan. Yamasaki is designer.

ARCHITECTS: John Steinmann, AIA, Monticello, Wis.
CONSULTING ENGINEERS: Olsen and Evans, Inc., Madison, Wis.
ELECTRICAL CONTRACTOR: Berman Electric Co., Madison, Wis.
SOUND ENGINEER: Grant Electronics, Inc., Madison, Wis.

New First National Bank of Stoughton . . . sound planned with a **Webster Electric music and program system**



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provides compact headquarters for sound components. Can be readily expanded for additional sound services.
Also available in flush-mounting design.

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A dramatic departure from conventional bank design, First National's bank-in-the-round at Stoughton, Wisconsin was designed to "allow the most facility in the smallest possible area . . ." It's an exciting combination of white, gray and gold Wisconsin limestone . . . a great, self-supporting glass dome in the center . . . controlled-variation indoor and outdoor lighting.

And it's *sound planned* with a Webster Electric music and program system!

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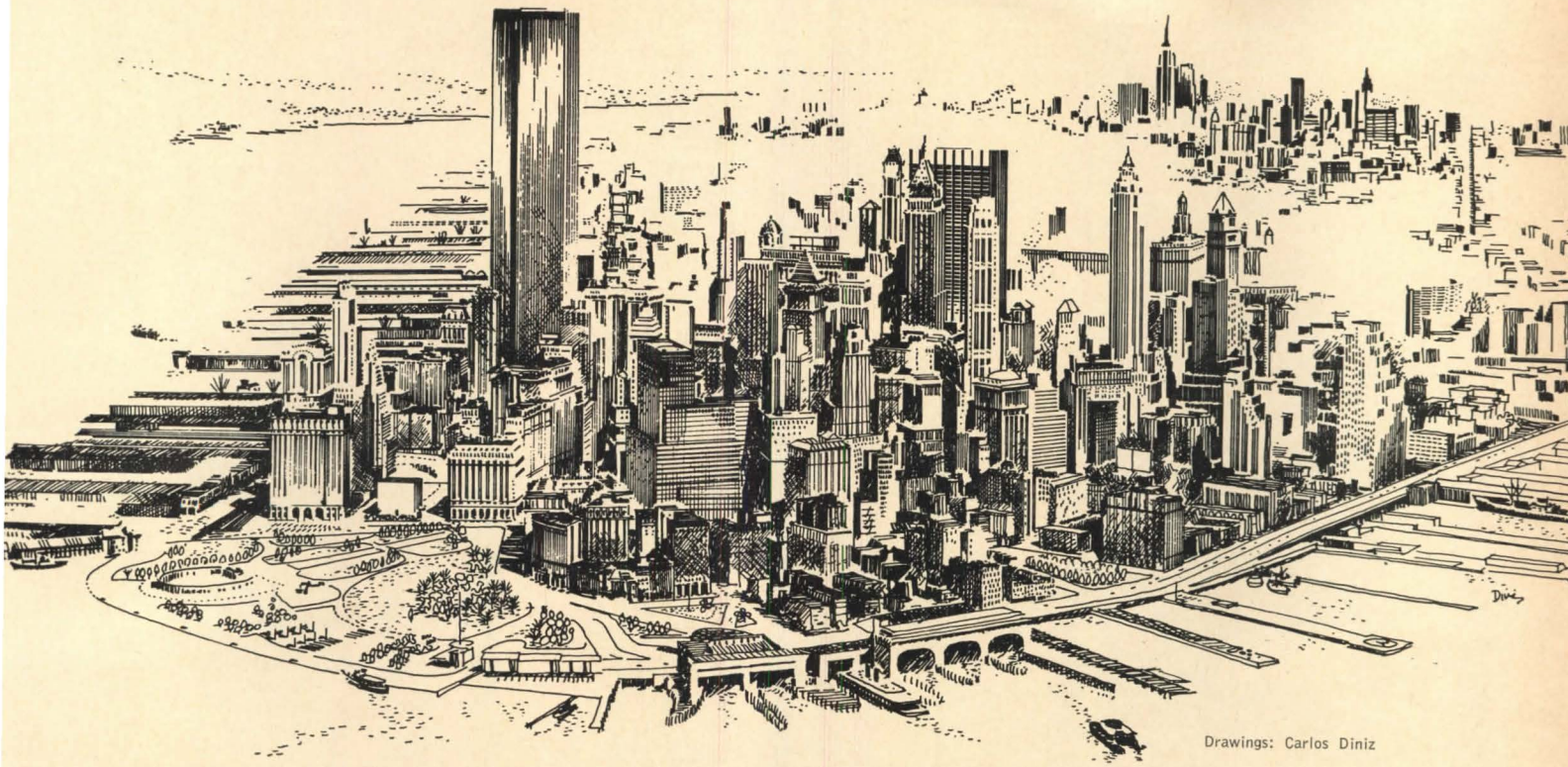


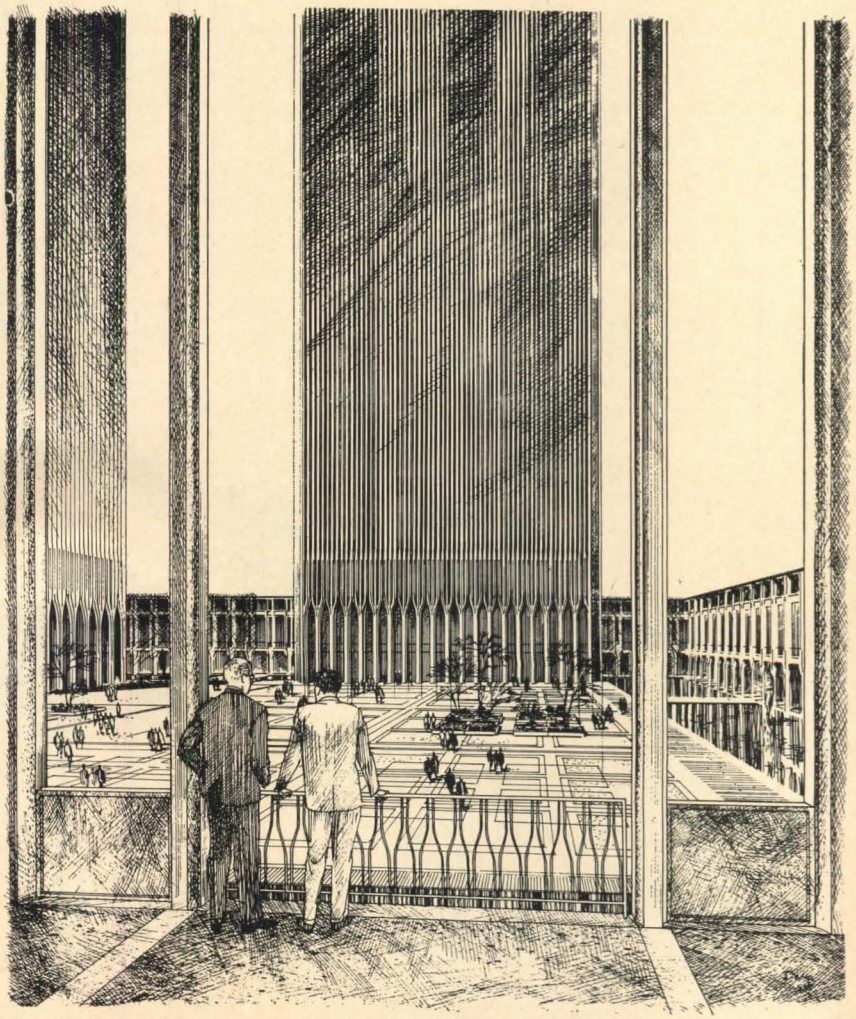
View of lower Manhattan showing Battery (left), *financial district* (right), *and World Trade Center* (left, center).

World's Largest Buildings Proposed for Manhattan

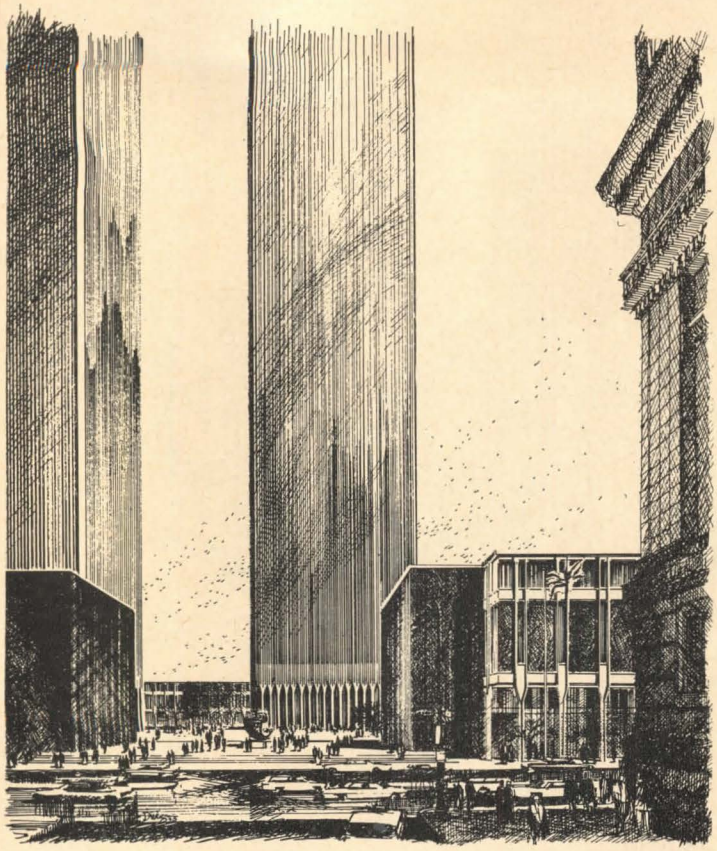
NEW YORK, N.Y. "The world's tallest building," a title held since 1931 by the Empire State Building, will be taken over by not one but two 1350-ft-high towers scheduled to form the main elements in the new, redesigned World Trade Center proposed for Manhattan's lower West Side. To provide 10 million sq ft of rentable space, the complex will qualify as largest in that category, too, outpointing the present holder of the most floor space—the Pentagon—by about 3.5 million sq ft.

The World Trade Center was designed by Minoru Yamasaki & Associates in association with Emery Roth & Sons and the design and planning staff of the Port of New York Authority, which will construct and operate the project. At the meeting to announce the project and unveil the model, Yamasaki said that he considers the Center a physical evocation of the "relationship between world trade and world peace," and a "living symbol of man's dedication to world peace."

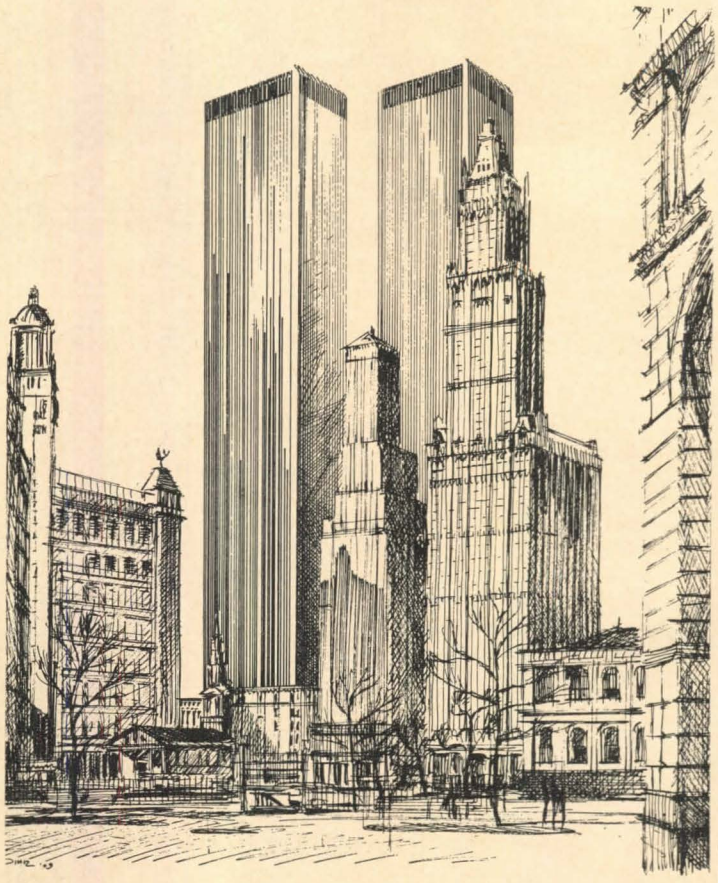
In addition to the two towers, the 16-acre site will be developed with 70-ft-high buildings containing shops and stores, restaurants, exhibition halls, and a 250-room hotel. These lower structures, according to Yamasaki, will also furnish a point of reference to permit the spectator or pedes-



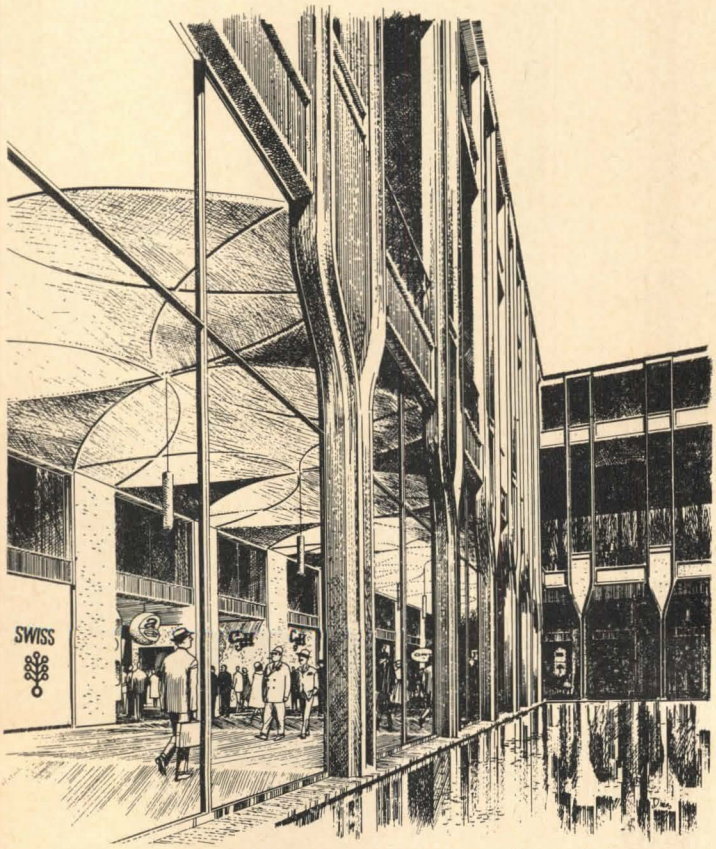
Looking into plaza of World Trade Center; towers left and right.



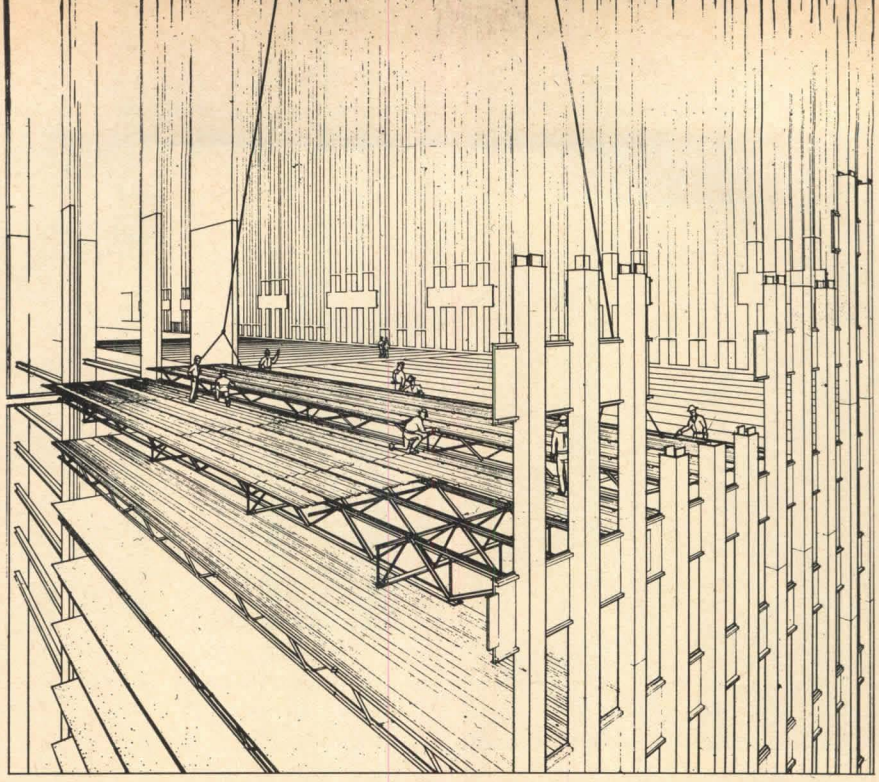
Main entrance to WTC plaza from Church Street.



WTC's twin towers seen from N.Y. City Hall Park.



The WTC Plaza Galleria seen from the Plaza.



Showing 60′ x 30′ prefabricated floor framing section being lowered into place. System is intended to furnish economy and speed. Note metal-clad steel columns of exterior frame at right.

trian to relate in scale to the whole complex. The low and high buildings will surround a wide public plaza which, as Ada Louise Huxtable wrote in *The New York Times,* "could be a modern Piazza San Marco—with skyscrapers." Off-street parking is planned for 1600 cars.

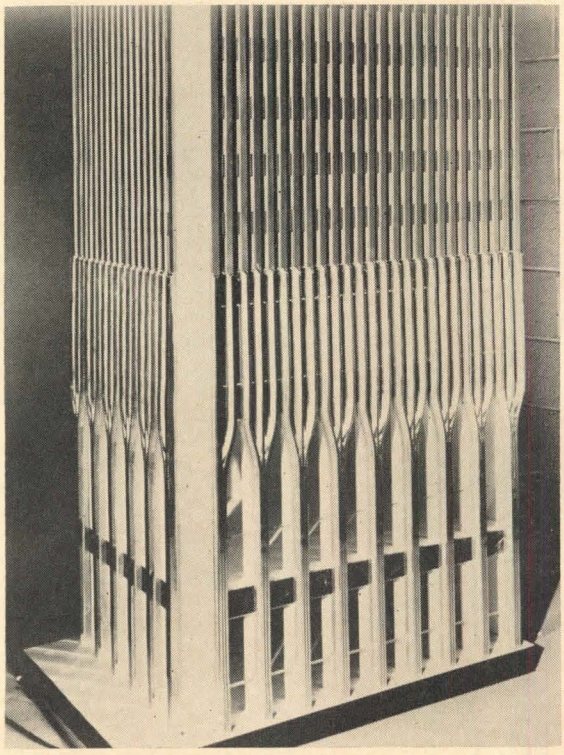
The exterior steel walls of the towers will be load-bearing. The structure will be apparent on the exterior through metal-clad (either aluminum or stainless steel cladding) supporting members. The verticality of the towers will be further elaborated through the use of floor-to-ceiling, 22-in.-wide windows. Yamasaki says that people will not be bothered by heights when windows are not much more than the width of their shoulders.

The Center will have 230 automatic elevators, with 11 in each tower going directly to the 41st floor, and a dozen going straight to the 74th floor. These floors will be called "sky lobbies." Seventy-two local elevators in each 110-story-high tower will service traffic in the lower, middle, and top areas thus created.

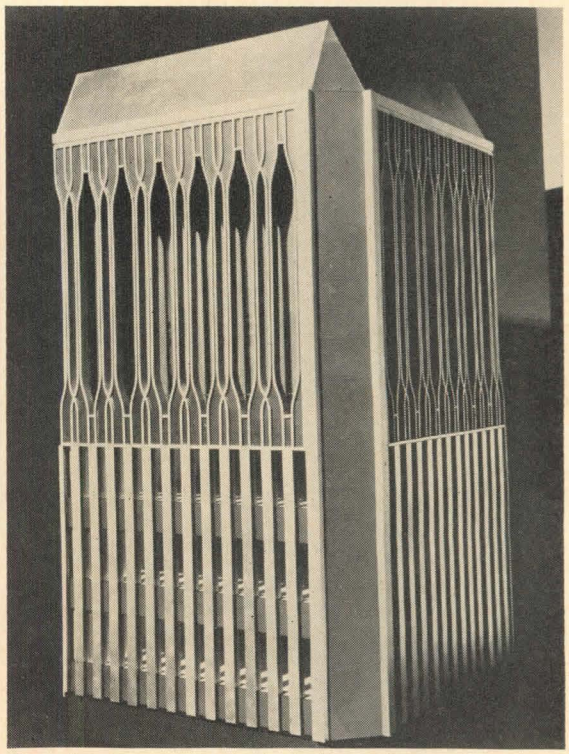
Governmental and private interests in the export-import field are expected to be the major tenants of the project.

A group of members of the Downtown West Businessmen's Association, whose enterprises would be dislocated by the new center, picketed the scene of the announcement, which was attended by Governors Rockefeller of New York and Hughes of New Jersey, plus Deputy Mayor Edward Cavanagh and Austin J. Tobin, executive director of the Port of New York Authority. For one group's reaction to the entire problem of lower Manhattan development, see page 74.

Photos: Balthazar



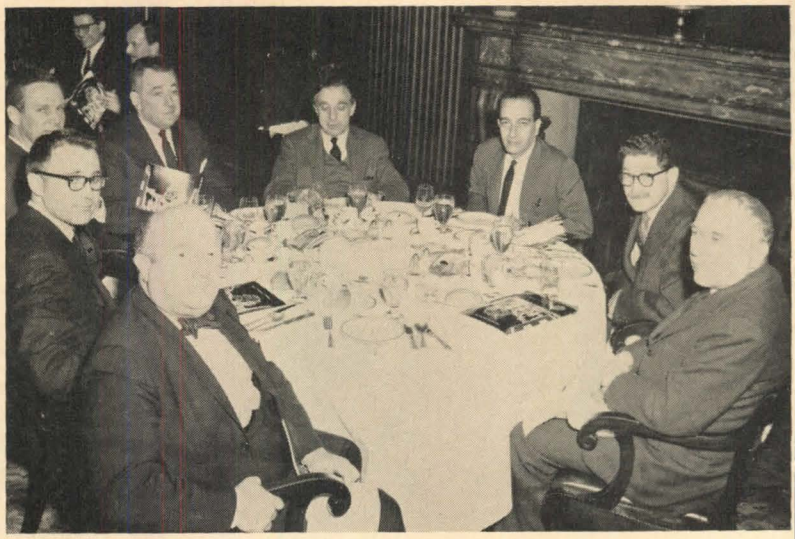
Exterior façade study, lower floors, and lobby.



Exterior: tower top, including observation deck.

Photos: Wagner International Photos

Louis Sauer, Jan Rowan (P/A)



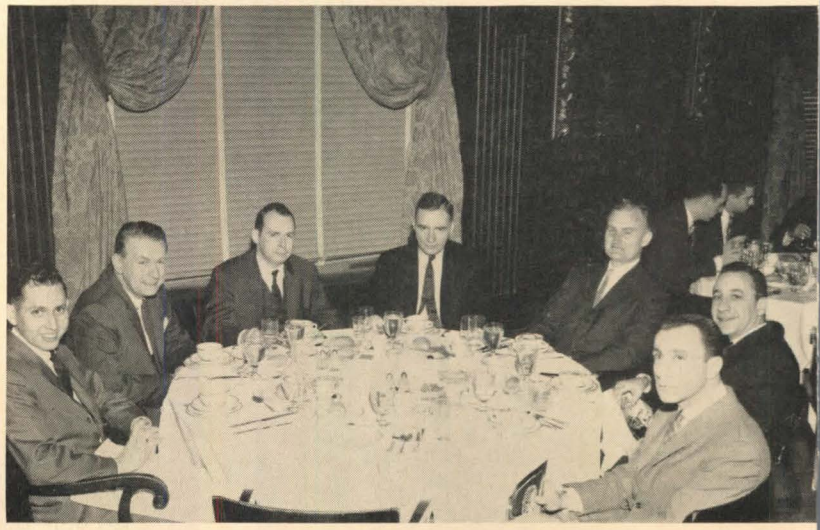
(All photos left to right): Sidney Katz, Dale Sprankle, George Dudley, Gordon Bunshaft, Max Abramovitz, Jan Rowan, Percival Goodman, Marcel Breuer.

P/A Holds 11th Awards Presentation

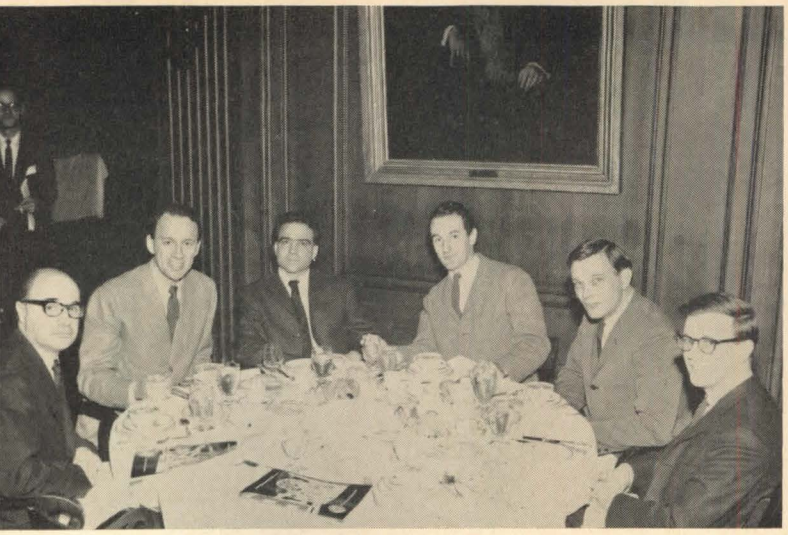
NEW YORK, N.Y. On January 18, the stately University Club, designed by Charles Follen McKim of McKim, Mead & White, was the scene of the 11th Annual P/A Design Awards presentation. Assembled in the elegant Council Room of the club, an audience of noted architects, including many past winners and jurors, were welcomed by Philip H. Hubbard, President of Reinhold Publishing Corporation, then looked on as P/A Editor Jan C. Rowan bestowed awards and citations on the 1964 winners.

Following luncheon, a seminar was held to examine in detail three of the winning projects. Louis Sauer presented his First Design Award winner, the Eleventh and Waverly Street Townhouses in Philadelphia, and it was given a crit by William Conklin of Whittlesey & Conklin, New York. Next, The Architects Collaborative's master plan for the research campus of a large U.S. corporation was presented by Norman Fletcher, Richard Homer and Morse Payne of TAC. Peter Collins, Professor of Architecture at McGill University in Montreal, made the critique. The third project discussed was the Little Rock Junior High School by Wittenberg, Deloney & Davidson. A. B. Chapman III, designer of the school, described his program, whereafter Walter Rooney, head of the New York office of Curtis & Davis, gave his evaluation of the project. Each presentation was followed by a lively session of questions and comments from the architects assembled in the Club's Council Room.

Richard Homer, Norman Fletcher, Morse Payne, Don Freeman, Peter Collins, John Dixon (P/A), William LeMessurier, Terry Rankine.



Marv Adleman, Burton Holmes (P/A), John Collins, Damon Childs, Tallie B. Maule, Harold Rosen, Ralph Heller.



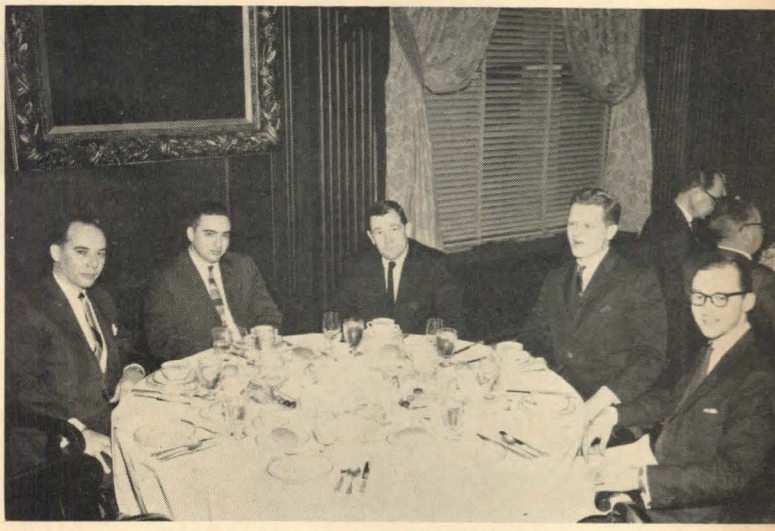
Romaldo Giurgola, Thomas Vreeland, Louis Sauer, Jordan Gruzen, Richard Baringer, George Lubasz (P/A).

Ladislav Rado, B. Sumner Gruzen, Hugh Stubbins, William Conklin, James T. Burns, Jr. (P/A), Walter Rooney.

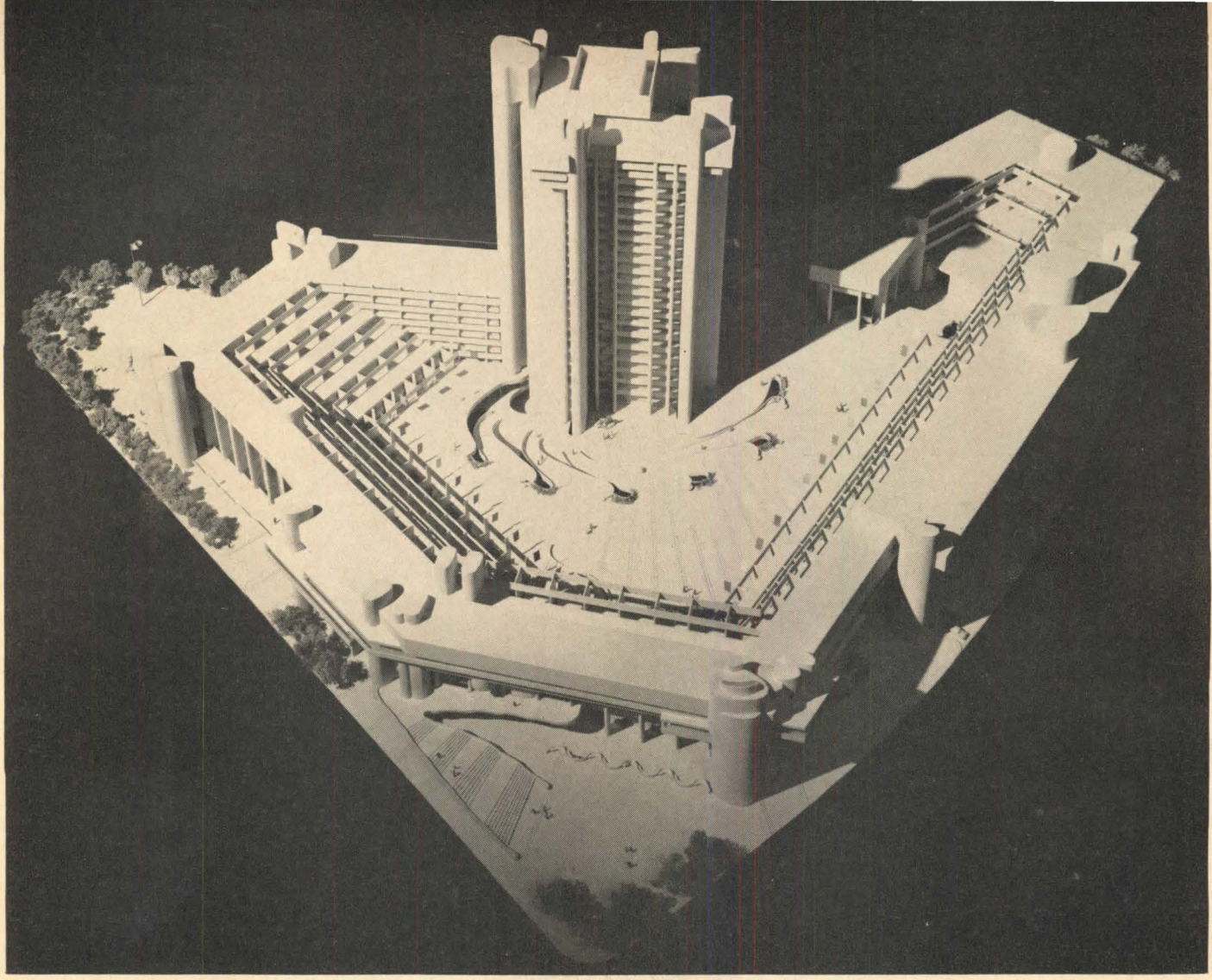
William McGuinness (P/A), A. Quincy Jones, George Nelson, Arthur Drexler, Huson Jackson, Philip H. Hubbard, Sr. (President, Reinhold), Kenneth Smith, Judge Bernard Tomson (P/A).

Terry Rankine, Paul Cifrino, Jan Rowan, Alden Christie, Paul Dietrich, Peter Chermayeff.

Isadore Rosenfield, Joe DiLullo, Abraham Geller, Alfred Clauss, Paul Cifrino, Serge Chermayeff, William Evans (P/A).



Philip Hubbard, Jr. (Associate Publisher, P/A), David DuTot, Gordon Wittenberg, A. B. Chapman, Ray Smith (P/A).



Photos, except as noted: Ezra Stoller Associates

ANOTHER MAJOR PROJECT FOR BOSTON

BOSTON, MASS. The excitement engendered here by the commission-winning design for the Boston City Hall by Kallmann, McKinnell & Knowles and the comprehensive plan by I. M. Pei Associates for the governmental center received another boost recently with the unveiling of the plans for the Boston Government Service Center, to occupy a site halfway up the hill to the Massachusetts State House. The project encompasses three buildings, for the Division of Employment Security Department, the Health, Welfare, and Education departments, and a Mental Health Hospital. The three buildings will be grouped around a pedestrian plaza which could rank with the most exciting in the world when built.

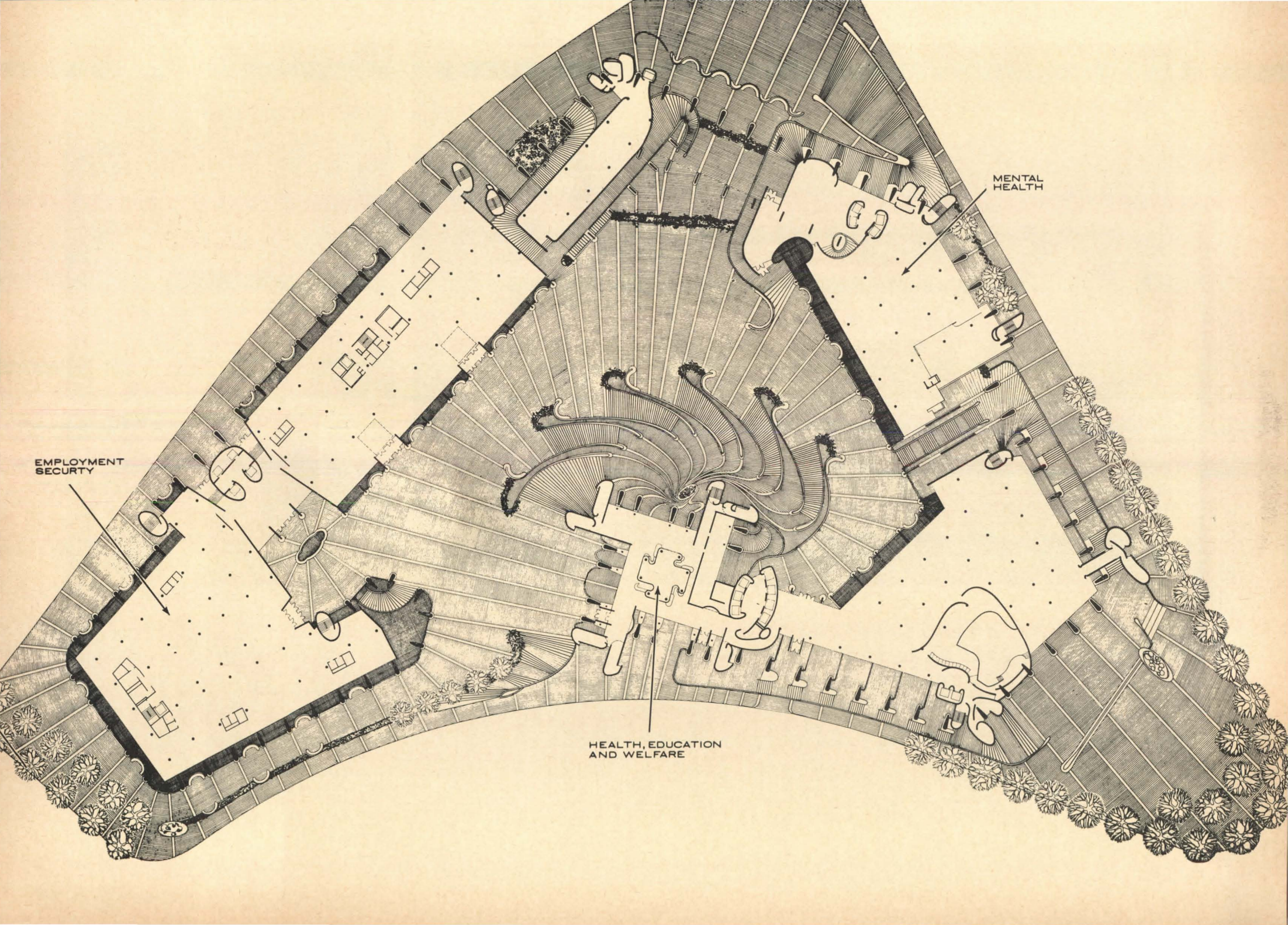
Paul Rudolph, the co-ordinating architect, says, "The three buildings are purposely designed so that they form a specific space for pedestrians only and read as a single entity rather than three separate buildings. In terms of urban design, this is undoubtedly one of the first concerted efforts to unify a group of buildings that this country has seen in a number of years."

The center will stand on a site the shape of a fat boomerang (*facing page, plaza floor plan*). Following a recurrent small-park pattern of Boston, the buildings will be aligned with

Piazza del Campo, Siena, Italy

Photo: From "Italy Builds" by G. E. Kidder Smith

Piazza San Marco, Venice, Italy


MENTAL
HEALTH
EMPLOYMENT
SECURTY
HEALTH, EDUCATION
AND WELFARE

the street on all sides of the site except at the three corners, where they will be set back to create small plazas. Major ingress to the plaza will be between the tower of the Health, Education and Welfare Building and the lower element of the Employment Security Building. The deployment of the five-to-seven-story buildings near the property line will form an interior pedestrian space, which, together with the 28-story-high-tower, will create a plaza evocative in shape, size, and feeling of the Piazza del Campo in Siena and the Piazza San Marco in Venice. The plaza, whose "irregular and complex form is derived primarily," according to Rudolph, "from the irregular street pattern of Boston," will be a striated, three-level space converging on—or extending from, according to the vantage point of the pedestrian—a series of great curved stairs that will arc like a multi-tentacled *l'alimetria de Piazza di Spagna* in Rome. Although some observers have commented that this is a mighty concept indeed for what is, in essence, a service center, there *will* be a public restaurant in the Health, Welfare, and Education Building at the intermediate level of the plaza, and benches, planting, sculpture, and hanging flags of the 50 states around its perimeter (further recalling the festive use of public spaces in Italy). Light and air will stream into the huge open space due to setbacks on all floors of the lower buildings surrounding the plaza. Automobile parking and unloading will be provided for beneath the plaza.

From the exterior of the complex, the viewer will see its multileveled aspect clearly: entrances to parking, stairs and ramps to various points, different heights and façades of the several units. The monumentality of the whole composition will be emphasized by using fixed elements—elevators, stairs, stacked toilets—as tall, irregularly-shaped cylinders. Entrances to the buildings will be unmistakable in this scheme. The towers of the tall building will act as "pivoting elements" to lead to the plaza and the other buildings.

A special aggregate exposed concrete designed to catch light and shadow on the curving and faceted walls will be used for the complex.

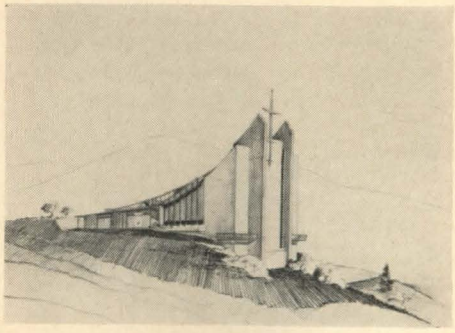
Paul Rudolph: Co-ordinating Architect. Employment Security Building: Shepley, Bulfinch, Richardson & Abbot, Architects. Mental Health Building: Desmond & Lord, Architects; Paul Rudolph, Architectural Design. Health, Welfare & Education Building: M. A. Dyer and Pederson & Tilney, Architects; Paul Rudolph, Architectural Design.

Mole Home at Fair

With fall-out scares directing thinking underground, permanent subterranean housekeeping may logically follow. At the New York World's Fair, a 130'x90'x15' waterproofed, reinforced-cencrete shell is being constructed to contain a three-bedroom luxury home. An underground home allegedly has the conveniences of privacy, quiet, climate control, and *unpolluted air*. The exhibit house boasts abundant simulation of customary household amenities ("views" are murals on concrete shell outside windows; plants thrive under ultraviolet rays). Entrance to this home—fourth of its kind in the U.S.—will be via a stairway from a small above-ground pavilion. Perhaps recent test-ban progress will bring us back to the light. Otherwise, Bang!—you're six feet under. Architects: Billy J. Cox and Don L. Kittreel; Structural Engineer: Fred P. Wagner, Jr.; Developer: Underground World Home Corporation.

Concrete Church and College Designs

Two projects from the San Francisco firm of Hatch & White are the Belvedere-Tiburon Community Congregational Church and an administration building for Davis Campus of the U. of California. The church, on a knoll over Tiburon Highway, will rise from a single-level social hall to a towering chancel at the hill's crest. Two textured concrete piers flanking the chancel will enclose a cross. Views from the nave will be of Mt. Tamalpais on one



side and of San Francisco on the other. Planned between the social hall and sanctuary are classrooms, offices, and fellowship room.

The administration building—by Hatch, White & Steinau—is designed on a 5' modular grid to house offices of varied sizes. Reinforced concrete on the second through fifth floors will form a structurally independent square block to be superimposed on a larger first-level rectangle. This main floor—featuring an arched colonnade—will in turn be elevated on a podium. Decorating façades will be quartz window finishes and finned sunshades.

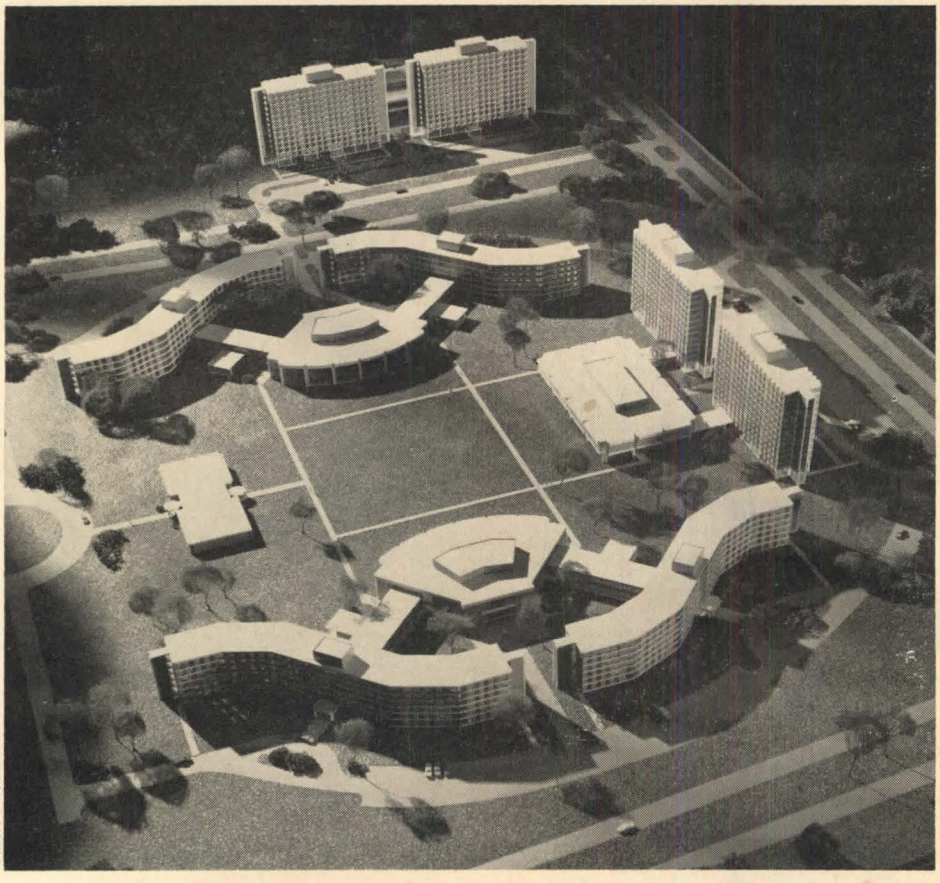


Photo: Balthazar

Self-Contained College for Michigan State University

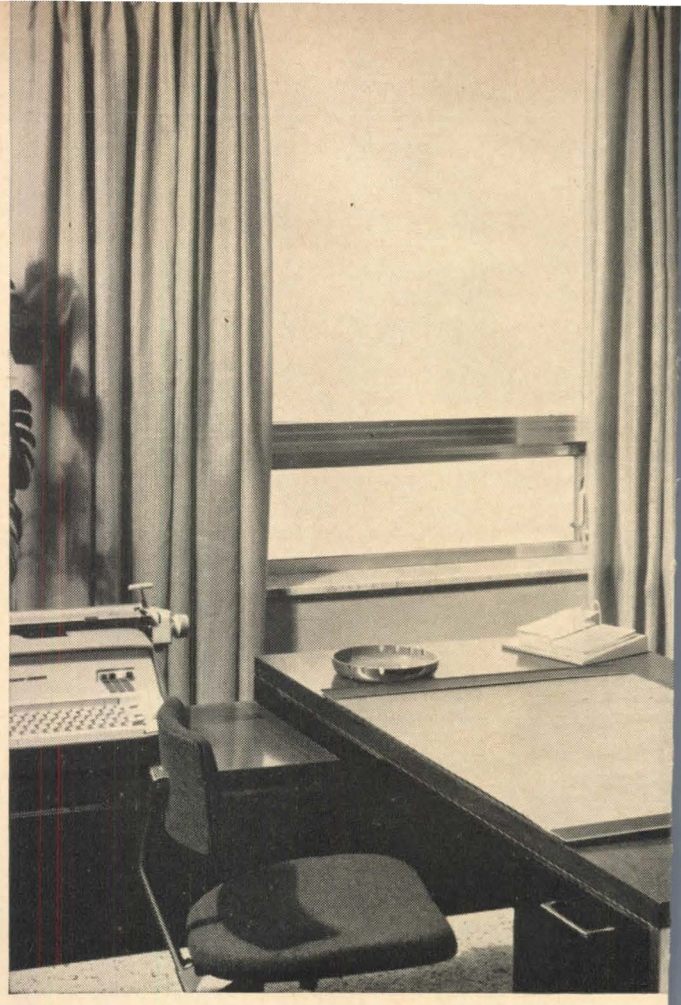
Playing with serpentine, fan, rectangle, and slab shapes, Ralph R. Calder & Associates, Detroit, have designed a self-contained college for the Michigan State University campus. Each of three clusters sharing a common court will have men's and women's dormitory wings (serpentine and high-rise structures) plus a multipurpose wing (fan-shaped and rectangular structures). Multipurpose wings will contain classrooms, lecture halls, offices, lounges, snack bars, and complete dining facilities. Closing the court (*left*) will be a library-auditorium. Future addition of a fifth unit (*background*) will bring capacity of the college to 4600 students. Structural materials will be reinforced concrete for dormitories and steel in classroom-dining areas; exteriors will be brick and stone with aluminum windows.

Y at Waikiki

Y-shaped, 27-story apartment-hotel by John Graham & Company, which will be one of world's largest prestressed structures, will occupy a 2½-acre choice plot on Waikiki Beach. There will be 504 hotel rooms, 510 occupant-owned apartments with "lanai" (small balconies), complete hotel facilities on the first and second floors, and the

Continued on page 68

Remember Styrofoam for masonry walls.



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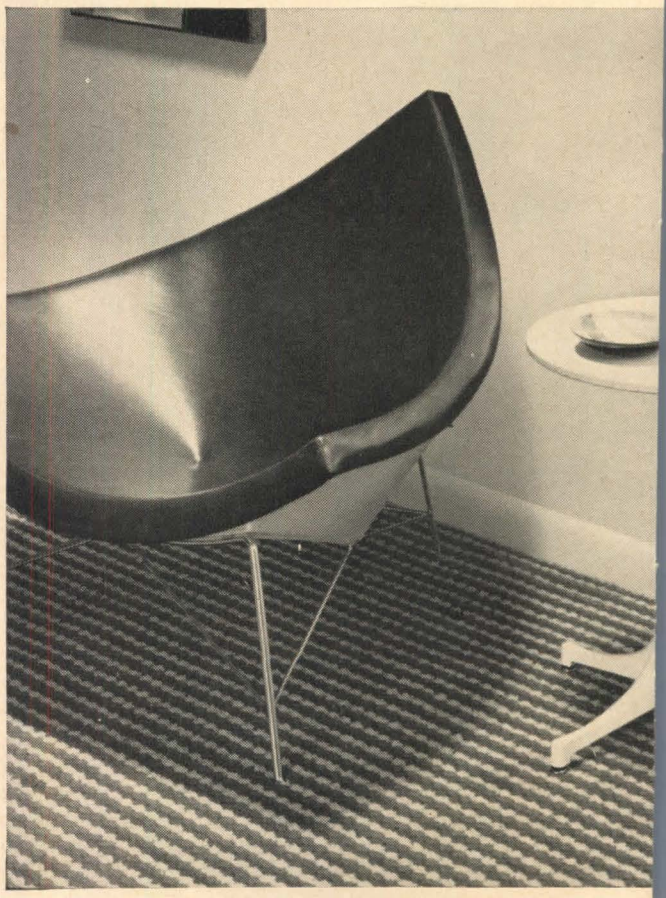
Remember Styrofoam for slabs and foundations.



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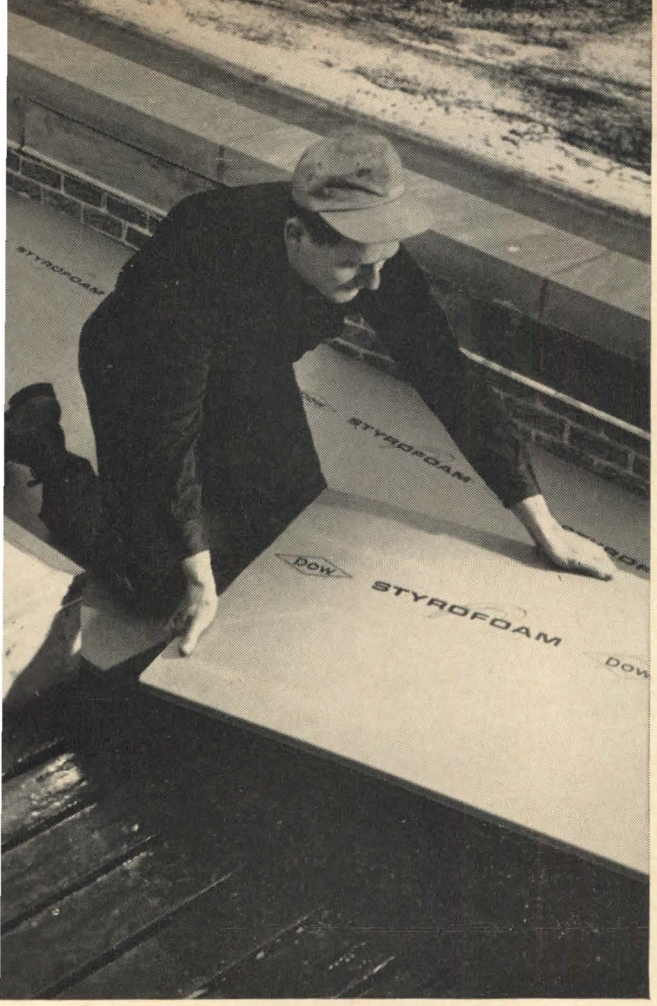
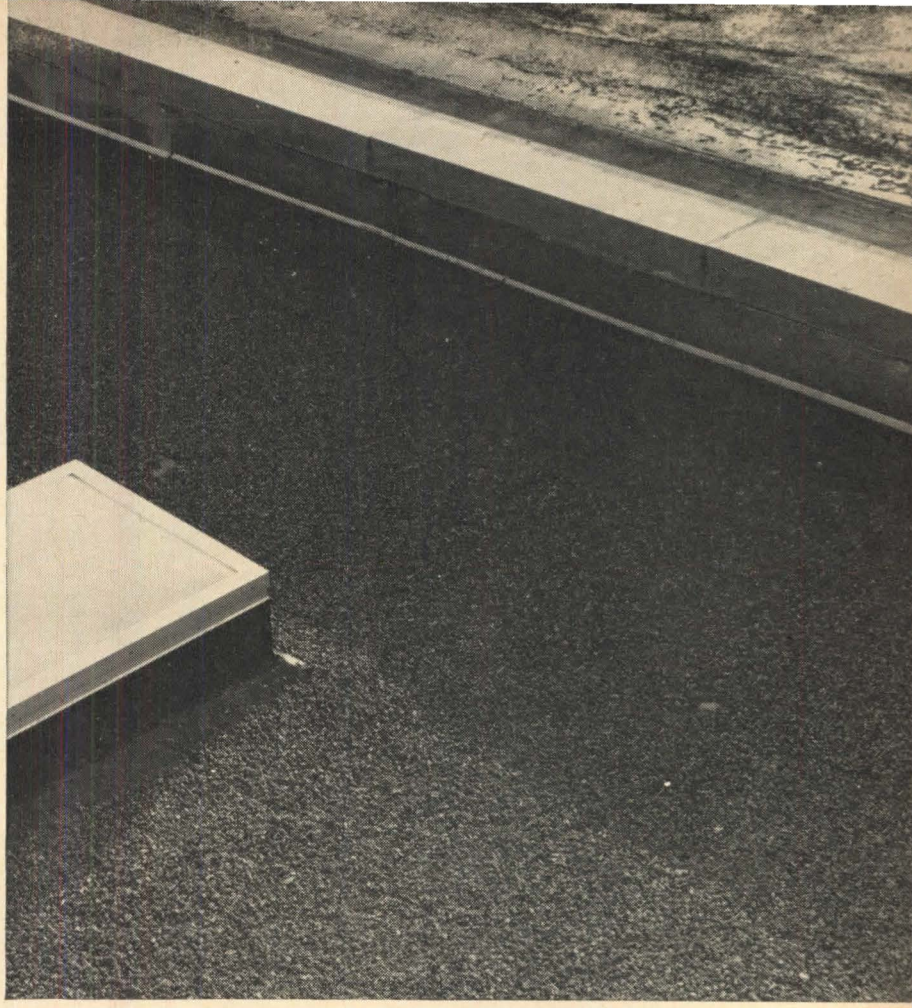
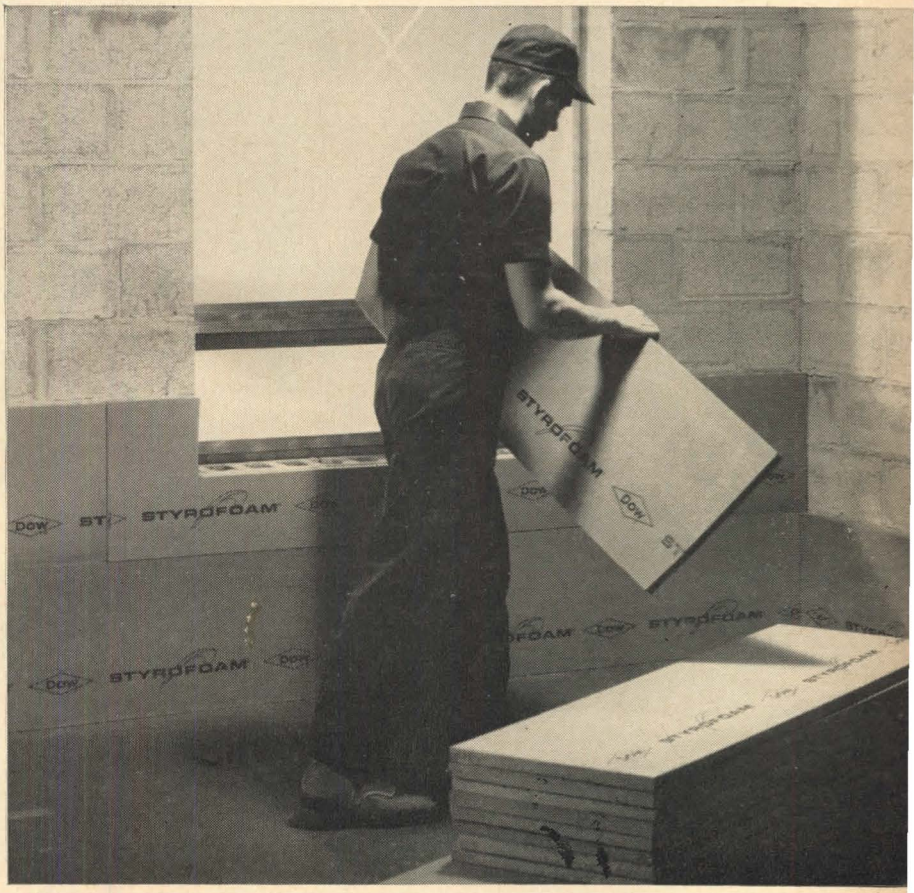


Remember Styrofoam for built-up roofs.



Then forget it.

emember Styrofoam® brand insulation board when u want an insulation with a permanent low "k" factor, that rves as its own vapor barrier, that can't absorb water, that u can install and forget—forever.



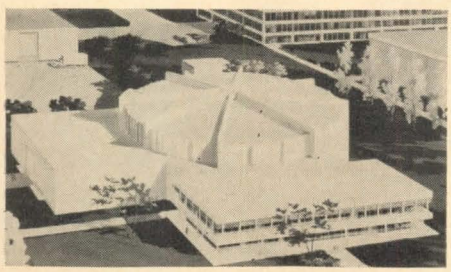
Then remember it (on your next job). See Sweet's Architectural File 10a/Do. The Dow Chemical Company, Midland, Michigan.

DOW

Continued from page 65
"world's longest" glass exterior elevator. (One of three restaurants will be situated at the top of this elevator.) Parking for 500 cars is provided below a plaza. Concrete piles have been driven through an average of 120′ of soft coral ledges to hard coral strata in order to support the 1,193,200 sq ft structure.

Belluschi Design for Philadelphia

First major building under construction in Philadelphia's Independence Mall West Project was designed by Pietro Belluschi in collaboration with George M. Ewing Company of Philadelphia. Ground floor of nine-story structure for Rohm & Haas will have two glass-enclosed areas separated by a 60-ft galleria. This galleria will open a view through the building from Sixth Street to the Atwater Kent Museum garden. Key element in the architect's effort to provide classical overtones within modern lines is in the use of recessed columns supporting the upper stories.

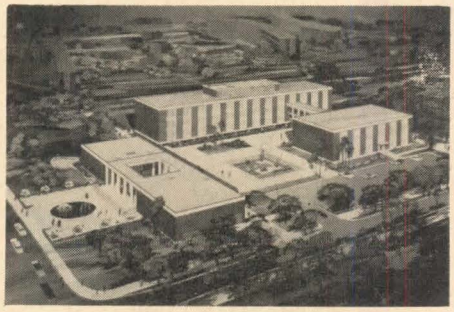


Houston Space Facility

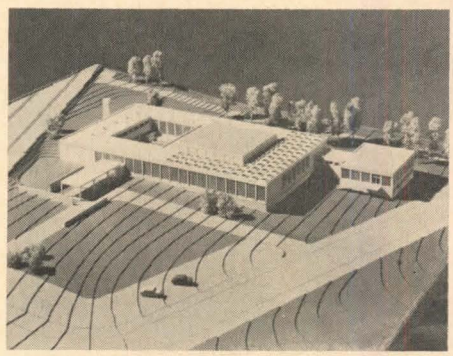
New York Engineers Ford, Bacon & Davis have designed a flight acceleration facility for NASA's Manned Spacecraft Center at Houston. Main structural element will be a 150′ diameter rotunda, to house a centrifuge for simulating lift-offs and space flights. One of two wings will be for offices, controls, computer and orientation room. The second, a service wing, will permit occasionally needed expansion of the centrifuge arm.

Direct Design for Florida

Ground has been broken for a College of Architecture and Fine Arts complex at the University of Florida,



Gainesville. The complex will collect departments formerly scattered in seven temporary buildings into three units: (*left*) two small lecture halls and art gallery; (*rear*) a 4-story classroom and drafting room; and (*right*) an architectural library and administrative offices—totaling 95,730 sq ft. Façades will be of red brick with limestone trim. Architects are Kemp, Bunch & Jackson.

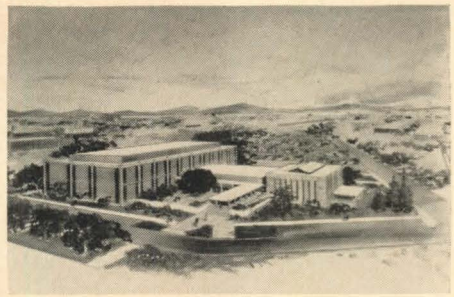


Munch Museum Now Open

Latest tourist attraction in Oslo is the recently opened Munch Museum. Designed by competition winners Gunnar Fougner and Einar Myklebust, the museum houses the legacy of expressionist Edvard Munch.

Rooms for Thought and Research

Central Research Facility in Palo Alto, Calif., consists of two-story laboratory wing, a 4,000-sq-ft technical library, and an administration-reception area. The rectangular lab wing has scientists' offices along an inner court and laboratories on the periphery, enabling close contact between researchers. The complex, to accommodate 50 scientists and 100 technicians



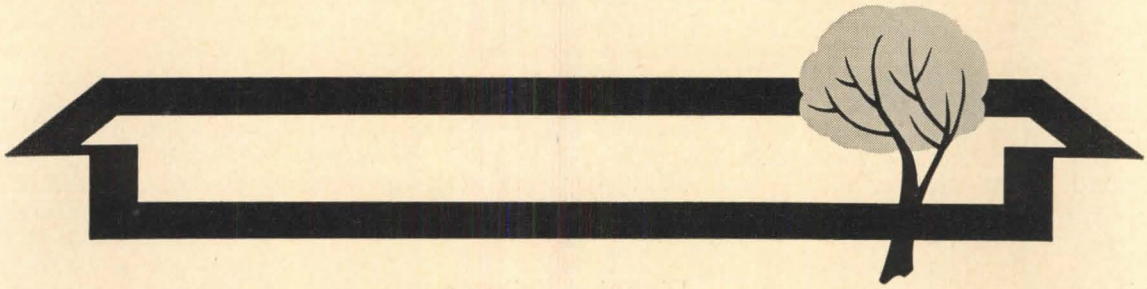
of Varian Associates, is on a 5-acre site across from existing administration facilities. Architect: Rockrise & Watson; Consulting Architect-Engineers: Albert C. Martin; Landscape Architect: Thomas Church.

Luxury in L.A.

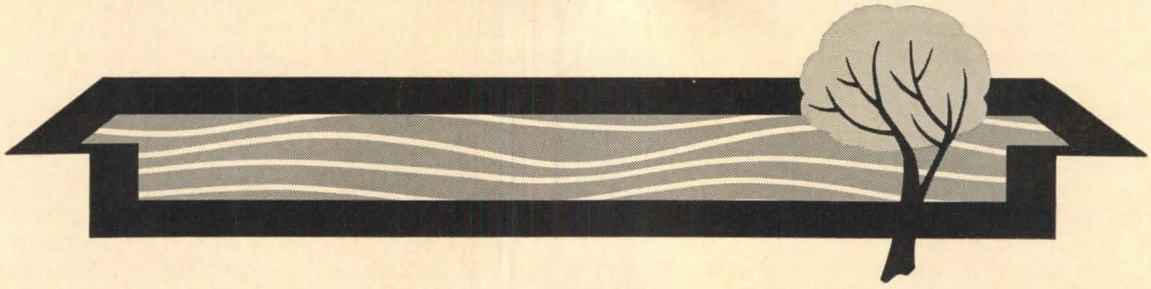
New Wonderland in L.A. will be that city's first high-rise condominium project. Special features of this 17-floor "Incomparable Residence of a Select Few," to be on Wilshire Boulevard, include Roman baths, dining rooms decked above sunken living rooms, and landscaped roof containing heated swimming pool and facilities for private parties. Design places first floor of apartments above a two-storied, glass-enclosed lobby. The entire building is raised on terraces. Architects are Daniel, Mann, Johnston, & Mendenhall.

Aid for Researchers

Aid for researching scientists and engineers is supplied by the National Referral Center. Switchboard connection with specialized information sources is obtained, without charge, by contacting the Center at the Library of Congress, Washington 25, D.C. Information sources are invited to advise the Center of their capabilities.



Why Parkview Manor Nursing Home installed Chrysler Airtemp

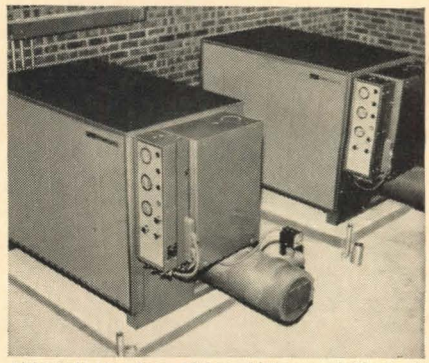


Parkview Manor Nursing Home, in Midland, Texas, needed an air conditioning system that would be unusually quiet, reliable, and compact. Their selection, two Airtemp reciprocating chillers, met all three requirements. The units' "vibration-free" compressors keep noise levels to a minimum; reduce stresses on internal machinery. Compact — both chillers passed easily through a standard 35-inch doorway, were in position 15 minutes after leaving the delivery truck, and required only 16.4 sq. ft. of floor space per unit.

You, too, should consider Airtemp for your next cooling problem. Its line has one of the broadest BTU ranges in the cooling field. And all equipment is Chrysler-Engineered. Reliable. When it comes to assistance, Chrysler Airtemp stands ready to help you with fully qualified technical representatives. Detailed technical literature.

For more information, write Mr. T. W. Kirby, Vice President-Marketing, Airtemp Division, Chrysler Corporation, 1600 Webster Street, Dayton 4, Ohio.

AIRTEMP DIVISION CHRYSLER CORPORATION



Although the two 40-ton Airtemp chillers sit on the nursing home's main floor, their noise level is exceptionally low. Contractor: Wayne Taylor Company, Inc., Lubbock, Texas. Architect: Armstrong & Johnson, Fort Worth, Texas. Consulting Engineer: Thomas B. Romine, Jr., Fort Worth, Texas.

88th Congress: First Session

by E. E. Halmos, Jr.

Official Washington was marking time, early in January, waiting for a series of new Presidential messages and for the 1964 political wars to begin in dead earnest.

As you know, Congress slipped from its first to its final session with almost no perceptible break, and with an enormous backlog of bills still piled up for some sort of disposal this year.

If you review the legislators' accomplishments in the first session, you can come up with only one "package" of bills that will have a direct effect on architects' business interest; and a very few other matters of more general concern.

Most important was the one new spending program of any size: the education bills originally submitted by the late President Kennedy. These call for spending approximately $3 billion over the next four years—nearly $2 billion for construction—for colleges and other institutions of learning.

Other public works measures that finally were passed included the nearly normal $4.4 billion public works bill, plus appropriations for other Government construction agencies. Most got just about what had been sought for them. Only fly in this ointment was the long delay in appropriating the money—a delay that has caused slowdowns and even shutdowns of quite a few Government construction projects.

Not affected at all was the huge highway program, funded out of a trust fund, from which about $3 billion will go this year as grants to the states.

From a professional viewpoint, a couple of small items were of interest:

One was a prohibition (in the foreign aid authorization bill) against use of Government agencies for engineering and similar work—unless the agency head is prepared to justify such work in writing.

Another—though not directly a Congressional action—concerned use of materials in highway construction: The Bureau of Public Roads issued regulations requiring competitive bidding on highway materials. That brought an immediate query from engineers, who feared that BPR might be overriding engineering judgment as to materials used, or might force issuance of duplicate specifications—say for asphalt and portland cement concrete pavement.

BPR hastily replied that it wasn't interested in paving, but rather in smaller (and more easy to cheat on) items like piping, wiring, and fill. And in any case, if proper justification accompanied the selection of a material, BPR won't interfere.

Planning Failures

There was another matter breaking loose around Washington that is of prime interest to planners—though it has nothing directly to do with the Federal Government. This is an obvious breakdown of long-range planning of community devolopment. It is not unique to Washington and its sprawling metropolitan area, of course—but it is more noticeable because of the center around the capital.

What's happened is that the political heads of the burgeoning suburban counties (especially Prince George's, Montgomery in Maryland, and Arlington and Fairfax, in Virginia) have been riding roughshod over their own planning commissions, architects and others, in granting rezonings of rural land for all manner of high-rise apartments, close-together housing developments, and the like. The pressure, as usual, comes from landowners and developers, most of whom are represented on the county planning boards.

A particularly flagrant case was Fairfax County, where an outgoing County Board, at its final meeting, hastily rezoned hundreds of acres of land from residential to apartments; and in Montgomery County, where a new County Board overrode not only the previous Board, but its own planning commission and an adverse vote of residents of a tiny town that would be affected (Poolesville), to permit 15,000-sq-ft zoning on a 500-acre tract more than 35 miles from the center of Washington.

In Washington itself, similar things have been happening—in this case with Congress (which is Washington's "City Council") overriding maior plans for a transit system, and cutting in on plans for new highways by freezing some, refusing to permit others.

Planners (and architects) in general have contented themselves with comment to the press or elsewhere, leaving it to citizen groups to carry on any active fighting.

So far, though, nobody has brought up the key point: The planners haven't really sold their operations to the politicians or even to the general public. They seem to work too often as if they were planning in a vacuum—as if there was no one living in or holding land in the areas they designate. Inevitably, therefore, they run into the quite human objection that their plans to maintain an area as rural or parkland will cost somebody money in lost sales opportunities. That's a hard argument for a politician to ignore.

FINANCIAL

Some of the reasoning behind those predictions of a $65.5-billion year for the construction industry in 1964 becomes a little clearer after study of the reports on which they are based.

Most encouraging for architects, perhaps, is the universal confidence in the strength of the private building field (exclusive of housing) where an over-all gain (over 1963) of 7 per cent is expected, for a total of $12.7 billion for the year. That's predicated on numerous surveys of intentions of manufacturers and others—surveys that indicate these elements plan to spend something like $41 billion during the year on new plants and equipment. By rule of thumb, about a third of all such expenditures go for construction.

The forecasters see strongest trends for office buildings, factories, laboratories, and warehouses; and some drop in construction of new stores, restaurants, garages, and similar structures.

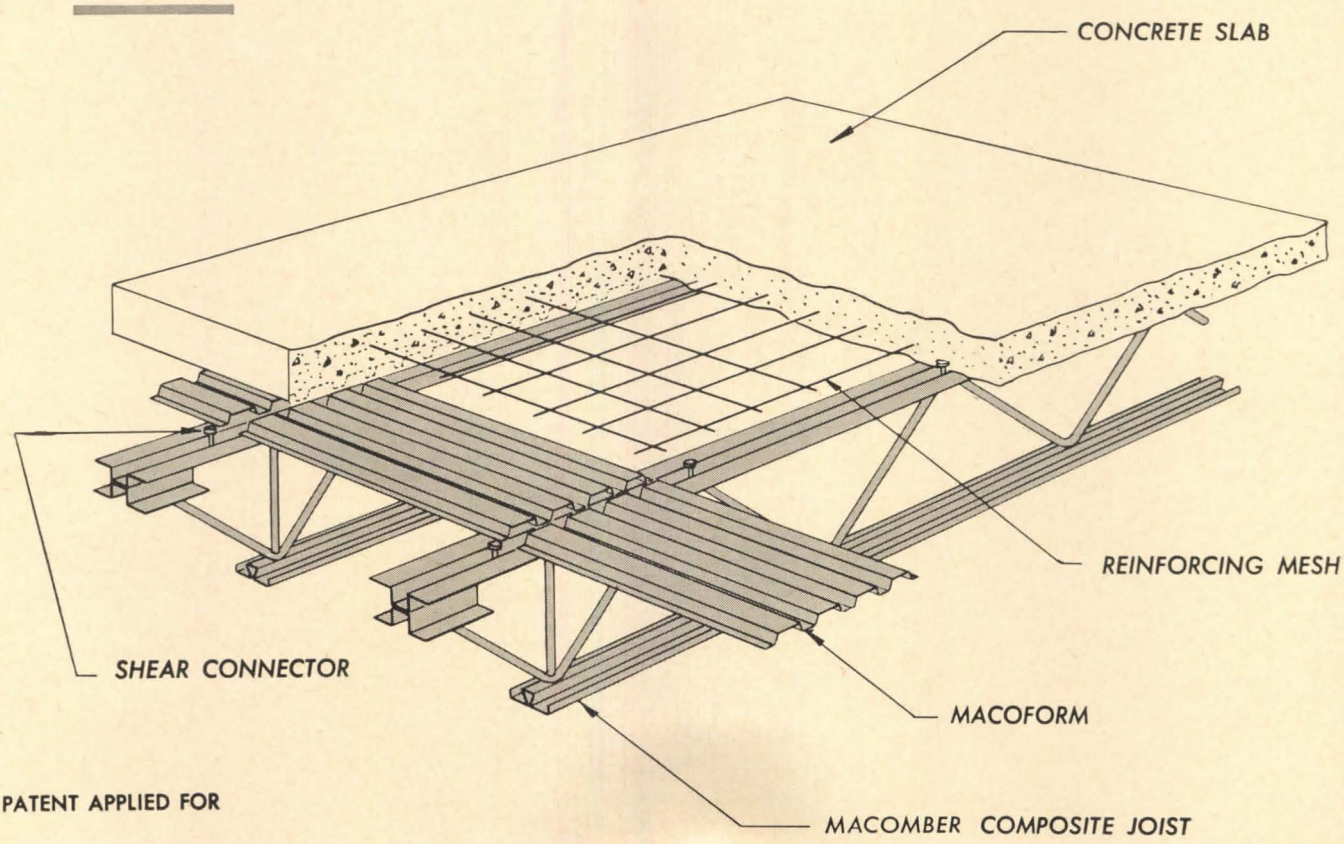
Surprisingly, in view of the feeling in many quarters about overbuilding, the forecasters think apartment construction will continue strong, at least for the first half of the year.

The other big area for privately-financed construction work is in institutional building: schools, churches, hospitals. Economists see this area as increasing by 10 per cent, to bring the total up to $4 billion for the year.

Note that these forecasts are being made with only a small bow to the effect of a possible tax cut this year. Reason: Last year, economists relied heavily on a tax cut as foundation for their prediction of a $62-63 billion year for 1963. There was no tax cut, but the industry came out at the end of the year at $62.5 billion, anyway.

So the theory is that the economy is strong and will make the grade in any case. A tax cut, if it comes, would be further icing on the cake.

NEW



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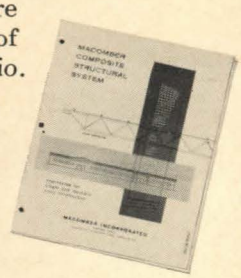
A way to improve multiple story construction

(and reduce its costs)

Build a tall building, or a single-story, with less wasted space, more economically. It can be done with an exciting new system developed, tested and proved by one of America's best known structural steel fabricators — Macomber Incorporated, a Subsidiary of Sharon Steel Corporation.

It's called the Macomber Composite System, because it combines steel and concrete into a structural member which functions integrally, utilizing the strength of open-web joists with the capacity of a concrete slab. The inter-action of the joists and slab provides a more rigid unit than steel and concrete acting independently. Developed around a special open-web joist, the system permits longer spans with shallower depths, reducing height per floor. More efficient use of materials with a reduction in total dead weight and labor costs, result in decreased building costs.

The Macomber Composite System is another new custom steel product from the expanding world of Sharon Steel. For technical brochure write Macomber Inc., Subsidiary of Sharon Steel Corp., Canton 1, Ohio.



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If you should have a ceiling installation where ease of cleaning is of real importance, you will want to investigate the unique features of Lo-Tone *vinyl-coated* ceiling tile and board. The plastic surface is sealed and static free — will not attract dirt particles.

Perhaps your needs call for a Fire-Rated tile or ceiling board. Lo-Tone FR products are listed by Underwriter's Laboratories, Inc. One of the handsomest Lo-Tone FR patterns is new Fissura. This dramatic new ceiling tile captures the classic beauty of travertine marble.

For the complete line of Lo-Tone mineral acoustical products, consult Sweet's Catalog or your nearby Lo-Tone Acoustical Contractor. You may also write direct to Wood Conversion Company, St. Paul 1, Minnesota.

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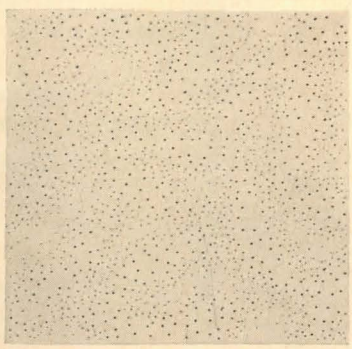
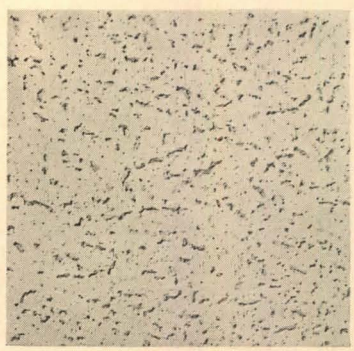

Vinyl-Coated Acoustical Products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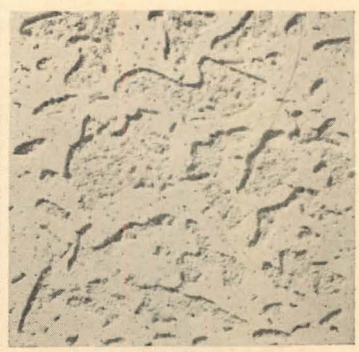
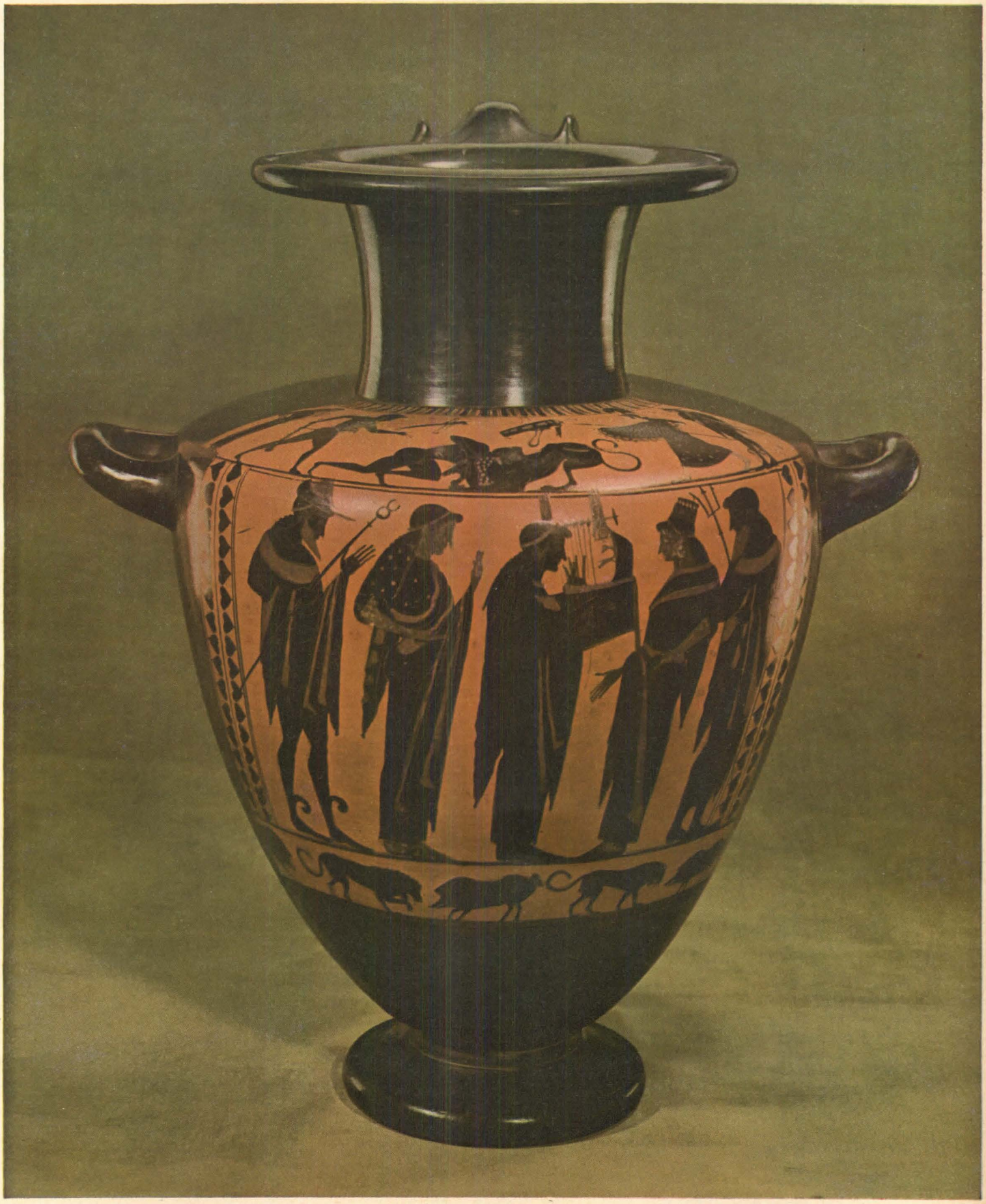

Design Tiles



Greek Hydria. Attributed to the Antimenes Painter. Black-figure ware. About 525 B.C. The Toledo Museum of Art.

Group Proposes South Manhattan Master Plan

NEW YORK, N.Y. The announcement of the proposed World Trade Center [pp. 57–59] came last month just as New Yorkers for a Civic Center of Excellence, a new *ad hoc* organization of architects and planners, issued a call for an over-all planning study of Manhattan south of Houston Street. Members of the group believe that a cohesive, imaginative master plan is required to bring together the many disparate schemes currently proposed for the area. These include not only the World Trade Center, but also the controversial Civic Center plan [p. 41, JANUARY 1963 P/A]; Fulton Fish Market Redevelopment; additions for Pace College and the Beekman-Downtown Hospital; Washington Market renewal and redevelopment; the new Stock Exchange [p. 71, MAY 1963 P/A]; the proposed redevelopment of the West Side waterfront from the Battery to 72nd Street; Two Bridges Housing and Industrial Development; two housing projects in Park Row; Brooklyn Bridge Southwest Urban Renewal; and heliport and marina.

NYCCE was formed during 1963 as a result of the disappointment of its members over what they considered a compromise solution of the New York Civic Center Plan, since passed by the City Planning Commission and the Board of Estimate. The group felt that although the plan was a step in the right direction, it reflected a tendency of the city to let expediency and compromise dictate in important matters of this sort. NYCCE particularly objected to the plan's lack of relationship to the surrounding area and its future situation as an unapproachable island in traffic.

Last summer, Jacob M. Kaplan, a noted New York philanthropist and financier, offered Mayor Robert Wagner $50,000 for the support of an international competition for the design of the Civic Center. Wagner, after consultation with his staff, refused the offer, mainly on the basis that it would delay construction and the opinion that competitions are usually not successful. The philanthropist repeated his offer, raising the amount to almost twice what the city has paid for its own Civic Center study, but the Mayor was obdurate. Subsequently, the New York Chapter of the AIA., while not endorsing a competition for the entire area (which included several commissions already held by chapter members), did ask for the city to consider competitions for areas not already contracted to architectural firms.

continued on page 76

continued from page 74

Dissuaded from the plan for a competition, Kaplan turned to a panel of experts for their opinions on the plan. A conference attended by 13 prominent architects and planners produced a statement featuring five points the signatories asked the city to take into consideration before proceeding with further planning on the Civic Center:

"(1) The relationship between automotive traffic and the Civic Center enclave needs considerably broader thinking about the role of the automobile in the precinct of the city.

"(2) Present and future needs for structures required by the three governmental levels—City, State and Federal—must be considered as part of a single, broad-range, co-ordinated program.

"(3) The 'edge' conditions, i.e., relationship between the Civic Center and adjoining private areas, have to be carefully studied, since the boundaries are as important as the core.

"(4) Plans for expansion cannot be left undecided and future development should be considered now and integrated into the Master Plan.

"(5) The impact of the Civic Center caused by drastic changes that will occur in the near future in several adjoining areas must be made part of the Civic Center study.

"Without an adequate analysis of these five items, the New York Civic Center is doomed to failure."

Signers of the statement, which recently was released to the press by Kaplan, were Edward Larrabee Barnes; Peter Blake, Managing Editor, *Architectural Forum;* Marcel Breuer; Walter Gropius; Douglass Haskell, Editor, *Architectural Forum*; Philip C. Johnson; Burnham Kelly, Dean, School of Architecture, Cornell University; Ieoh Ming Pei; G. Holmes Perkins, Dean, Graduate School of Fine Arts, University of Pennsylvania and Chairman, Philadelphia City Planning Commission; Jan C. Rowan, Editor, *Progressive Architecture*; Paul Rudolph, Chairman, Yale University Department of Architecture; Hideo Sasaki; and Jose Luis Sert, Dean, Harvard University Graduate School of Design. These men were joined by scores of others in the design and planning professions in written and verbal messages to NYCCE voicing concern over the New York Civic Center plan. One of these was Le Corbusier, who wrote from Paris:

"Your project as shown in the photograph and plan attached to your letter is unworthy of modern times. Americans benefit from a favorable prejudgment. Urbanism, historic or contemporary, reveals and accuses. I am very sorry to see that your 'Civic Center of Excellence' is one of frightful confusion."

Architectural critic and historian Lewis Mumford wrote, "Even a glance at the plan shows that the major decision has already been made, not by architects and planners, but by the highway engineers, whose Brooklyn Bridge interchange will sufficiently mangle the site to make its redemption all but impossible. In deference to the engineers' wishes, it would be wise to put all the buildings underground and turn the land they now pre-empt into even more complicated traffic spirals for achieving the ultimate triumph of the motor age; maximum speed and zero destination."

Raymond S. Rubinow, New Yorker who led the fights to save Carnegie Hall, Washington Square, and Breezy Point, said that it is "ironic that Mayor Wagner and Milton Mollen (Chairman of the Housing and Redevelopment Board) should be proposing this piece-meal plan just at the time when the new Chairman of the City Planning Commission, William F. R. Ballard, is urging a Master Plan for the whole city."

For more information, turn to Reader Service card, circle No. 348

NEW PRODUCTS

Garage Door Transmitter

Palm-sized high-frequency radio transmitter operates garage doors by remote control. "Alliance Genie Model AT-10" offers transmission range up to 125′ and provides 21 channels. Transmitter, 3¾″ x 2¼″ x 1¼″, is powered by single, low-cost 22½-v battery. Mounting kit includes chromium clip for attaching AT-10 to sun-visor, and black plastic holder for below-dash mounting. Complete unit is priced at $78.95. The Alliance Manufacturing Co., Inc., Alliance, Ohio.

On Free Data Card, Circle **100**

Rooftop Heating/Cooling

Rooftop heating-cooling packages have been developed to cut total heating-cooling costs. Unit contains heat exchanger, burners, controls, cooling coil, high capacity blower, and filters. When combined with air cooled condensing units, rooftop system has heating capacities from 100,000 to 300,000 Btu/hr, and cooling capacities from four to five tons in larger sizes. Unit features tri-alloy heat exchanger which resists corrosive atmosphere and can handle 100 per cent outdoor make-up air; built-in filters; and automatic pilot ignition for quick relighting if pilot outage occurs. Bryant Mfg. Co., 2020 Montcalm St., Indianapolis 7, Ind.

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Air Handling Units

Line of 1½- and 2-ton capacity horizontal air handling packages has been developed for use in false ceilings, closets, or crawl spaces. Units are 12½″ x 26½″ x 30″. Blower, filters, and evaporator coil are all contained in same compact package. Units use standard-size duct work. Versatile filter arrangement allows air intake from either the rear or the bottom. Depth of 12½″ permits units to be flush mounted against closet ceiling in apartment applications to provide central ducted air conditioning without taking any floor space from the living area. Peerless Corp., 1853 Ludlow Ave., Indianapolis, Ind.

On Free Data Card, Circle **102**

Low-Cost Cooling

Remote low-cost air conditioners are available in double- and single-blower models with capacities of 2 to 10 tons. "Krack Comfort Masters" feature four-way directional discharge grilles with individually adjustable louvers. Units can be mounted against ceiling or between hanger bars. Two rows of heating coil can be added for winter heating. Coil may either be hot water or steam construction. Centrifugal type blowers are standard for all models. Refrigeration Appliances, Inc., 903 West Lake St., Chicago 7, Ill.

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Oil Finish for Wood

Appearance of hand-rubbed linseed oil woods is obtained by utilization of marproof, foolproof finish. "Penetrating Finish" is applied by brush, spray, roller, or rag and is immediately wiped off with a cloth. After several hours, finish becomes hard. This process eliminates spray booths, expensive equipment, skilled mechanics, and costly handling. Finish has no cloudy or yellowing appearance. It can be used over stain and filler as well as lacquered over. Ar-Jay Paint Co., Inc., 1231 Atlantic at Nostrand Aves., Brooklyn 16, N. Y.

On Free Data Card, Circle **104**

Sump Pump

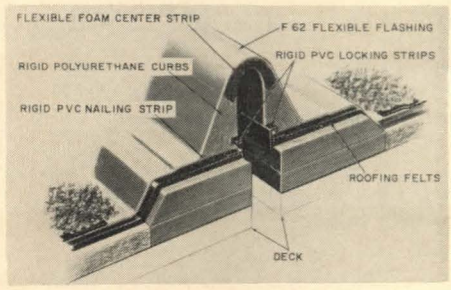
"Model 64" sump pump includes unit-bearing construction, unitized control chamber, watertight sealed outside motor housing, and recently developed hermetically-sealed oil-filled motor housing with only one moving part (motor rotor). Completely submersible, pump features oil-filled sealed motor chamber that keeps motor from heating up, lubricates bearing, and prevents internal condensation. Pump also has nonclog, two-vane impeller that moves normal debris found in sumps. Larger air trap liquid level skirt prevents clogging and provides positive diaphragm actuation. Kenco Pump Div., The American Crucible Products Co., Lorain, Ohio.

On Free Data Card, Circle **105**

Conformable Sealant

"Poly-Tite," a conformable one-step sealant, has been introduced. Sealant fills and seals joints in metal, concrete, or any curtain wall construction. It forms an impenetrable barrier to moisture, wind, rain, cold or heat. Sealant has 50 per cent compression and requires no fillers or joint preparations. Poly-Tite can be applied to wet panels under any weather conditions, including temperatures below freezing. It is available in colors to match all types of construction materials. Sandell Mfg. Co., 26 New Street, Cambridge 38, Mass.

On Free Data Card, Circle **106**



Insulated Expansion Joint

"Lexspand" is a prefab permanent and insulated roof expansion joint. Unit has a synthetic rubber horseshoe

contour that achieves two-way flexibility with lateral expansion to 4½". Lexspand consists of: (1) pair of rigid polyvinyl chloride locking strips; (2) factory assembled unit made of two rigid PVC bases bonded to polyurethane foam curbs and linked by flexible synthetic rubber foam center connecting strip that bridges the closure. Lexsuco Inc., 33095 Bainbridge Rd., Solon, Ohio.

On Free Data Card, Circle **107**

Control Panel for Air Cleaner

"Living Room Performance Panel" is mounted to living area to give fingertip control for electronic air cleaner installed in forced air ventilating system. Unit shows normal operation, and also indicates when unit needs maintenance. Attention switch on panel provides choice of constant or automatic fan operation. Panel requires no water or drain connection. Electro-Air Cleaner Co., Inc., Dept. Z, Olivia & Sproul Sts., McKees Rocks, Pa.

On Free Data Card, Circle **108**

Liquid Plastic for Roofing

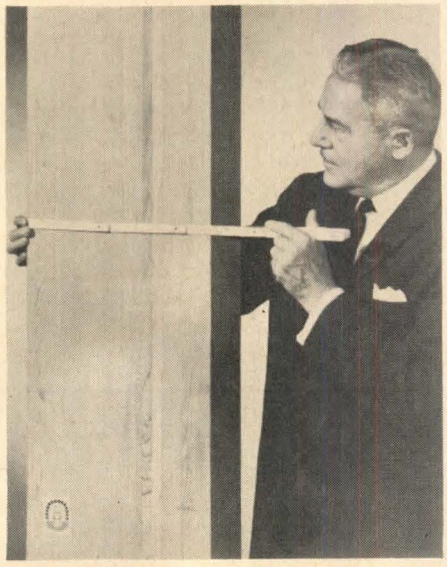
Liquid plastic roofing compound requires no expert laying, heating, joints, overlaps, or flashings. "Polaplex" can be applied with brush, roller, trowel, or spraygun. It cures in about eight hours, and skin, thus formed, adheres permanently to wood, glass, concrete, brick, asbestos cement, fiber board, metal, and insulating concrete. Polaplex is waterproof and highly elastic. It does not grow soft in hot climates, nor does it flake or deteriorate through weathering. It does not support combustion and is self-extinguishing. Polaplex is available in permanent colors, including pastels and deep shades. The Terrazzite Corp., 2203 West Malone St., San Antonio 25, Tex.

On Free Data Card, Circle **109**

Condensing Unit

Model 20 (20,000 Btu capacity) remote air conditioning condensing unit provides flexibility of being used with matching coil and case, or a slab coil. It offers a compact unit for "add-on" cooling. Model measures 20¾" high, 16¾" wide, and 29¼" long. Condenser is pulled through coil and discharged both vertically from the top and horizontally, from one end. The Payne Co., Box 1234, La Puente, Cal.

On Free Data Card, Circle **110**



Redwood Glulam Beam

Recently developed is redwood laminated structural member. "The Noyolam Beam" can be specified in sizes from 3x4 up to 11x16 and in lengths up to 40'. There are up to 20 laminates in a single beam, each being 1" or thicker in stock. Waterproof exterior adhesive is employed, which permits interior and exterior spans of same beam. All "green" problems are eliminated because Noyolam is completely kiln dried. Union Lumber Co., 620 Market St., San Francisco, Cal.

On Free Data Card, Circle **111**

Outdoor Carpeting

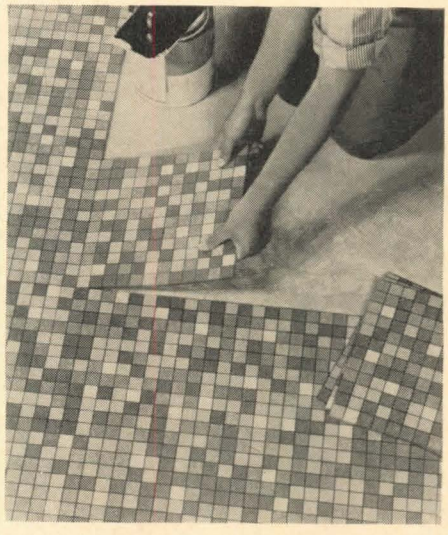
All-weather outdoor carpeting material withstands both heavy rains or hot sun. "Terrace Green" carpet is used in high-rise apartment balcony-terraces, exposed porches or patios, and for areas around swimming pools.

Carpet is blend of natural and synthetic fibers that are guaranteed not to fade even under year-round exposure to sun or rain. It is priced at $5 per sq yd. Ozite Corp., Merchandise Mart Plaza, Chicago 54, Ill.

On Free Data Card, Circle **112**

Ceramic/Vinyl Tile

"Vinylbond Ceramic Tile" requires no special preparation of subfloor. Regular waterproof mastic can be used. It



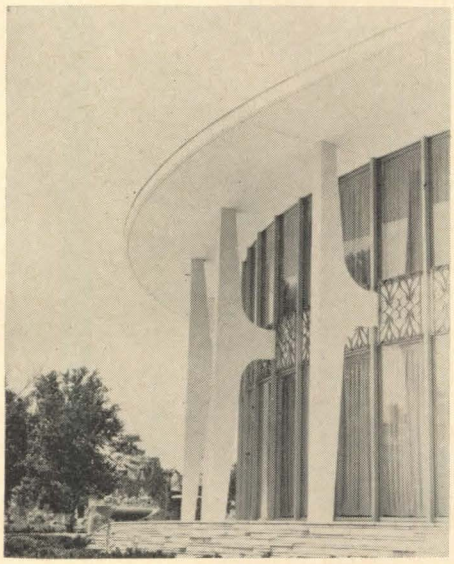
will not crack, chip, peel, or absorb liquids, and will resist staining. It is available in 12" x 12" tiles, composed of 1" sq ceramic tiles grouted and underlaid with vinyl. It comes in many color combinations. Stylon Corp., Milford, Mass.

On Free Data Card, Circle **113**

Epoxy Coating Resists Chalking

Air-drying epoxy modified acrylic coating retains its high gloss and resists chalking for minimum of five

years. "Acro-Lor" is an ambient temperature curing epoxy-acrylic coating for exterior use. It combines good adhesion, hardness, and moisture resistance of epoxy resins with weathering resistance and gloss retention properties of acrylic resins. It can be applied at any temperature up to 55 F.

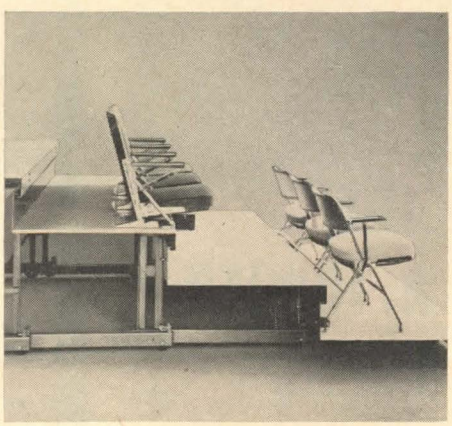


Coating is utilized for maximum surface protection of poured concrete, decorative masonry, concrete and screen blocks and other architectural materials including metals. Plas-Chem Corp., 6177 Maple Ave., St. Louis 30, Mo.

On Free Data Card, Circle 114

Riser Chairs

Telescoping riser chairs are made of heavy-duty welded steel. They are available in sections from 2 to 25 rows high. Entire assembly extends only

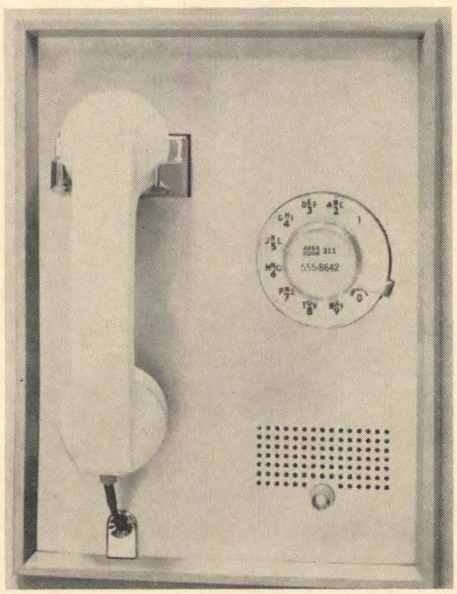


4 ft when nested. Sections are either permanently attached to the wall, or portable for removal and storage after use. Whether attached or unattached, chairs can be folded in place and stored on nested platforms, thereby saving both space and time. Safway Steel Products, Inc., 6228 W. State St., Milwaukee, Wis.

On Free Data Card, Circle 115

Recessed Phone System

Telephone system can be recessed in wall. Called "Panel Phone," it features disappearing cord. Only parts that protrude from the wall are receiver and chrome receiver hook and small button to control volume of phone's ring. Rectangular-shaped phone consists of face-plate which is flush



with wall and is 8½" wide by 11½" long. Three models are available: (1) Basic phone provides regular telephone service. (2) Second model includes built-in microphone and speaker, which is used as part of intercom system. Call on one line can be automatically held while other line is in use. (3) Third model incorporates all features of first two models plus six-button, multi-line flexibility and speakerphone. American Telephone & Telegraph Co., 195 Broadway, New York, N. Y.

On Free Data Card, Circle 116

Holding Trash Cans

Enclosure unit built for two, three, four, or five 30-gallon trash cans has been introduced. Special units may also be fabricated to larger trash can sizes. Enclosure is constructed of heavy-gage galvanized steel. Closure curtain coils around a shaft contain a counterbalance spring for easy hand operation. Air vents and drainage pipes are included. Corrosion-resistant prime coat serves as base for finished coat. The J. G. Wilson Corp., P.O. Box 599, Norfolk, Va.

On Free Data Card, Circle 117

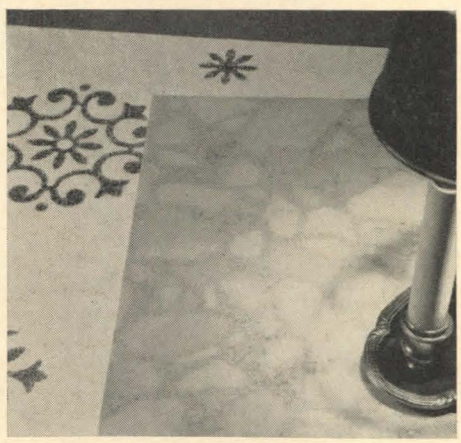
Masonry Coating

Cementious masonry coating called "Tileize" has recently been developed. Once applied, it cures to rock-hard, permanently bonded, seamless surface coating. It can be made waterproof and washable. It will not support combustion and is backed by 10-year guarantee. Porcelain-smooth, nonporous monotones to textured, multicolored finishes are available. International Protective Coatings Corp., 5309 West Broward Blvd., Ft. Lauderdale, Fla.

On Free Data Card, Circle 118

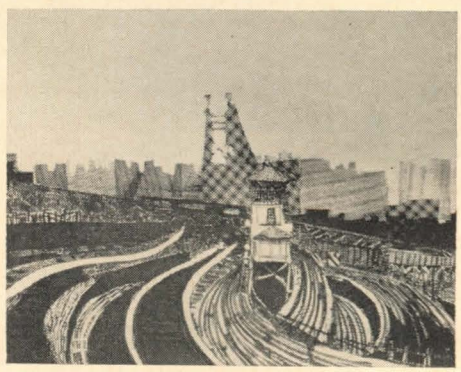
Resilient Flooring

Recently designed are two styles of resilient vinyl flooring. "Paventi Vinyl Corlon" has depth and translucence of Italian Carrara marble. It is available



in four light colorings with neutral accents. "Caradel Vinyl Corlon" features plain background and a scroll inset inlay, simulating brass. It is available in white and beige. Armstrong Cork Co., Lancaster, Pa.

On Free Data Card, Circle 119



Art Service for Architects

Tanglewood Gallery is an art service for architects and designers that makes

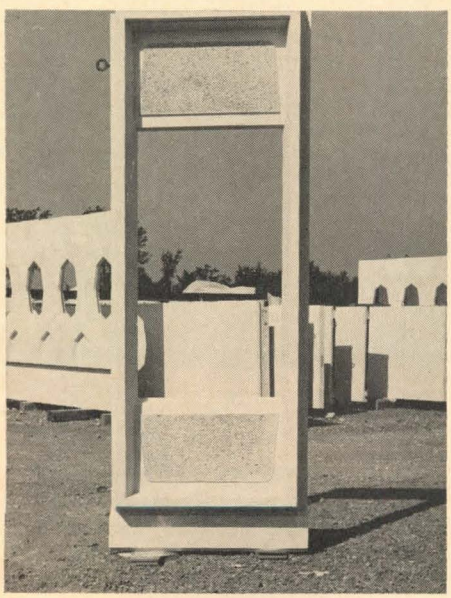
Continued on page 84

Continued from page 81
available a large variety of prints, original paintings, and wall hangings. Sample selections are delivered or shipped for consideration. Prices vary from $35 to $100 for individual prints. New works may be commissioned for large-scale installation. Service includes supervision of framing and hanging without extra charge. Works are available by such artists as Josef Albers, Carol Summers, Uchima, Gerson Leiber, Robert Goodnough, Larry Rivers, Harold Krisel, Karl Schrag, and Robert Rauschenberg. For details, contact Rosa Esman or Suzanne Lubell, 4 E. 95 St., New York, N. Y.

Lightweight Wall Vinyl

Fourteen unusually lightweight yet durable vinyl wall coverings that simulate such materials as wood, grasscloth, burlap, linen, leather, silk, marble, and stucco are available in sample folder. Processed vinyl is laminated under high heat and pressure to fabric backing. It is therefore lightweight and requires less than ordinary amount of adhesive for application. Vinyl is cut into rolls of 50-60 yds. long and 54 in. wide; partial rolls are available. Material meets all Federal specifications. The McCordi Corporation, 707 Fenimore Rd., Mamaroneck, N. Y.

On Free Data Card, Circle **120**



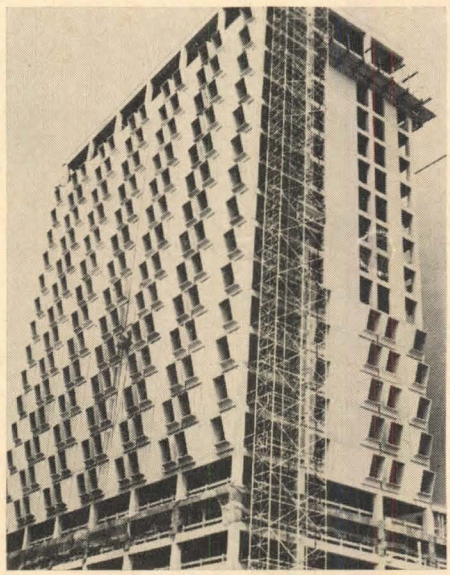
Textured Qualities of Precast Concrete

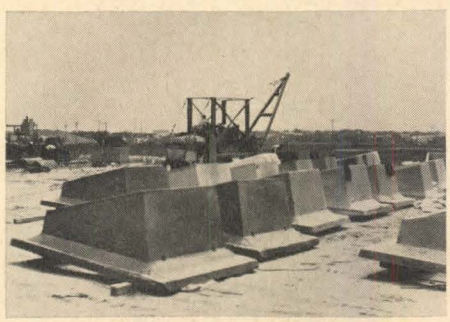
Textured qualities enhanced by Schokbeton process of producing precast concrete components are shown. Special aggregates can be employed for decorative units. They can be revealed by etching with acid, sandblasting, or bush-hammering. Kawneer Co., 1105 No. Front St., Niles, Mich.

On Free Data Card, Circle **121**

Offset Concrete Window

Corpus Christi 26-story building, designed by Jenkins & Hoff, of Houston, utilizes offset concrete windows. Pitched 17°, precast-concrete window reduces glare of sun as well as air-conditioning costs, gives sculptural aspect to façade. Rockport Steel Form and Mfg. Co., Rockport, Tex.

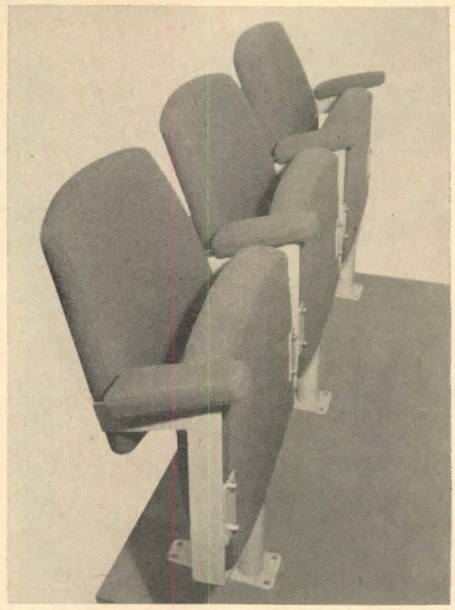




On Free Data Card, Circle **122**

Pedestal Theater Seating

English-designed, self-tipping seating for theaters, lecture halls, and auditoriums has compact steel frames, 1′-9″ wide, welded to pedestal tubes 6″ high and 2″ in diameter. The chairs are set ½″ apart, are 1′-3″ deep when folded, and fit into rows of any radius. Slightly concave back and seat are padded with latex foam; armrest is padded with plastic foam. Seating is delivered completely assembled, except for arm pads, which are added on site.

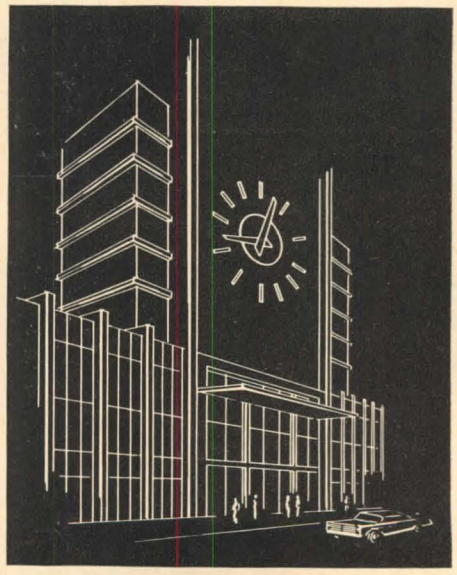


Other seating designs feature front and rear writing shelf. Catalog illustrating design variety is available. Race Contracts Ltd., c/o Scandinavian Design, 15 E. 53rd St., New York, N.Y.

On Free Data Card, Circle **123**

Outdoor Clocks

Latest in series of weatherproof outdoor clocks in wide variety of sizes and face styles has been announced. Three face styles are available in black-finished aluminum or other finishes with standard diameters ranging from 30″ to 120″. Special face diameters are available up to 24′ on request. Clock movements are weatherproof and will keep accurate time under all climatic conditions. Howard Miller Clock Co., Zeeland, Mich.



On Free Data Card, Circle **124**

AIR/TEMPERATURE

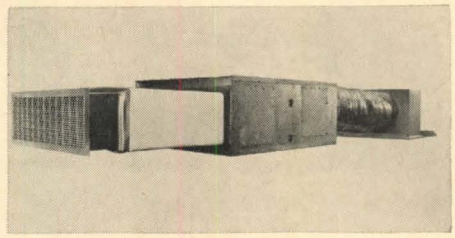
Chilled Water Prefab System

Folder, 4 pages, describes chilled water prefab system adaptable for both new and existing buildings. By utilizing supply and return risers as heat exchangers, system reduces required floor space. Extra space allowances for large, insulated runout, drain lines, and risers are eliminated by replacing them with vertical fan-coil units. Each unit is connected directly to unit above it. Units operate noiselessly due to large, free areas for air passages through riser-exchanger system and low speed squirrel-cage centrifugal fans. Large surface areas of cabinets are treated with sound-absorbing material as well as insulation to reduce any possible air noise. James J. Whalen Co., 8605 Cameron St., Silver Spring, Md.

On Free Data Card, Circle **200**

Ventilating Classrooms

Booklet, 4 pages, introduces complete, individual classroom ventilation system for use with radiant-acoustical ceiling heating. Mounted above the radiant-acoustical ceiling, unit draws in large quantities of air, blends in recirculated air, filters the mixture, and delivers it at constant volume and uniform temperature to the classroom. System includes outside wall louver with fly screen and mounting sleeve, insulated inlet extension, two circular flexible supply ducts, two modular ceiling diffusers, and return air grilles. Booklet gives details and performance



data. Jacobson and Co., Inc., Environment Control Div., 227 East 44 St., New York 17, N. Y.

On Free Data Card, Circle **201**

Heating Enclosures

Brochure, 4 pages, describes perimeter radiation enclosures. They include full back panel, continuous wall strip backed with vinyl wall seal, continuous heavy section aluminum outlet grille, and mounting clips. Enclosure panels are finished in choice of 12 baked enamel colors. There are 30 types of enclosures and elements. Details, Btu capacity ratings, and dimentional data are given. Scheme-

nauer Mfg. Co., Holland, Ohio.
On Free Data Card, Circle **202**

CONSTRUCTION

Vinyl Building Panels

Folder, 8 pages, illustrates PVC building panels. They are resistant to deterioration from sunlight, salt air, moisture, and bacteria. Panels will not peel or crack and have good tear and puncture resistance. Both corrugated and ribbed styles yield net width coverage of 4′. Standard lengths allow for 6″ end lap to provide net length averages of 8′, 10′, and 12′. Panels are available in various sizes and colors and configurations. Details, charts, and specs are given. B. F. Goodrich Co., Building Products Dept., Akron 18, Ohio.
On Free Data Card, Circle **203**

Steel Strand for Prestressed Concrete

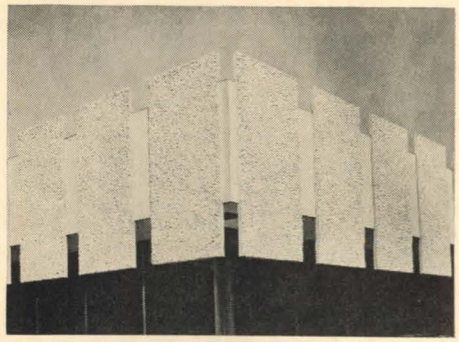
Booklet, 28 pages, explains stress-relieved steel strand for prestressed concrete. Booklet tells how prestressed concrete works and describes bonding characteristics of steel strand. Charts and photos are included. Bethlehem Steel Co., Room 1020, Bethlehem, Pa.
On Free Data Card, Circle **204**

Load Tables for Lin Tees

Three brochures present span loading tables for 6′, 8′, and 10′ flange precast, prestressed Lin Tees. Factors governing choice of stem depths from 12″ to 48″ and Lin Tee lengths from 20′ to 140′ are included. Tables provide information for hardrock or lightweight concrete members. Also given are property charts, weights per sq. ft. and specs. Lin Tee Affiliates, 14656 Oxnard St., Van Nuys, Cal.
On Free Data Card, Circle **205**

Aggregate Wall Panels

Six-page folder, and supplement showing four separate typical details, presents aggregate wall panels. These panels utilize natural aggregates ranging from fine sands to several inches in diameter. Aggregates are embedded



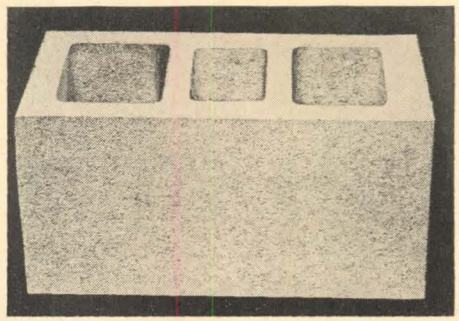
in copolymer resin and are available in unlimited color choices. The matrix may be colored to match or contrast. There are insulated curtain wall type panels; insulated spandrel sandwich panels, which are usually poured monolithically into aluminum or steel frames; column covers, copings, and specialty shapes. Colored photographs depict various installations. Architectural Research Corp., Ar-Lite Div., 12700 Farley, Detroit 39, Mich.
On Free Data Card, Circle **206**

Steel Arches/Gables

Manual, 50 pages, describes steel gables and arches. Part 1 contains complete design tables covering wide

range of spans, column heights, roof slopes and loading conditions for steel gables. Part 2 includes two-hinged, circular arches, including information on various combinations of spans and loads. Arch section contains precalculated designs based on wind load recommendations. Sections on single span rigid frames and arches are based upon plastic design theory and elastic design methods of analysis, respectively. American Institute of Steel Construction, 101 Park Avenue, New York 17, N. Y.

On Free Data Card, Circle **207**



Glazed Concrete Blocks

Brochure, 4 pages, shows structural lightweight concrete blocks in modular sizes. "Acousti-Glaze" blocks are glazed with permanent high gloss finish in wide range of colors, which have the same noise reduction coefficient as untreated block. Brochure includes color photos; test results, which include effects of chemicals, temperatures, stains, steam, compression loads, working tools; and specs. Eastern Glazed Products Co., Route 22, Shoemakersville, Pa.

On Free Data Card, Circle **208**

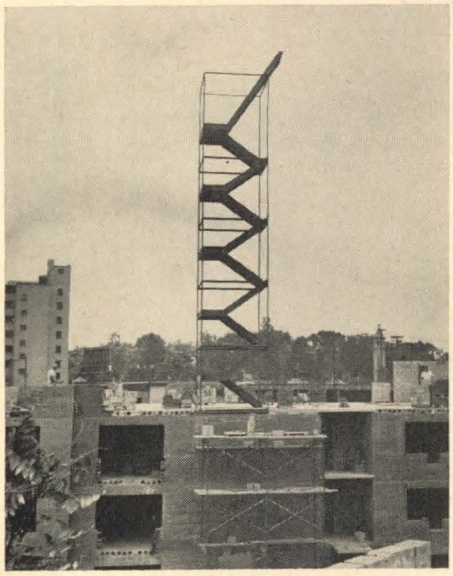
Steel Data Handbook

Design-data handbook for steel buildings contains specs, drawings, details, graphs, and structural reports. The 130-page handbook is divided into 11 sections, which include "Available Shapes," "Allowable Stresses," "Column Loadings-Axial and Bending," "Bay Sizes," "Tube Tables/Beams-Columns," and "Design Concepts." United States Steel Corp., 525 William Penn Place, Pittsburgh, Pa.

On Free Data Card, Circle **209**

Pre-erected Steel Stair

Brochure, 8 pages, describes pre-erected safe stairs. Each complete unit comprises stairs, landing, and self-contained supporting structure for single story. Vertical and hori-



zontal steel members become permanent built-in parts of surrounding building. Stairs allow for wide choice of finishing materials and ornamental metalwork, which includes tread, riser, landing, and railing detail. Penetrating oxide primer is applied to all parts, which provides on-site corrosion resistance and base coat for finish paint. Details, photos, and specs are given. Pico Safe Stairs Co., 4628 42 Place, Hyattsville, Md.

On Free Data Card, Circle **210**

Ceramic Tile Handbook

Handbook, 20 pages, gives installation details and specs for ceramic tile floors, walls, countertops, and shower receptors. Also included are installation details for swimming pools, tile tubs, refrigerator rooms, and steam rooms. Materials for setting and grouting ceramic tile are also given. Tile Council of America, Inc., 800 Second Avenue, New York 17, N. Y.

On Free Data Card, Circle **211**

Steel Partitions

Catalog, 32 pages, presents data on six types of steel partitions. Specs, details, photographs and general information pertaining to doors, door hardware, sound control, and electrical wiring are given. Aetna Steel Products Corp., 730 Fifth Avenue, New York 19, N. Y.

On Free Data Card, Circle **212**

Redwood Siding and Paneling

Brochure, 6 pages, illustrates uses of

Continued on page 92

Continued from page 89

redwood siding and paneling. Sizes, characteristics, and color photos of various types of both siding and paneling are given. Simpson Timber Co., 2000 R Washington Bldg., Seattle 1, Wash.

On Free Data Card, Circle **213**

Woodworking Manual

Compendium, 160 pages, includes specs with 325 drawings and details on woodworking. It discusses materials, methods, joinery techniques, tests, and tolerances. There are 14 sections, which include lumber and plywood grades, panel work, exterior frames and sash, hollow and solid core flush doors, and stile and rail doors. Architectural Woodwork Institute, 1808 West End Building, Nashville, Tenn.

On Free Data Card, Circle **214**

DOORS/WINDOWS

Steel Doors/Frames

Booklet, 16 pages, illustrates uses of steel doors and frames in residential, commercial, institutional, and industrial buildings. Installation of various frames in new or existing buildings regardless of type of wall construction is also explained. Booklet discusses Underwriters' Laboratories labels and steel door standardization, as well as finishes, hardware, and accessories. Photos and details are given. American Iron and Steel Institute, 633 Third Avenue, New York 17, N. Y.

On Free Data Card, Circle **215**

Sliding Doors

Brochure, 8 pages, presents sliding glass doors consisting of heavy-walled tubular aluminum extrusions. Anodized finish makes metal corrosion-resistant in all climates. Silicone-treated, certified woven pile is used inside and out at vent jamb, interlocker, header, and threshold. External screen cannot become damaged by pets or small children when forced to play inside. Details, specs, and drawings are included. Miller Sliding Door Co., 3216 Valhalla Drive, Burbank, Cal.

On Free Data Card, Circle **216**

Window/Panel System

Notebook, 140 pages, describes building component consisting of window installed in modular framing panel. Notebook contains 14 sections, which

include dimensions, cost analysis, installation procedures, and structural data. Details, specs, photos, and drawings are given. Andersen Corp., Bayport, Minn.

On Free Data Card, Circle **217**

Vinyl/Aluminum Windows

Brochure, 4 pages, describes rigid aluminum windows with vinyl thermal barrier frame members at jambs. Bottom and meeting rails also have vinyl weatherstrip. Specs and details are given. Caradco, Inc., Dubuque, Iowa.

On Free Data Card, Circle **218**

ELECTRICAL EQUIPMENT

Chandeliers

Booklet, 20 pages, illustrates various types of metal and glass chandeliers and lighting fixtures. Color photos, sketches, and descriptions are given. Prescolite Mfg. Corp., 1251 Doolittle Drive, San Leandro, Cal.

On Free Data Card, Circle **219**

Outdoor Lighting

Catalog, 36 pages, describes 1000- and 4000-w outdoor mercury vapor lamps. Area lights, protective lights, high output models, and accessories are given. Specs, photos, details, and price list are included. Wide-Lite Corp., 4114 Gulf Freeway, Houston, Tex.

On Free Data Card, Circle **220**

SPECIAL EQUIPMENT

Locksets

Brochure, 8 pages, introduces complete line of residential locksets with decorative trims and accessory parts. Included is "Glo-Lok" feature, which enables entry sets to glow after dark, as well as electric openers in mortise and push-button, door-opening service. Description, sketches, color photos, and price list are given. Security Hardware Mfg. Co., Inc., 1515 Hart Place, Brooklyn 24, N. Y.

On Free Data Card, Circle **221**

Hospital Communications

Guide, 250 pages, discusses how to plan hospital communications. Sections include departmental intercom systems, administrative communications, program distribution and paging, audio-visual nurses' call systems, automatic

audio-visual nurses' call systems, nurse-resident communications, and doctors' register systems. Each topic includes complete specs, wiring data, properties, and layout and survey forms. DuKane Corp., Communications Systems Div., St. Charles, Ill.
On Free Data Card, Circle 222

Bathroom Fixtures

Booklet, 24 pages, illustrates bathroom fixtures. Those included are tubs, lavatories, bidets, water closets, and hardware. Booklet contains size, description, and color photograph of each fixture. All items except hardware are available in six colors. Kohler Co., Kohler, Wis.
On Free Data Card, Circle 223

SURFACING MATERIAL

Wall Tile File

Compact plastic case contains 240, 2″-square, glazed wall tiles. Chips may

easily be removed or replaced. Chart on inside lid provides quick reference to colors, sizes, and types of tile available in mat, bright, or crystalline glazes. United States Ceramic Tile Co., 217 Fourth, N. E., Canton 2, Ohio.
On Free Data Card, Circle 224

Vinyl Wall Coverings

Sample book gives 1500 colorways and 75 patterns of vinyl wall coverings. Leatherguild, Inc., 1 East 53 St., New York, N. Y.
On Free Data Card, Circle 225

PROGRESSIVE ARCHITECTURE
NEWS REPORT

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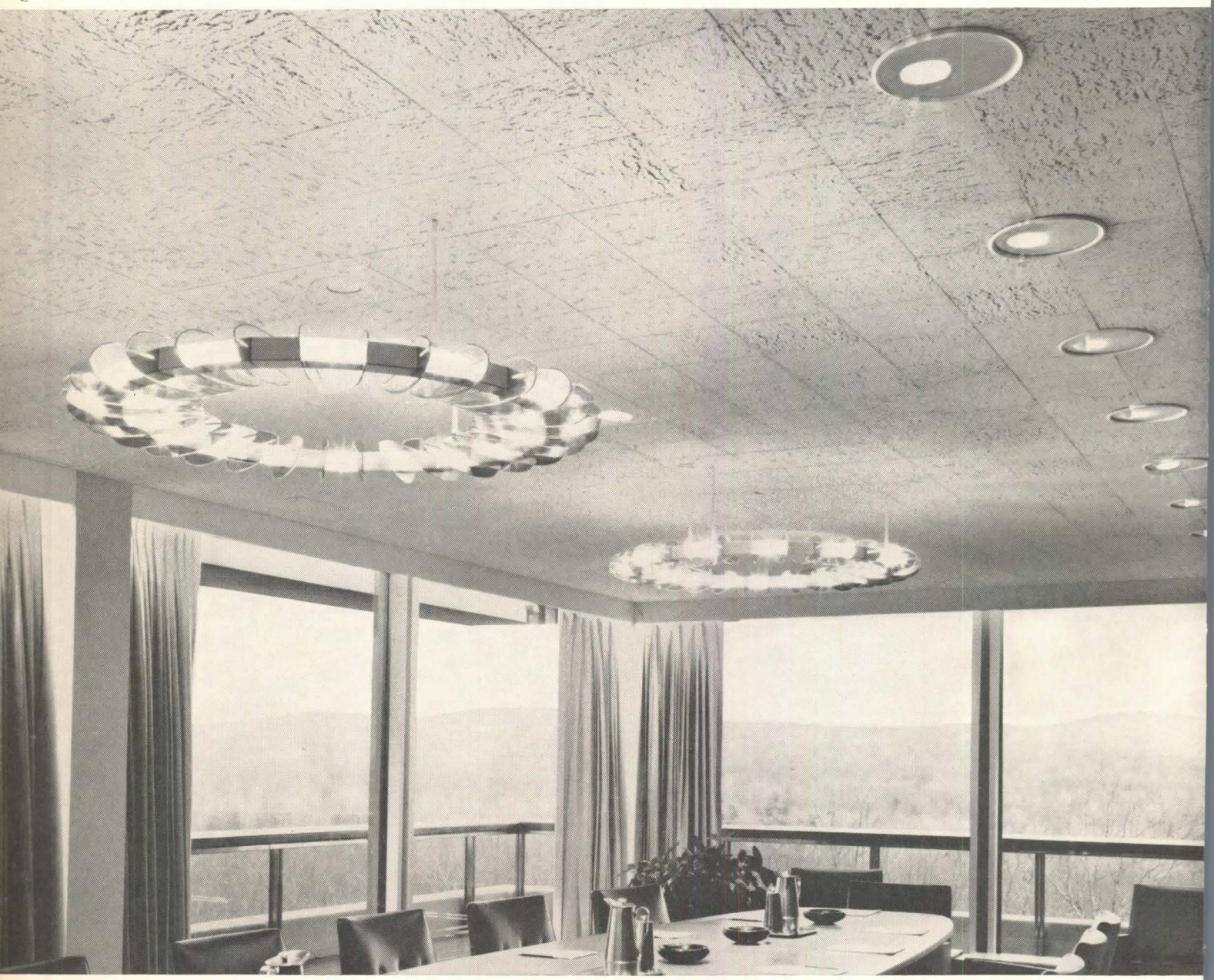

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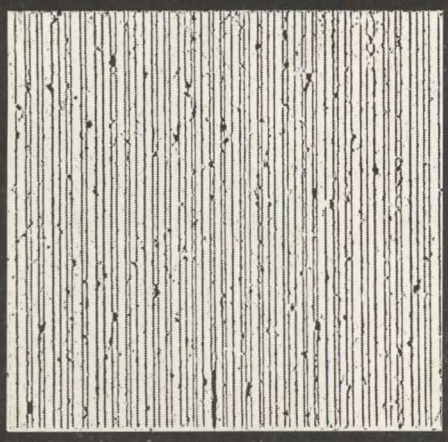
Fissured Travacoustic
(Used in the American Cyanamid Building)



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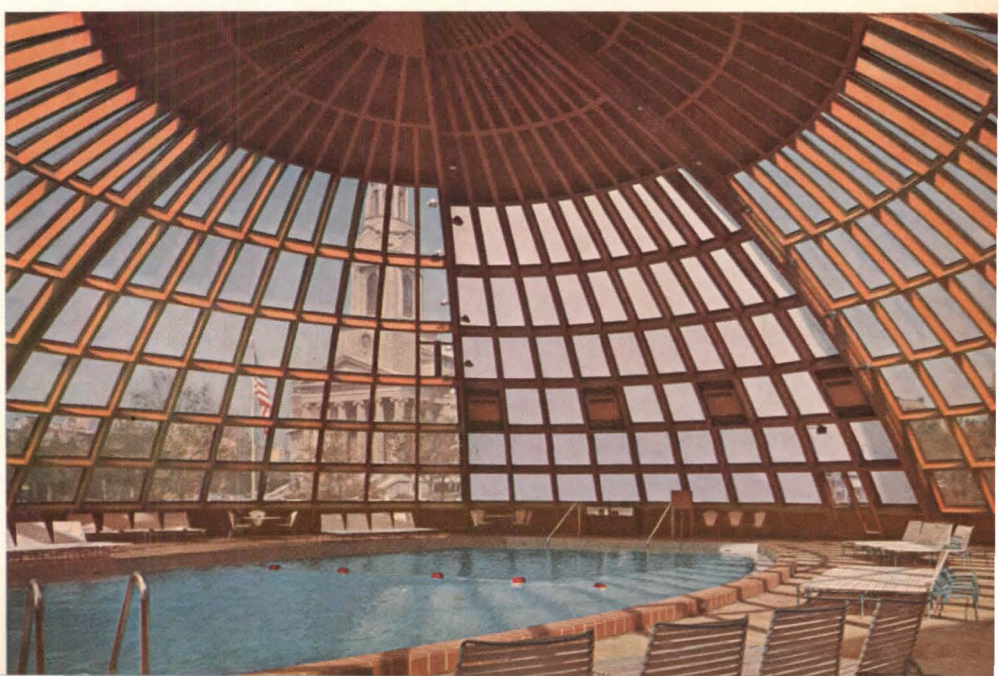
PLEXIGLAS *details: Thickness: .250". Types: Colorless transparent and white translucent No. W-2447. White translucent used for inner glazing of two main triangular sections of dome.*



Architect: James E. Ferguson & Associates

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February 1964 **PROGRESSIVE ARCHITECTURE**®

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EDITORIAL

The new School of Art and Architecture at Yale is now completed. At the dedication ceremonies, Nikolaus Pevsner said that a building fails in architectural quality if it is not a product of both function and art. Referring to Paul Rudolph, architect of the building and Chairman of Yale's Department of Architecture, he also said: "The guardian of the aesthetics of architecture is the architect, the guardian of the functional satisfaction is the client. . . . Here we have the rare case that . . . the client was the architect and the architect was the client. . . . In walking around this building . . . never forget that whatever you see and inspect is exactly as the brief demanded it."

This thinly veiled criticism brings back into the open the old controversy about functionalism in architectural design. Once more the question is raised: Can great architecture be achieved only in a building that functions to perfection—which is, of course, what the early modernists asserted—or does beauty transcend function?

The functionalist theory was developed by men who revolted against romantic excesses of the eclectic period, were enamored of the glorious possibilities of an industrialized civilization, and, above all, were deeply affected by the depressing, impoverished, revolutionary years that convulsed Europe after World War I. It was not long before the functionalist credo became a gospel, and, as happens with all gospels, it was used as an infallible placebo for all designs—aesthetically pleasing or displeasing, logically valid or invalid.

Later, with the advent of more prosperous times, the theory was modified to include aesthetics as one of the "functional" requirements. Beauty for its own sake became part of the dogma and no longer did one have to sneak it in by subterfuge. But it was "allowed" only when it did not interfere with utility.

Where do we stand today? Is the new Art and Architecture building at Yale a tremendous architectural success because it excites the imagination, stimulates the senses, and makes one wonder at man's ingenuity in the manipulation of masses, the shaping of spaces, and the use of light and color? Or is it a dismal architectural failure because *some* of the teaching areas are not what they should have been?

It is no secret that improperly lighted upper studios and low-ceilinged basement studios (neither feel like art studios at all) aroused strong resentment among nonarchitectural students who occupy them. The *Yale Daily News* reported that painters and sculptors threatened to picket the opening ceremonies. On my last visit, I noticed that the building had been splattered with eggs and one window pierced by a bullet from a zip gun. I questioned Rudolph about this. After putting up only a half-hearted defense of the design of spaces occupied by departments other than his own, he replied by asking: "After all, did anybody expect that my primary interest would *not* be in the School of Architecture?"

What he did not say is that not all architecture must be judged solely by the way it performs. How "functional" was Rheims Cathedral, or Blenheim Palace, or Pennsylvania Station, or Falling Water, or Ville Savoie? Nobody seriously interested in the art of architecture damns them because they did not work perfectly as utilitarian structures. Some worked well, and some did not; some were inexpensive to build, and some were not. What one admires in them and remembers about them is not circulation flows and square-foot costs. What they achieved goes far beyond such considerations.

It is worth remembering, however, that few buildings reach such distinction. Each generation produces merely a handful of them. And only these exceptional buildings can shrug off some of the more pedestrian requirements. There is a vast difference between a leaky roof in a great building by a great master and a leaky roof in a building by a lesser architect. *Noblesse oblige,* they say. One could also say that, at times, *noblesse excuse.* But *noblesse* has to exist before any *excuse* can take place. There lies the glory and also the danger.

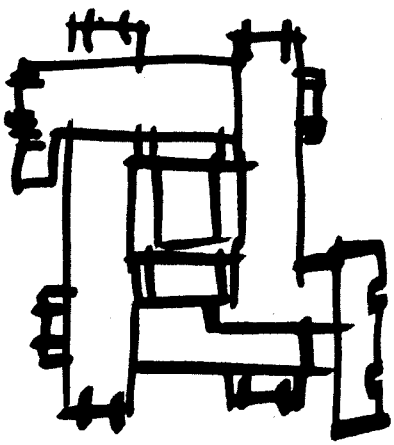
I believe this is the present status of the functionalist controversy, and think that most architects today will agree that when a building is born which is a great work of art it is time for rejoicing. There are so few of them. ■

James C Rowan

a & a

Yale School of Art and Architecture

Paul Rudolph, Architect



Embedded in a concrete wall near the library of Yale's recently opened Art and Architecture building is a bisected nautilus shell. Its polished pearly interior contrasts with the rugged texture of the building's concrete, exposed similarly inside and outside, yet the internal structure of the shell, with its legendary sails revealed, is an epitome of the larger structure.

"Since the building is on a corner," Paul Rudolph has written, "its role in the cityscape is to turn that corner. A pinwheel scheme has therefore been adopted."

The plan resembles an elongated ticktacktoe grid, or a square doughnut with projections at the corners, but the sides are set at different heights—"a kind of overlapping and interpenetrating series of platforms"—so that they function as vanes, radiating from the axis of the central, major spaces.

Taken together, the building's spaces constitute a structure of large size, but one that has a considered, if not readily recognizable, relationship to the other University buildings. They all have irregular silhouettes, are complex in plan, emphasize the vertical, and are broken down in terms of scale so that often they read as clusters of buildings. Correspondingly, this massive concrete fortress has clusters of forms at each corner, which can be thought of as pavilions projecting from each overlapping leg of the pinwheel plan—pier-like shafts, windowless on their main elevations to emphasize verticality, and only scored horizontally to indicate the complex change of interior levels. But smooth floor slabs and bay windows project from the sides in jagged profusion. These clusters make the building difficult to read from the exterior; only after one understands the spatial organization of the interior can the elevations be understood. (*See also critique on pages 128-129.*)

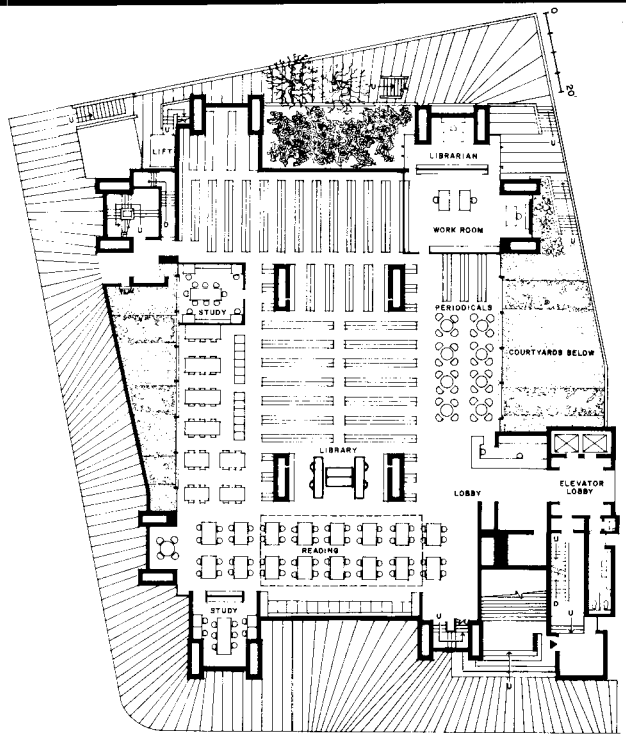
The building gathers all of Yale's student architects, planners, painters, sculptors, and graphic artists under one roof. The disciplines are layered one above the other, thus extending the pinwheel scheme vertically. However, in what is nominally a seven-story structure, there are 37 different levels manipulated so as to mold spaces to their intended functions.

On the lowest stories, where the sculpture and basic design studios are located, the center of the building is occupied by a lecture auditorium—a two-story space with massive elements that seems to reiterate the over-all plan in microcosm. Brilliant orange carpet and orange velveteen over orange molded plywood benches, along with art works, are typical furnishings here as throughout the building.

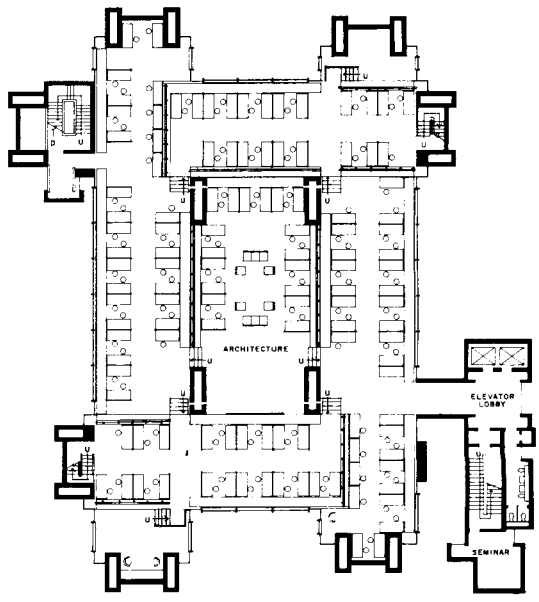
At grade level, the library stacks occupy a single-story space, 7'6" high, except that the reading room on the front side rises up two stories, encompassing a small mezzanine and open to view from the story above. Clerestories emphasize the change of height.

The exhibition hall on the next floor, envisioned as a place where all students can meet and see each other's work, is a composite of low-ceilinged, one-story spaces and a central, sunken, two-story-high area, at one end of which is the architectural jury pit. Open mezzanines housing the administrative offices of the school surround this central space; white metal file cabinets are used as balustrades to continue the theme of exposed functionalism typical throughout the building. From the mezzanine, one can look down the exhibition hall through a visually uninterrupted series of spaces into the library reading room several levels below.

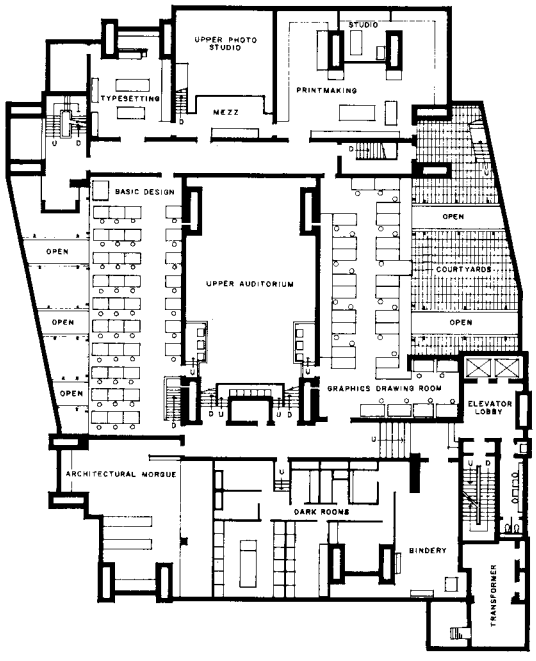
Above the exhibition-administration space is the architectural drafting room—the most dramatic, plastic space in the building. This masterly two-story interior has five levels on the lower story, one for each year of the curriculum, yet it is still one room "so as to facilitate an interchange of ideas." The east and west platforms of the pinwheel are higher than the north and south sides. The central space is several steps lower; it is also the tallest, floating upward onto two mezzanines (one of which is devoted to the City Planning Department), swirling around a concrete, channel-shaped bridge, and finally soaring up between the central piers to skylights



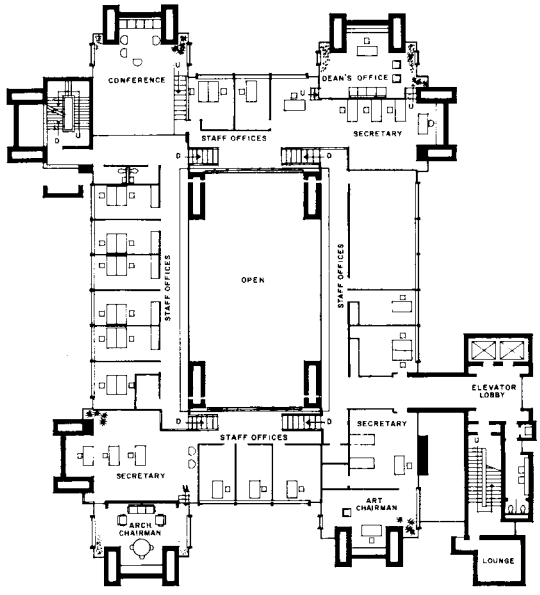
Ground Floor



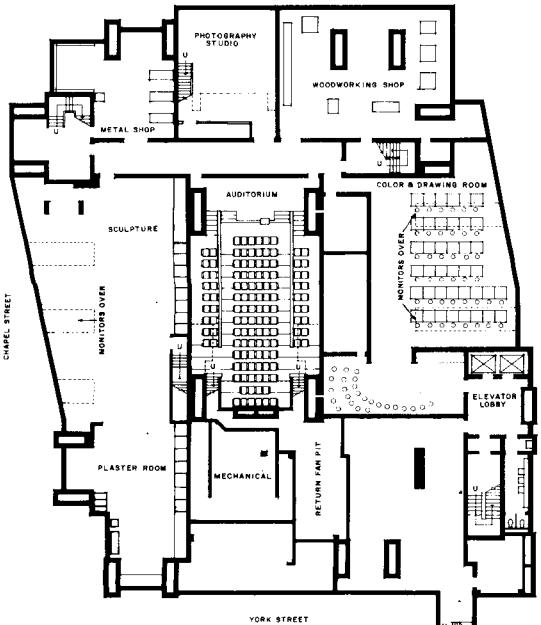
Fourth Floor

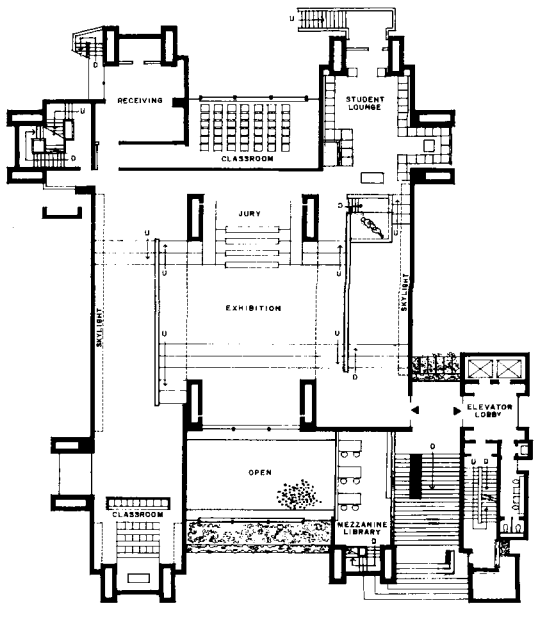


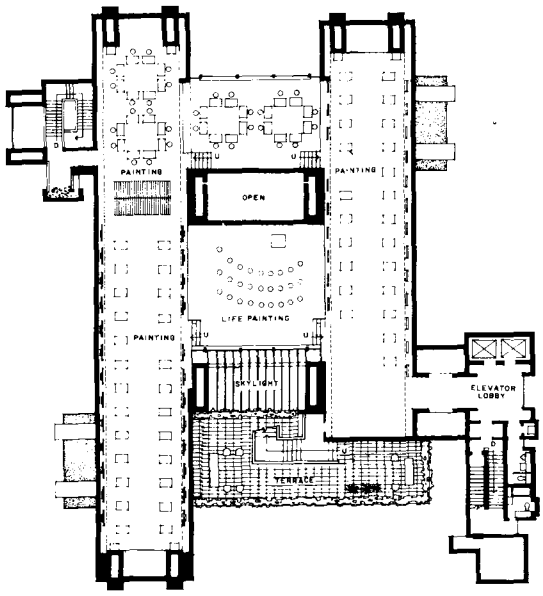
First Basement



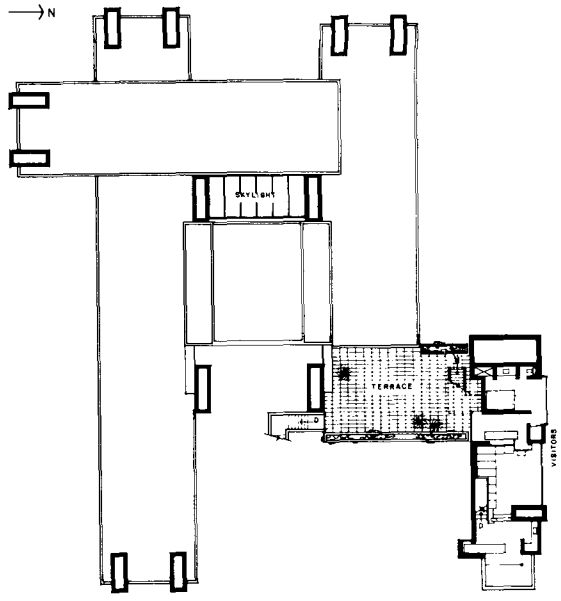
Third Floor



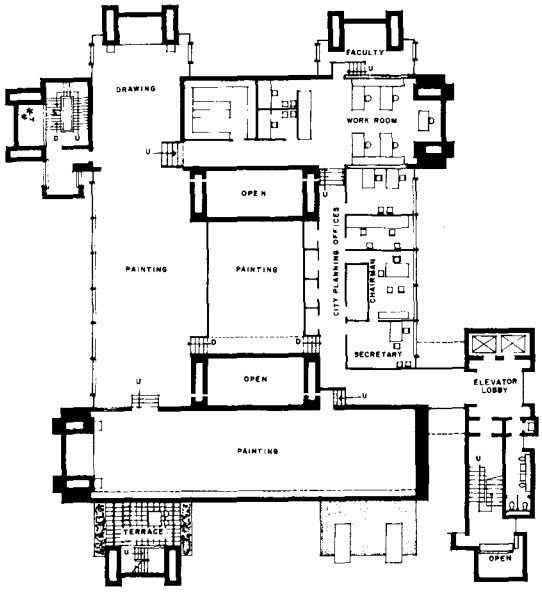




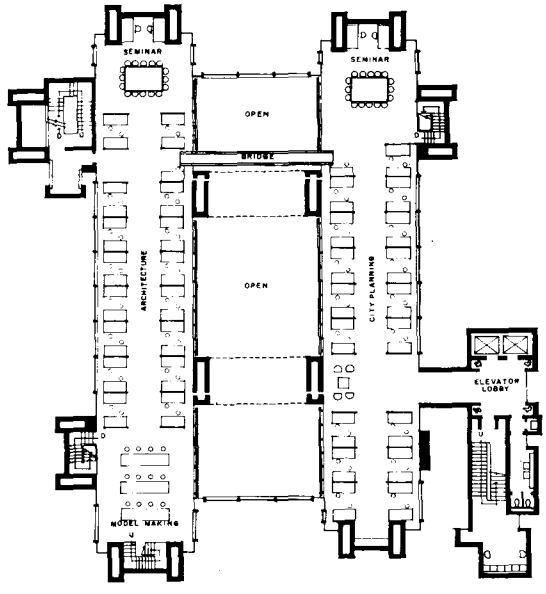
Seventh Floor



Penthouse



Sixth Floor



Fifth Floor

which are as much as two stories higher. Light streams down onto a 14-ft statue of Minerva. A combination of masculinity and grace, reminiscent of Vanbrugh and Piranesi, this space uniquely embodies the building's aesthetic: the spatial, plastic interaction of solid and void. One can easily understand the jealousy it is inspiring in students of the other departments.

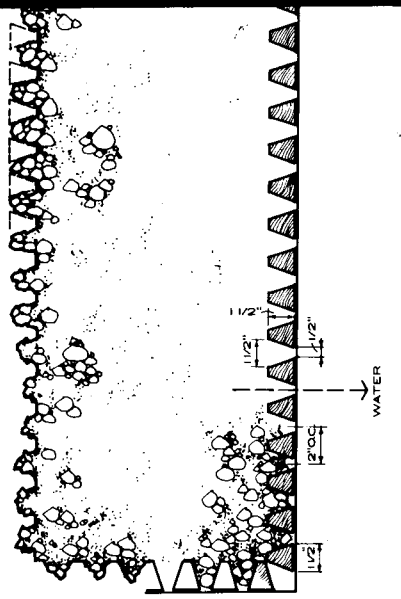
The painting and graphic art studios, located on the two top floors "to give them the best possible light," are primarily open, long galleries, but students have partitioned off cubicles for greater privacy and concentration. Most studios have clerestories or skylights; two studios have expansive glass walls. Large panes of polished glass, as elsewhere in the building, are set in steel frames painted dark brown, with operable hoppers underneath. Fins, short of the top and bottom to correspond to structural requirements of the bending moment, have been added outside the mullions to help resist deflection.

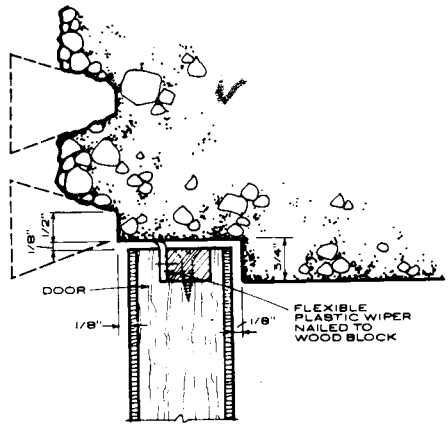
Within the corner towers and the separate service tower is a variety of smaller, auxiliary spaces. In the southern projection on the entry elevation, for example, are: on the second floor, an enclosed multilevel classroom that, like the auditorium, reiterates the over-all plan in miniature; above it, the office of the Chairman of the Department of Architecture, which overlooks the secretarial area from a higher level; several stories above, the tower—pierced and open—is used as a covered terrace with wide, suspended planters serving both as railings and as effective stops to vertigo.

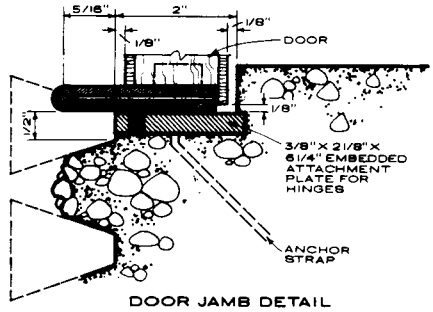
As might be expected from this complexity of plans and levels, no single structural syllogism was devised to negotiate all situations; rather, structural problems were solved as they developed.

To emphasize its monolithic quality, the building is constructed of concrete. The singular, predominating texture—ribbed and fuzzy looking, like a collegiate shetland sweater—was obtained by monolithically casting vertical ribs, which were partially broken off after removal of the forms to provide a fractured surface exposing the aggregate. The concrete ribs are spaced 2 in. o.c., and, before fracturing, projected 1½ in., varying in width from 1½ in., at the nominal (or inner) wall surface to ½ in. at the outer surface. Forming consisted of plywood to which tapered wood strips were applied. Break back, or fracturing, with 3-lb hand hammers, was accomplished after hardening was sufficient so that the gravel aggregate would break, rather than pull out. Uniformity of cleavage was achieved by striking opposite sides of the rib alternately.

The gravel-aggregate concrete mix for the walls was designed with a water-cement ratio of 4 gal per bag to increase weathering resistance and to relieve shrinkage effects. Concrete was placed



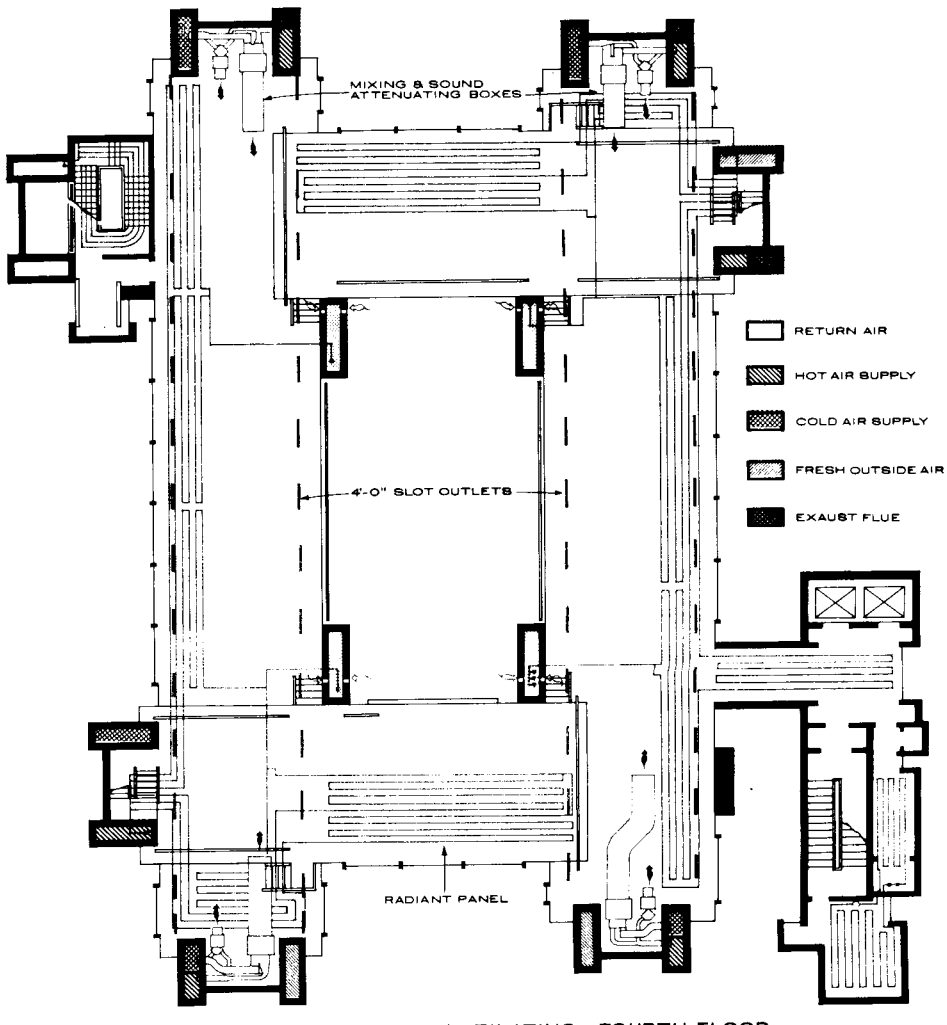




DOOR JAMB DETAIL

Structure and mechanical equipment are integrated in the building, which is almost entirely of concrete. Door jambs and heads are detailed without metal bucks (right). *A ribbed and hammered texture reveals the internal consistency of the concrete* (above and left).

Major structural support is by four hollow central piers and by similar perimeter piers. Hot and cold air are supplied to floors through the perimeter piers. At each floor are mixing boxes that supply proper temperatures to ceiling plenums; registers are in coves at ceiling edges (facing page). *The four interior columns are used for return* (left).



with a relatively low slump, and external—or form—vibration was employed.

During initial stages of the work, segments of the ribs would strip off with the form, resulting in "bald" spots where there was no marked relief beyond the nominal wall surface. This was due to failure at the base of partially hardened ribs, which was caused by a slight deflection of the forms between ties under the pressure from succeeding lifts of concrete. A reduction in spacing of ties rectified this problem. The General Contractor, George B. H. Macomber Company, was responsible for the development of this technique.

The building demonstrates the belief of the Architect, his Structural Engineer Henry A. Pfisterer, and Mechanical Engineers Van Zelm, Heywood & Shadford, that their respective designs not only should be integrated, but should also, wherever possible, complement and aid the functions of the other designs.

To achieve this goal, hollow structural columns at the perimeter of the building are used as primary air passages of the heating and air-conditioning system. Branch air-supply passages are provided by plenums enclosed by suspended ceilings. Standard grilles and diffusers were rejected for more complementary slots and strips, which are in coves at the edges of the ceilings.

A double-duct high-velocity heating and air-conditioning distribution system was selected for centralization of equipment and for its capacity to provide individual area control and maximum outdoor air cooling during intermediate seasons. Supplemented by hot water radiant floor heating below large glass areas, this system is divided into two zones, north and south, controlled from outdoor temperatures; final control is by mixing boxes in the double-duct air system.

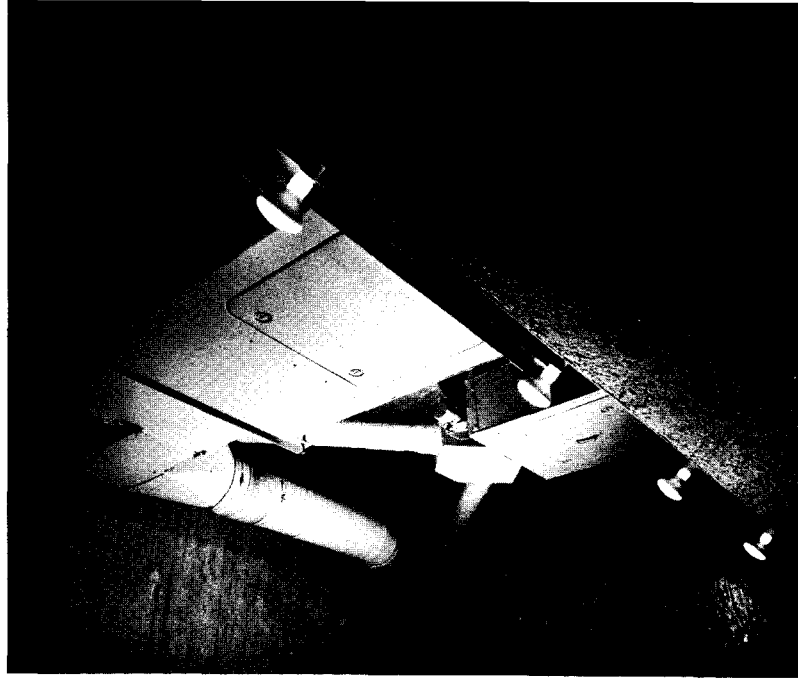
Fresh air is brought down to the main system through two of the hollow structural columns, which are, in general 4-ft wide and 10-ft long, with 12-in. thick walls providing vertical passages 2′ x 8′. From the hot and cold decks of the central system, metal ducts are extended to perimeter columns, which are lined with heavy-density glass-fiber thermal and acoustical insulation to prevent abrasion by the air stream. On each floor, short ducts are extended from the columns to mixing and attenuating boxes exposed against the underside of the floor slab. Short ducts connect these to ceiling plenums, which are partitioned into interior and exterior zones. Air is discharged through simple slots within coves at the perimeters of suspended ceilings.

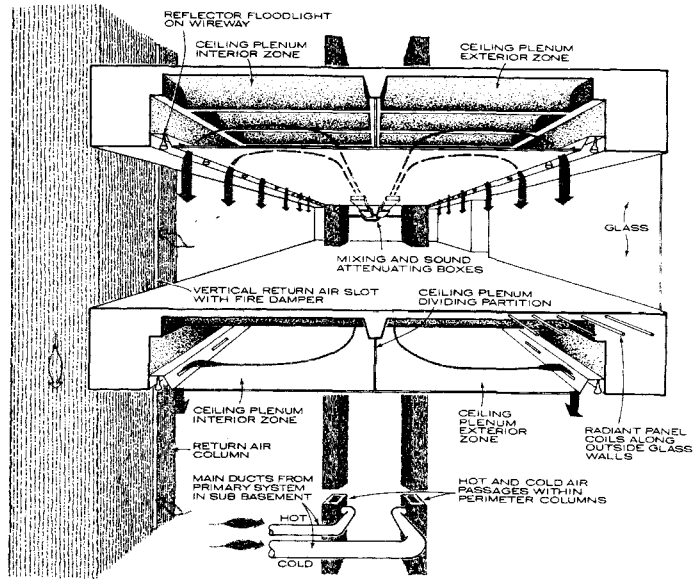
Since the building is composed mainly of large areas, a central return air system is installed, utilizing the four main interior columns. Vertical slots on both sides of these columns have combined volume and fire dampers. Return air flows through concrete trenches below the lowest level to the main air-handling equipment in the sub-basement.

The building is supplied with high-pressured steam from the central power plant of the main campus. Provisions have been made to receive air-cooling equipment when the operation of the school is changed to a twelve-month program.

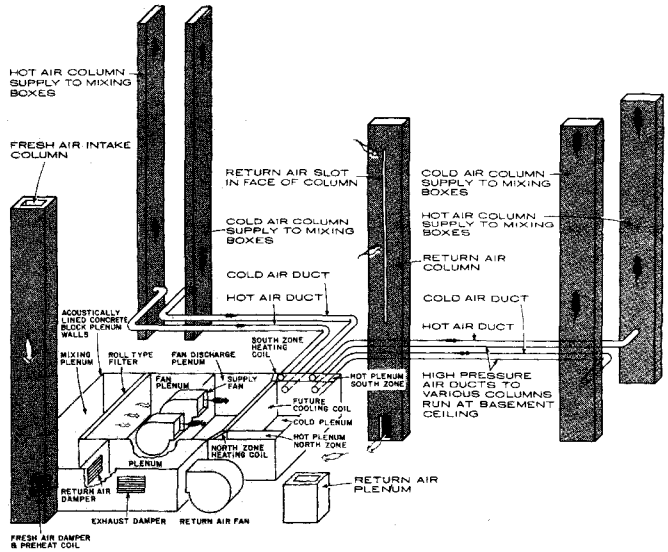
All these architectural disciplines are fused to produce a building the function of which is to be a teaching facility—not only to house a school of art and architecture, but, in the words of the architect, "to excite and inspire the occupants." In this sense, the primary function of the building is actually to teach architecture.

Students and critics may demur to several practical aspects. All may warn that this monument to art and architecture should not be imitated by those it is designed to educate. Yet few who visit this building can resist the mnemonic quality of its spaces, its light, its inventive furnishings, its use of art work. Like a museum, it displays the essences of design and architecture. Like a shell from the sea, it will sound the source of its being to those who will hear.

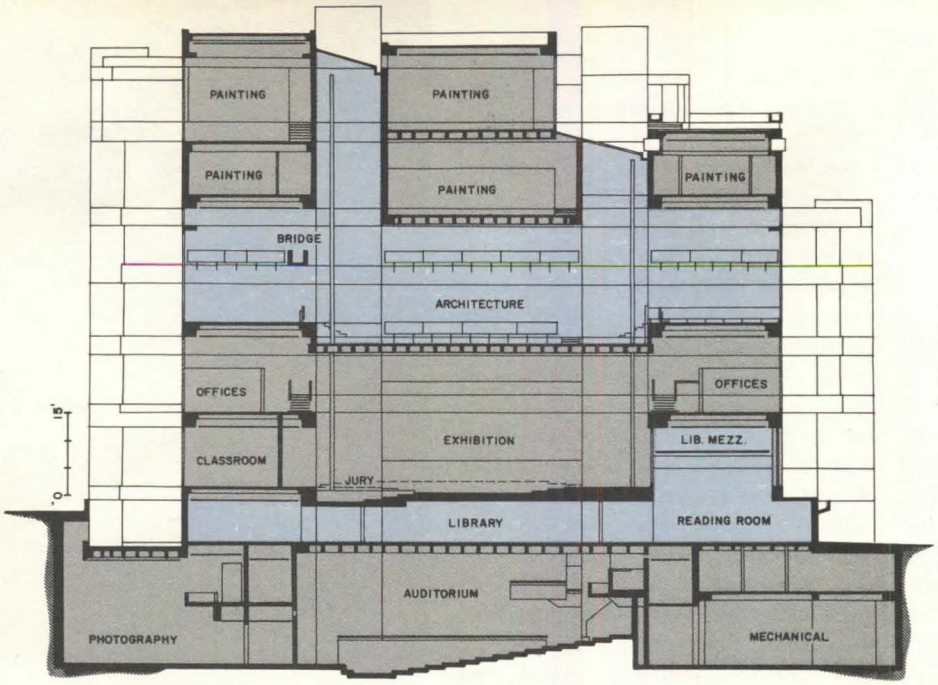




AIR DISTRIBUTION - TYPICAL BAY



PRIMARY EQUIPMENT DOUBLE-DUCT DISTRIBUTION SYSTEM



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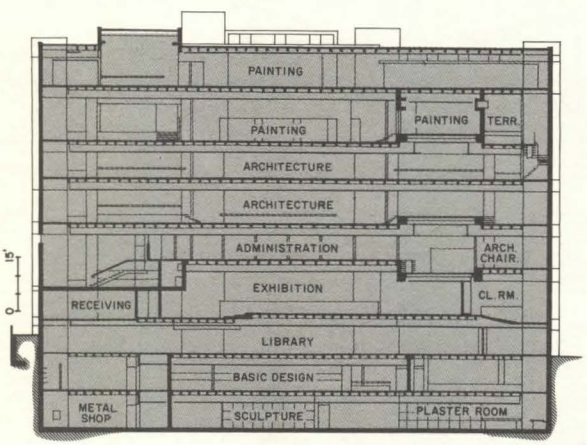

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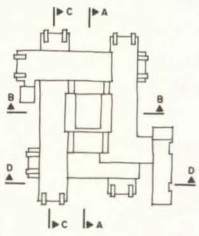

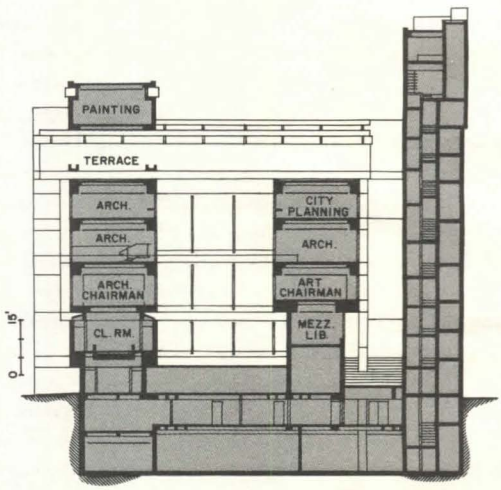

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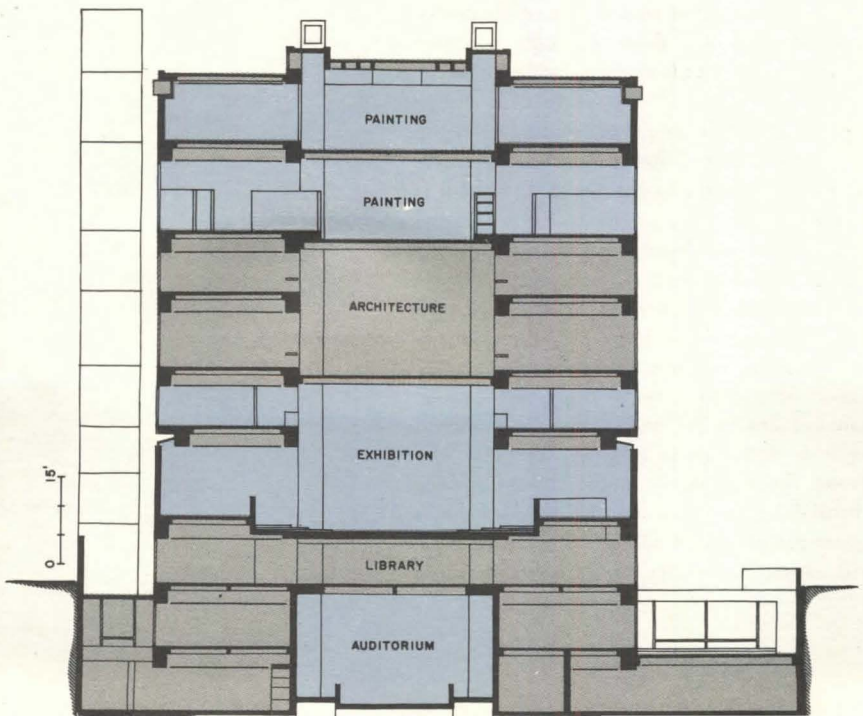
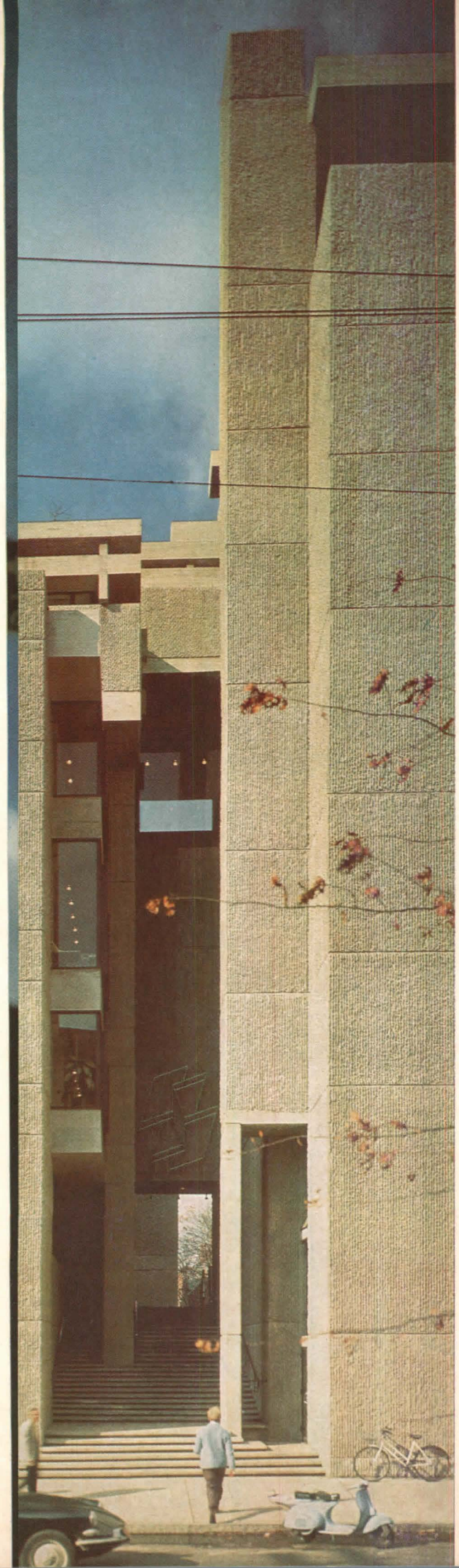




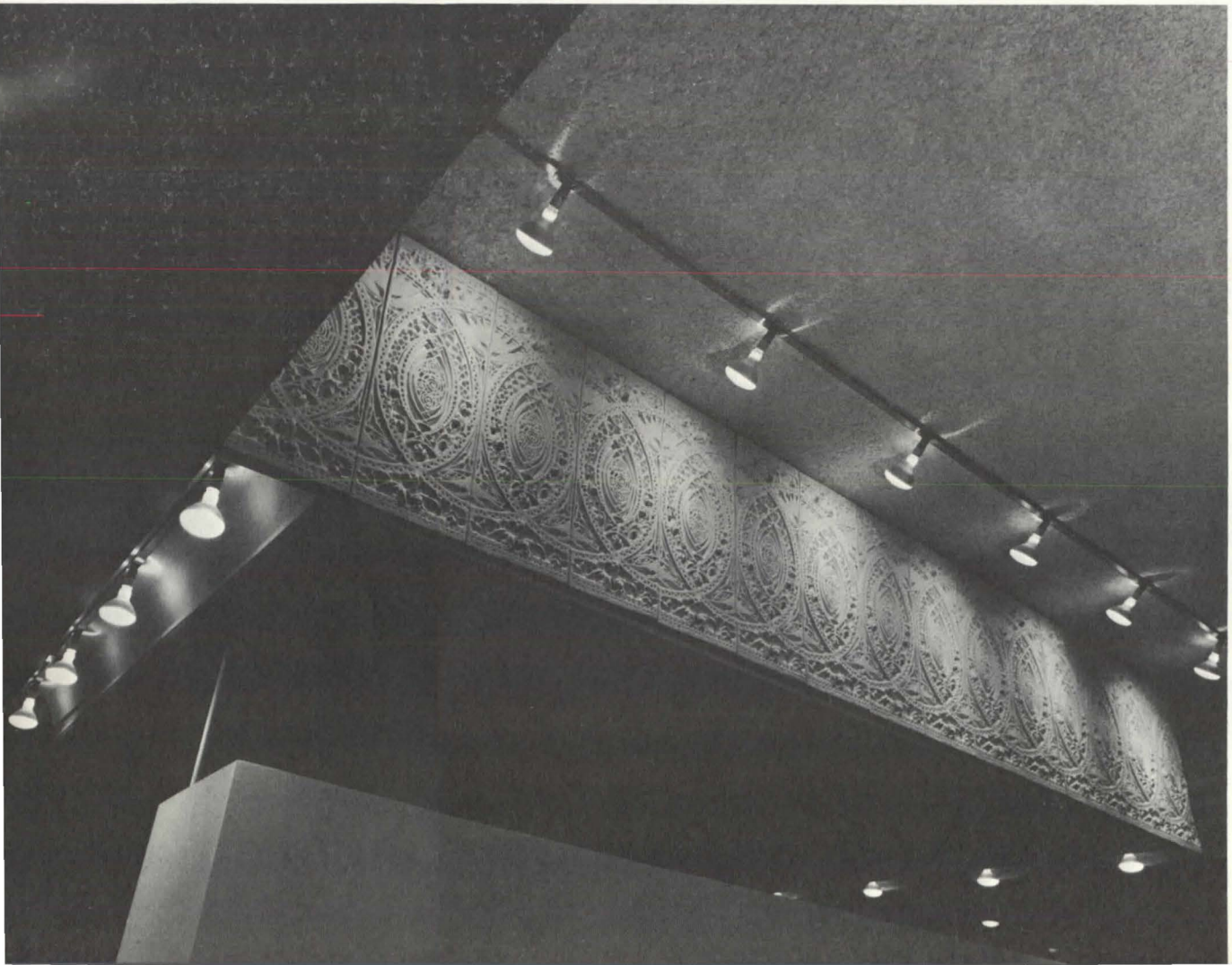
The link between the separate service tower and the body of the building is pierced at two levels to reveal the sky. The grand entry stair mounts like an Italian hillside street to the lower of these openings, the main entrance being expressed as a complete penetration of the building. The top of the stair gives access to the exhibition hall and elevators; most students, however, enter by the narrow door beneath the pierced pillar, and go down to the library level before taking the elevator.

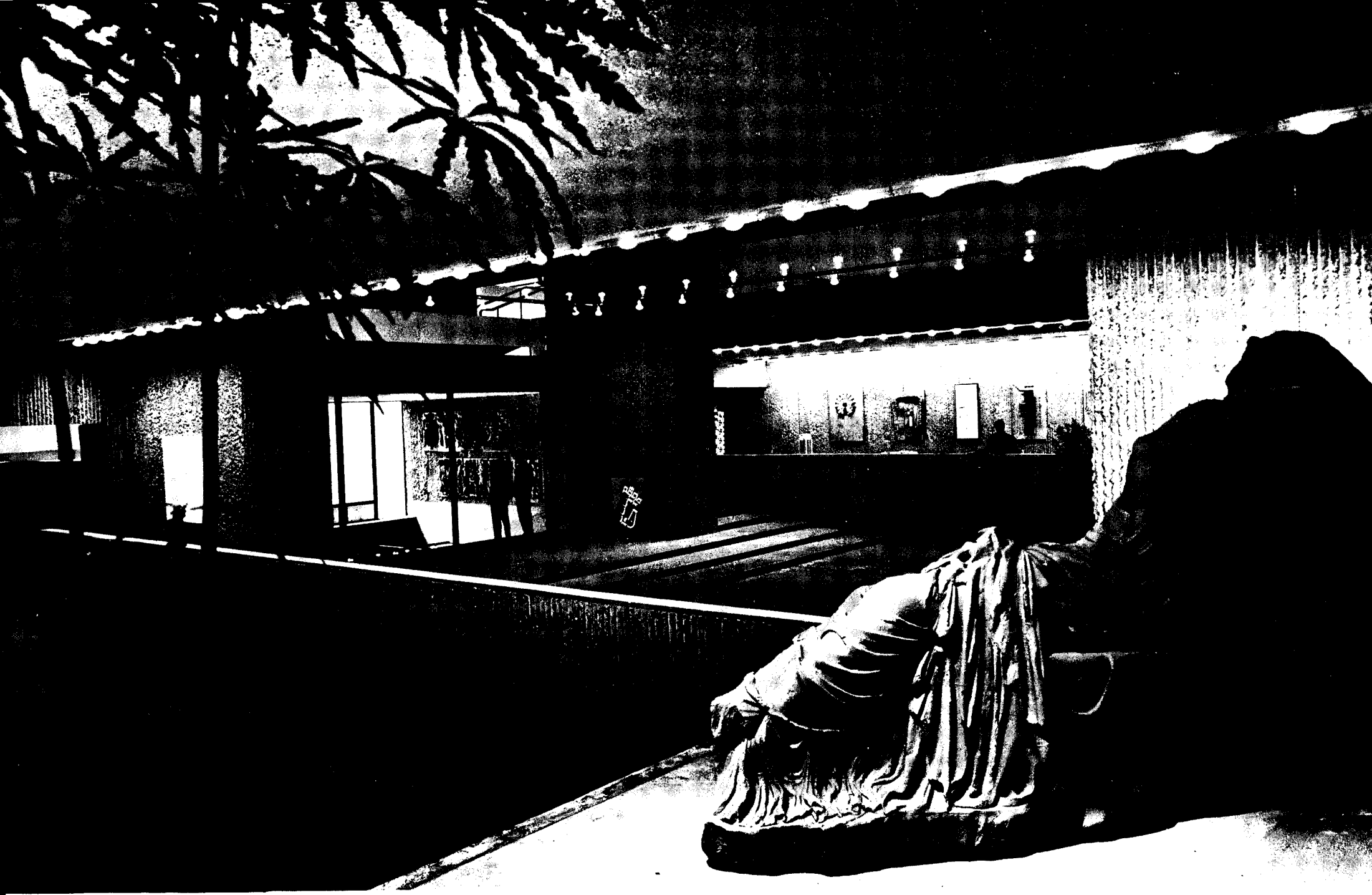
Throughout the building, plaster casts of Donatello, della Robbia, and the Parthenon friezes, which were "re-excavated from the bowels of Yale," as well as casts of Sullivan panels, are placed, insofar as possible, to fill the entire surface of the areas they occupy. Many of the casts were of a dimension that recurs in the building. "These works," Rudolph says, "have been used to reduce the scale of the interiors, which is, I believe, the basic relationship between all ornament and architectural space."

"It is, of course, easy to criticize the use of the plaster cast," Rudolph admits, "but I believe that the rather purist arguments against using them are outweighed by the effect of their 'presence' in a building devoted to learning."

"The Minerva in the drafting room, for instance," he continues, "clearly demonstrates a problem in scale. She somehow manages to dominate a very large space even though she is only 14 ft tall. Her pedestal and placement, as well as the quality of light, allow her to dominate. It seems to me that this is in itself a lesson."

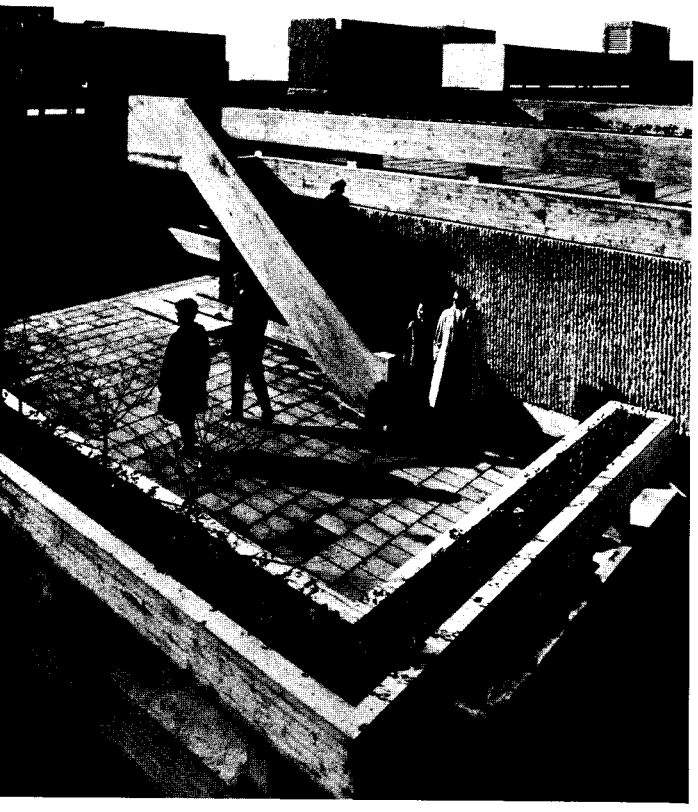
The art library space (above) *flows from a low-ceilinged (7'6") entryway to a tall (20'9") reading room that seems to soar because of clerestories on both sides—one opening to daylight, the other to the exhibition hall. Orange carpeting was chosen for the warm light it reflects on walls and ceilings. Lighting, in general, is by incandescent reflector lamps, such as R-34 and R-40, that are left bare on adjustable sockets. Exposed raceways are either suspended, as in high-ceilinged areas, or surface-mounted. Suspended ceilings are cut short of the perimeter area to provide coves; lamps extend just below them to resemble recessed can lights. A Sullivan frieze closes off a cove in the open-plan office of the Architecture Department* (below). *"Spaces interlock in a most exciting way," said Nikolaus Pevsner of this building, "not only horizontally but also vertically, and not only inside but also between the inside and outside world."*



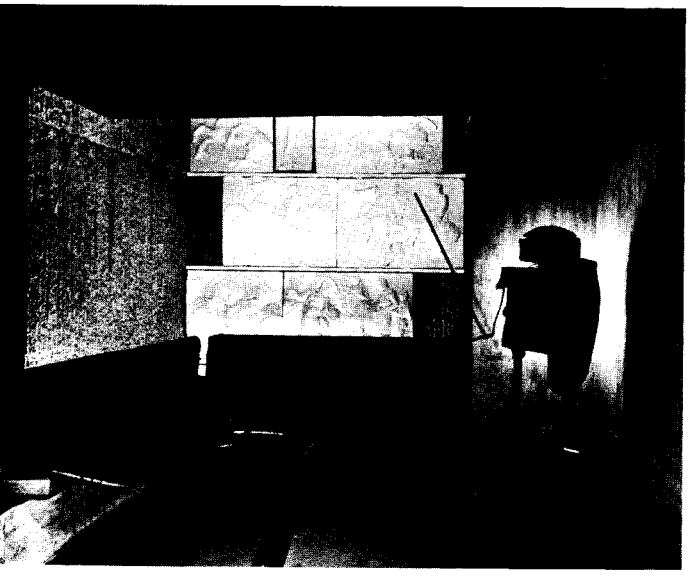


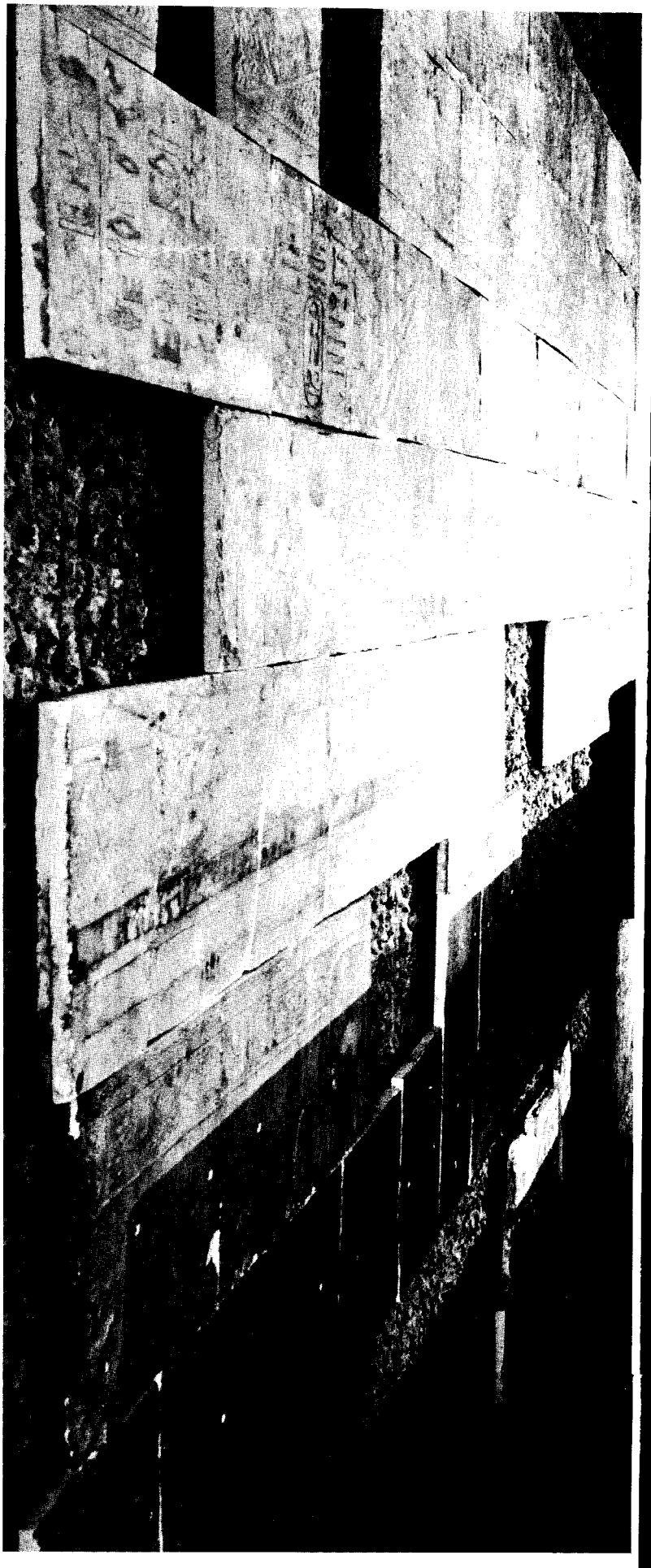
The exhibition hall (above) *rises two stories and has a view onto library below. The auditorium* (below) *reiterates the multilevel scheme.*

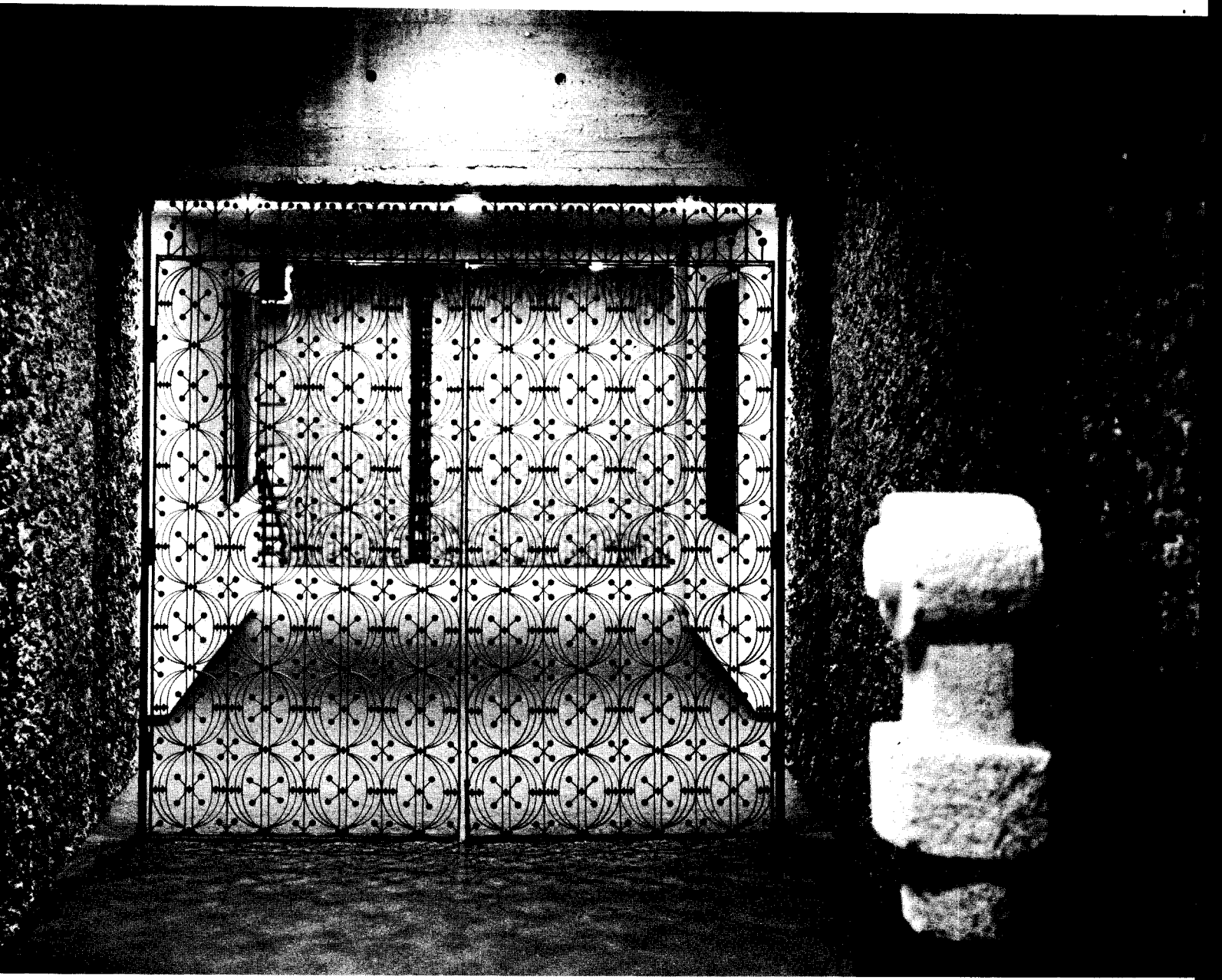

EXIT
EXIT

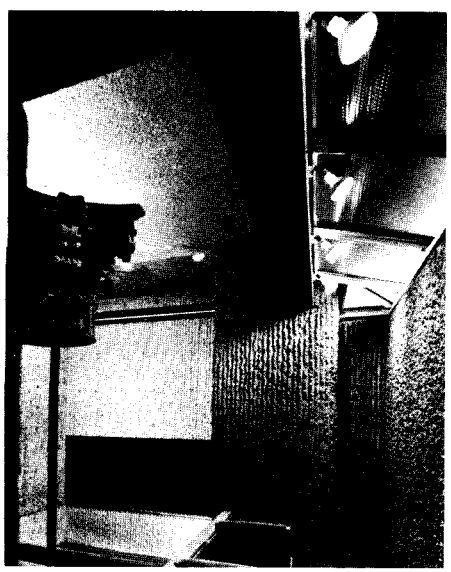


Since the building nearly covers its site, landscaping is mostly in concrete planters; some of these are used also as railings for terraces, such as those on the roof (above), *which will serve for outdoor painting and sketching. Several levels of the stairwell* (below) *are cut back to leave a display wall on which the Parthenon frieze is stacked vertically. Smooth, flat formwork is used for concrete walls in narrow spaces such as stairwells. Here, orange carpet is wrapped over concrete as bench upholstery. A penthouse apartment* (right) *is for distinguished visitors. Here, the arrangement of the casts, as well as the design of the furniture, reiterate the theme of the building. Large expanses of glass expose rarely seen views of the University and New Haven.*









ALL PHOTOGRAPHS FOR THIS PRESENTATION BY DAMORA

Delicate-looking wrought-iron elevator grilles from Louis Sullivan's Chicago Stock Exchange are used as gates to art library and administrative offices (above); *recesses made by wood cones for tierods are left revealed in the lintel. In a second-floor lecture room* (left), *two wood Corinthian capitals atop slender pipes give a mannerist lesson on the strength of materials; the wall-wash skylight is used in the exhibition hall also. Heavy-duty mesh mats* (facing page), *generally used to hoist cargo from pier to ship, are hung as panels to screen glass walls. On sunny days, drafting tables receive a projected heavy-duty grid; duck inner panels are therefore used to diffuse shadows. These rugged nets—too coarse in scale for small interiors, some feel—make fitting companions to the burly-textured concrete from the exterior. Common materials are used in similarly uncommon ways throughout this uncommon building.*

THE OPPOSITES: Expressionism and Formalism at Yale

Perhaps nowhere in the United States (or elsewhere, for that matter) do we have a more vivid juxtaposition of contrasting architectural styles than in the two most recently completed buildings in Yale University's renowned building program: Paul Rudolph's intensely personal, "expressionist" Art and Architecture Building (*see previous pages*) and Gordon Bunshaft's calmly aloof, "formalist" Beinecke Rare Book and Manuscript Library (*see following pages*). Rudolph's building is the culmination of his architectural philosophy to date: iconoclastic, individualistic, yet decidedly having a sense of progression from the wellheads of the modern movement. Bunshaft's library, while not one of his *chefs d'oeuvres* in the line of Lever House, Pepsi Cola, and Connecticut General, does have his practiced touch and unerring eye for sensitive detail. To have these two buildings open almost simultaneously only a few blocks from each other provides an interesting look at what, in the hands of two uncommonly talented designers, is happening at the two opposite poles of contemporary architecture today.

Over the past few years, Rudolph has been one of the undoubted leaders of an architecture that has veered from simple geometry to plasticity and complexity—an architecture in which the personality of the designer decidedly asserts itself. Progressively, his Forestry Laboratory and Married Student Housing at Yale, Blue Cross Building in Boston, and New Haven Parking Garage have pointed the direction toward an architecture where, according to Rudolph's principles, "things are manifest, that they have various parts, sizes, and shapes." The number of designers who are following this philosophy is, to all evidence, decidedly on the increase, and, inevitably, they will be stimulated by Rudolph's latest, and best, work.

The tradition of Skidmore, Owings & Merrill's Bunshaft, in contrast, is predominantly marked by a formalistic approach of dignified impersonality. The success this style has had for corporate clients such as Lever, Chase Manhattan, Bankers Trust, Union Carbide, John Hancock, and many others is undeniable. The glossy surface, the meticulous detail, the striking accent, the immediate perception of a building as a total composition are all hallmarks of Bunshaft's design. Although it is interesting to speculate that buildings by less talented imitators of Bunshaft will cause far less visual distress on our cityscapes than those by emulators of Rudolph (due partly to the increasing availability of components which permit ready assembly of "SOM-type" buildings), it is nonetheless true that when a master of the form turns his hand, the difference is immediately apparent. When the two styles occur side-by-side, as they eventually must, and without the serenely integrating influence of the Yale campus, we may look for either visual chaos or unexpected excitement in our urban scene—probably both.

It is most appropriate that these particular architects were assigned the buildings they designed. The Art and Architecture Building, a multi-use structure to be "lived" in, to excite young imaginations, to be loved or hated, went to the personal designer Rudolph. The rare books library, a "monument" to a great collection and to cloistered scholarship, found the correct interpreter in Bunshaft. Rudolph, as Chairman of Yale's Department of Architecture, was somewhat his own client, and it could be said that he has no one but himself to praise or blame for the outcome of his building. Bunshaft, the architect experienced in getting good design through the labyrinth of corporate bureaucracy, had as client, in addition to Yale, the donors of the building, the very much alive and interested Beinecke brothers. Even the backgrounds of the two architects are peculiarly appropriate here. Rudolph, except for a short partnership with Ralph Twitchell in Sarasota, has been a one-man firm for his entire career. Bunshaft, on the other hand, joined SOM in the 30's and has been with the firm ever since, as Chief of Design for the New York office.

The Two Buildings: Rudolph's School

Paul Rudolph's rejection of the "universal space" has never been so complete as in the Art and Architecture School. Out of a complex arrangement of vertical and horizontal planes, he has created 37 levels in what is essentially a seven-story building. These range from the multi-level, two-story-high exhibition hall and drafting room (really the core of the building), to intimate, low-ceilinged seminar rooms and discussion alcoves. The space provided for each activity is not capricious: the lofty art library reading room is joined to lower-ceilinged open stacks; the great central space of the architectural drafting room is surrounded by drafting and conference areas for the various classes on the bottom level and a mezzanine; the high main room of the exhibition hall, with its jury pit for judging student problems, has ancillary, lower-ceilinged areas for the hanging of exhibits and the showing of sculpture. The only really "universal" spaces of the building are the seventh-floor painting studios, which have already been chopped up into a rabbit warren of partitions by the tenants.

To create a building of such plasticity, Rudolph's major material was inevitably concrete. The aggregate and the deep vertical striations of the concrete give what Dr. Nikolaus Pevsner called at the building's dedication a feeling of "tweed," which is uniquely appropriate to this old Ivy League campus. This treatment of surfaces is extensively repeated inside the building, relieved frequently by smoother surfaces where the board marks of the forms are exposed. Rudolph has used the smooth surfaces where they are more likely to be touched or brushed against, and the rough surfaces for more inaccessible walls (unfortunately, one occasionally comes too close to the latter for comfort). The feeling of masculine textures is carried through in the use of heavy cargo netting for light control on most of the larger glazed areas. The major color emphasis, also a positive note, is furnished by orange-red carpeting in the library, offices, and seminar spaces.

In his use of art for the building, Rudolph was courageously catholic. Work by such contemporaries as Albers (whose geometric wall sculpture furnishes a somewhat unsympathetic note above the entrance), de Kooning, Ives, and Liberman are pres-

ent side by side with old Beaux Arts casts of classical sculpture, capitals, casts of Assyrian wall reliefs, and, perhaps most successful, elevator grilles from Sullivan's Chicago Stock Exchange Building (used here as entrance gates), plaster casts of Sullivan's friezes from the Garrick, and intaglios of Le Corbusier's Modulor and da Vinci's Golden Mean. The feeling is of a great continuity of architecture and art; none of these disparate elements (except the Albers) jar with the over-all composition of the building.

As the newest element in the Yale campus-scape, the Art and Architectural School is eminently successful. The warmth of the striated concrete aggregate is very much in sympathy with the tone and vertical emphasis of most of Yale's buildings. Approaching the structure's corner site on York and Chapel Streets, one is struck by the fine sense of progression, on Chapel Street, of Street Hall, the old Art Gallery, and Louis I. Kahn's new Art Gallery, (the latter furnished a serene introduction to the personality of Rudolph's building). Although the school is surrounded at present on three sides by undistinguished commercial buildings, it has the *camaraderie* to be a good neighbor even to these. There is a decided feeling of permanence; the observer cannot imagine the building never having been just *there*. The irregular profile of the building, with its distinct penthouse, terrace, and stair tower roofline, echoes and continues the generally irregular silhouette of Yale itself. This feeling will probably become even more pronounced when the building eventually expands to the north.

The Two Buildings: Bunshaft's Library

The Beinecke Rare Book and Manuscript Library is broken cleanly into two kinds of space: the monumental and the functional. As with the exterior, the interiors are immediately perceived for what they are—Bunshaft's statement is unmistakable and direct. The monumental exhibit space is, in effect, a giant cube penetrated by a glass-enclosed tower of books. The entire feeling of this space is that this *is* a repository, a vault, a rather funereal museum for expensive and unusual objects. The feeling of awe necessary in the presence of treasure is experienced here. There is also a lingering feeling, however, that it is simply a large volume rather than a *grand* space.

Below ground, the space is quite different. This is the working area of the library, with reference room and offices surrounding a sunken court, and with stacks extending beneath the building and plaza. These areas are functional, crisply designed rooms for the actual scholarly use of the collection.

The materials used in the library reflect the value of the contents. The granite-framed Vermont marble panels announce that "nothing was too good" to create this monument. Everything here has the sheen of quality—marble, glass, steel, leather. While the effect of the white marble on the exterior is startling and even a trifle ostentatious in its tan campus surrounding, inside, on a sunny day, the light through the opaque panels creates an effect that is undeniably rich and appropriate to the great space. Richly-toned book jackets, carpeting, and lush leather sofas increase the feeling of opulence. The reference and staff rooms, while by no means Spartan, are judiciously neat and workmanlike.

Use of art in the library is as it should be for a museum (one cannot separate the idea of this unique library from that of a museum). The books themselves, as has been noted, are treated as the major display of "art." They are sealed off from the viewer in the huge glass tower and in cases and pedestal displays of single volumes. The other use of art is in Noguchi's eerie white marble landscape in the sunken court. Here again, the feeling is "look, but don't touch," for the court is surrounded by the glass walls of offices and reference room. The three symbolic forms of this huge sculpture are distant and cold, as impersonal as the gleaming façade looming above them.

In its campus setting of tan eclectic buildings, the rare book library appears as a definitely separate monument. Bunshaft sees the Yale campus as composed of "islands" of buildings of varying hues and make-ups. He obviously intended the library and its plaza to form a gray and white island of its own. One is struck, however, that this strong architectural statement is perhaps *too* strong in this environment. There is, moreover, a dichotomy of feeling: it does not "go" with its neighbors, but it is just "right" for what it was intended to be. It is somewhat forbidding: only those who want and need to enter will enter (the doors are well hidden under the overhang). Up close, the great granite and marble cube, carried by steel Vierendeel trusses, sits rather heavily on its corner columns. From across the plaza, an odd visual transition occurs: the building appears smaller than it really is—a jewel box rather than a treasure chest. Withal, it is a solid, uncompromising statement by an architect who knew what he wanted. *This* is its success.

The Two Buildings: The Two Philosophies

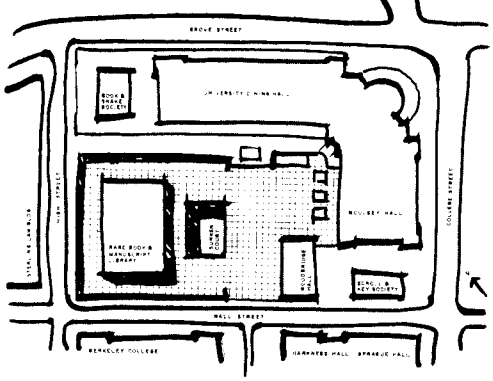
It has often been noted in the past year or year-and-a-half that Yale University is fast becoming a comprehensive museum of the work of mid-20th Century architectural masters: Kahn, Saarinen, Rudolph, Johnson, and Bunshaft. It is to be hoped that the new president, Kingman Brewster, Jr., carries on the splendidly visionary work of his predecessor, A. Whitney Griswold. Yale's needs continue, and there will always be talent to take up the challenge.

Meanwhile, the array of *all* the new Yale buildings is brought into focus by the two latest additions, the expressionistic school and the formalistic library. Between these two approaches can be encompassed virtually all present-day design philosophies: brutalism, sensualism, neo-eclecticism, and plain old Park-Avenue-curtainwallism. Though at opposite ends of the design spectrum, the two buildings have this in common: each represents the carefully accomplished design idea of a strong, talented architect who was in charge of his project from beginning to end. As such, they undoubtedly will merit the interest of future generations of architects as a picture of what two equally valid philosophies of design were contributing in the United States in the 1960's.—*Ilse M. Reese and James T. Burns, Jr.*

Yale Rare Book and Manuscript Library

Skidmore, Owings & Merrill, Architects

PHOTOS: EZRA STOLLER ASSOCIATES

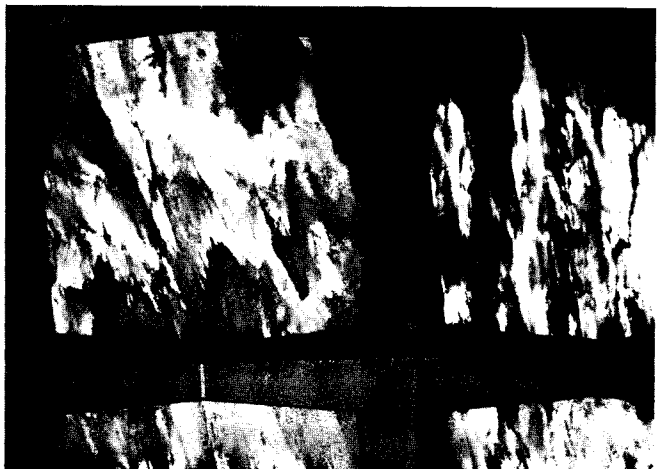


The pervasive design image—that of an immense translucent treasure chest—stirred considerable interest among architects when Yale's plans for the Beinecke library were first announced in 1960. According to this design idea, the walls of the library would shield the rare books and manuscripts from direct sunlight, yet allow enough light to penetrate to the interior to provide a warm radiance; and at night, conversely, the building would emit a gentle glow from its own illumination to the outside. Already in the preliminary design stages, the architects had subordinated every aspect of planning to this single idea of the translucent container. Thus, in the interior planning of the building, one volume was placed within another; structurally, multi-tiered Vierendeel trusses provided the open web for the insertion of the translucent stone (*see* DECEMBER 1961 P/A); in the selection of a form for the building, a boldly assertive, free-standing structure was chosen, instead of a low-lying, conforming one under consideration at one point; and in siting the building, the device of the enclosing wall set the structure apart as an artificial island within the campus, which, according to the architects, "appropriately dramatized the fact that this building contains a priceless treasure."

Success of this scheme depended on finding the right material, possessing the appropriate color and light-diffusing characteristics, and capable of being supplied in sufficiently large sizes and quantities. Marble quarries abroad were combed by the architects, samples shipped to the U.S., full-size mock-ups made, but nothing was found as suitable as the Montclair-Danby marble discovered in Vermont at the last moment.

With the insertion of the 1¼-in. thick marble slabs into their granite-surfaced steel frames, the experiment can at last be examined. Indeed, the prime interest lies in the provocative re-use of the ancient material, which, coupled with sunlight, has given this building two fascinating faces: a crisp, cold, almost blinding white exterior (*left*) and, in surprising contrast, a warm, glowing, richly veined interior (*below*).

The success of this uncompromising adherence to the one strong design concept (*see preceding critique*) is credited by the architects to the following members: Gordon Bunshaft, Partner in Charge of Design; David H. Hughes, Partner in Charge of Coordination; Sherwood A. Smith, Design Assistant; Morris Zelkowitz, Job Captain; Davis B. Allen, Interior Design. Design Consultants were: Paul Weidlinger, Structural Engineer; Jaros, Baum, & Bolles, Mechanical Engineers; Edison Price, Lighting. George A. Fuller was the Contractor.



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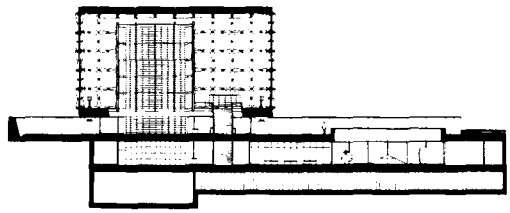
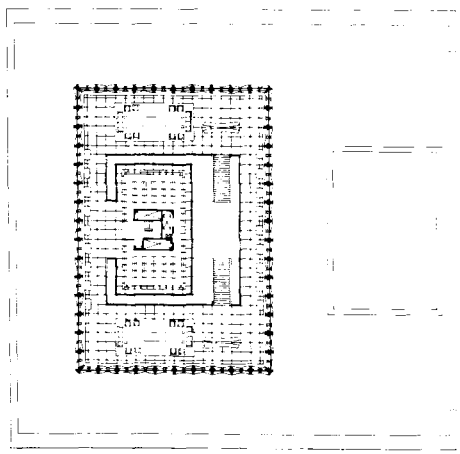
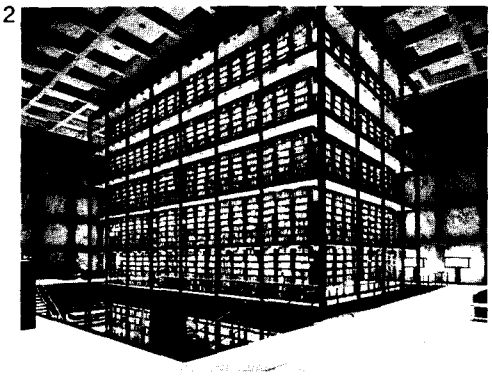




EXHIBITION HALL FLOOR PLAN

The four Vierendeel trusses are composed of welded, tapered steel crosses into which the octagonal marble panels have been fitted. Granite provides the outer covering for the box-framed truss members; precast stone with granite chips the inner surfacing. Each of the trusses carries part of the roof load and its own weight. These loads are transferred through pin-joints to the granite-encased steel columns. The central core takes part of the load of the steel-framed and steel decked roof.

Illumination in the public exhibit and lounge areas ***(1)*** *has been kept consciously low to underscore the phenomenon of the light-filtering stone, and to draw attention to the brightly lit island display cases. Incandescent downlights pick up the surface glow of the exterior wall and transmit it to the book stack* ***(2)****, where rich bindings add their own luster to the interior. The 60′x 35′x50′ book stack is glazed to maintain 50 per cent humidity and 70 F temperature, ideal for book preservation. For human comfort, a slightly higher temperature but reduced humidity is maintained in all other areas—the space surrounding the book stack, the reference library* ***(3)****, and staff offices* ***(4)****. The latter two surround a sunken court designed by Isamu Noguchi* ***(5)****. In addition to temperature, dew-point, and humidity control, elaborate systems provide protection against fire and theft.*



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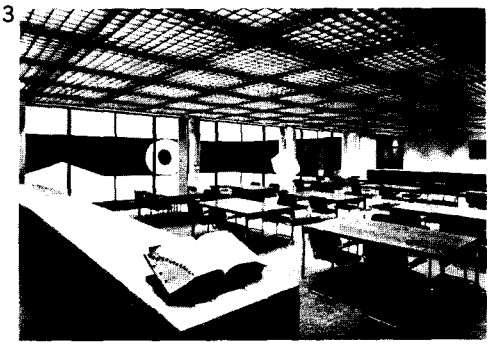

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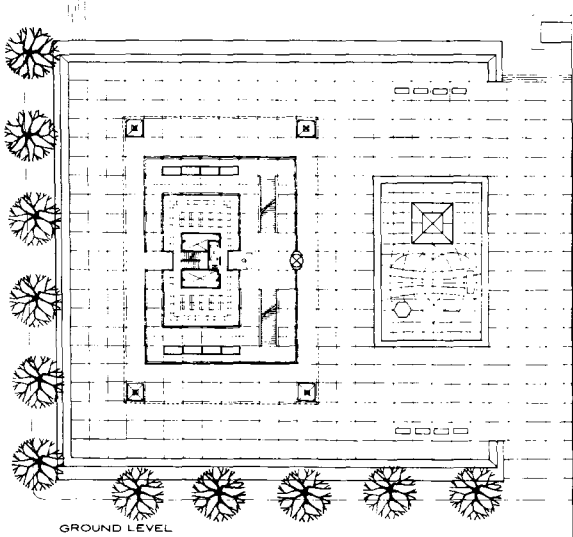
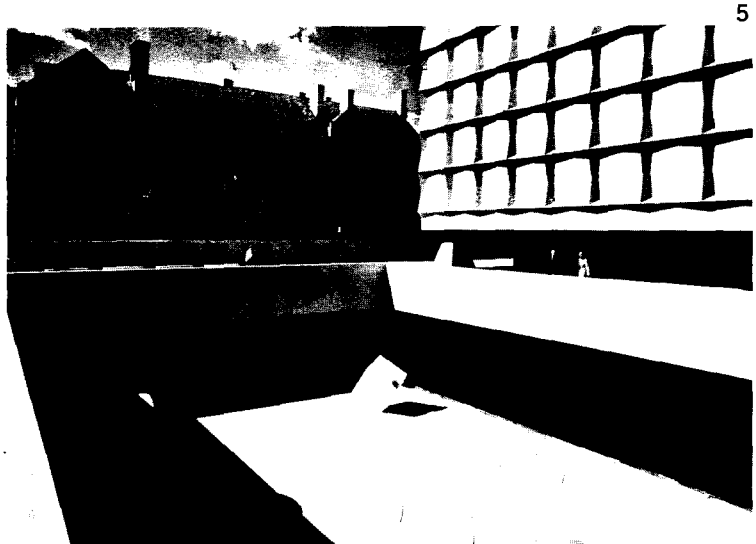
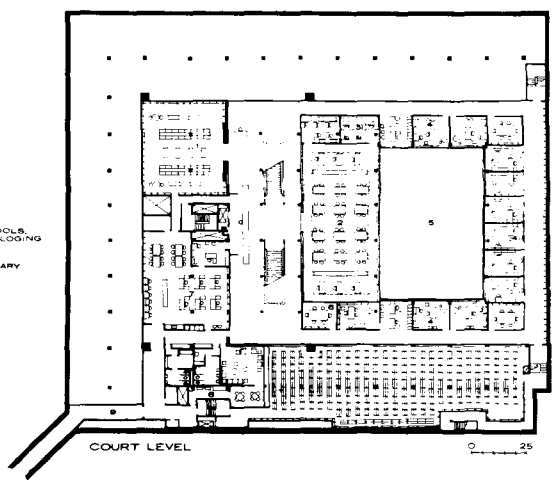


GROUND LEVEL



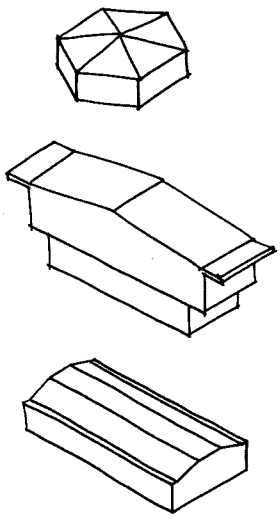
5

1-CARD CATALOG
2-READING
3-MICROFILM
4-CURATORS
5-SUNKEN COURT
6-CONFERENCE
7-BIBLIOGRAPHIC TOOLS, MANUSCRIPT CATALOGING
8-PANTRY
9-TO STERLING LIBRARY



COURT LEVEL

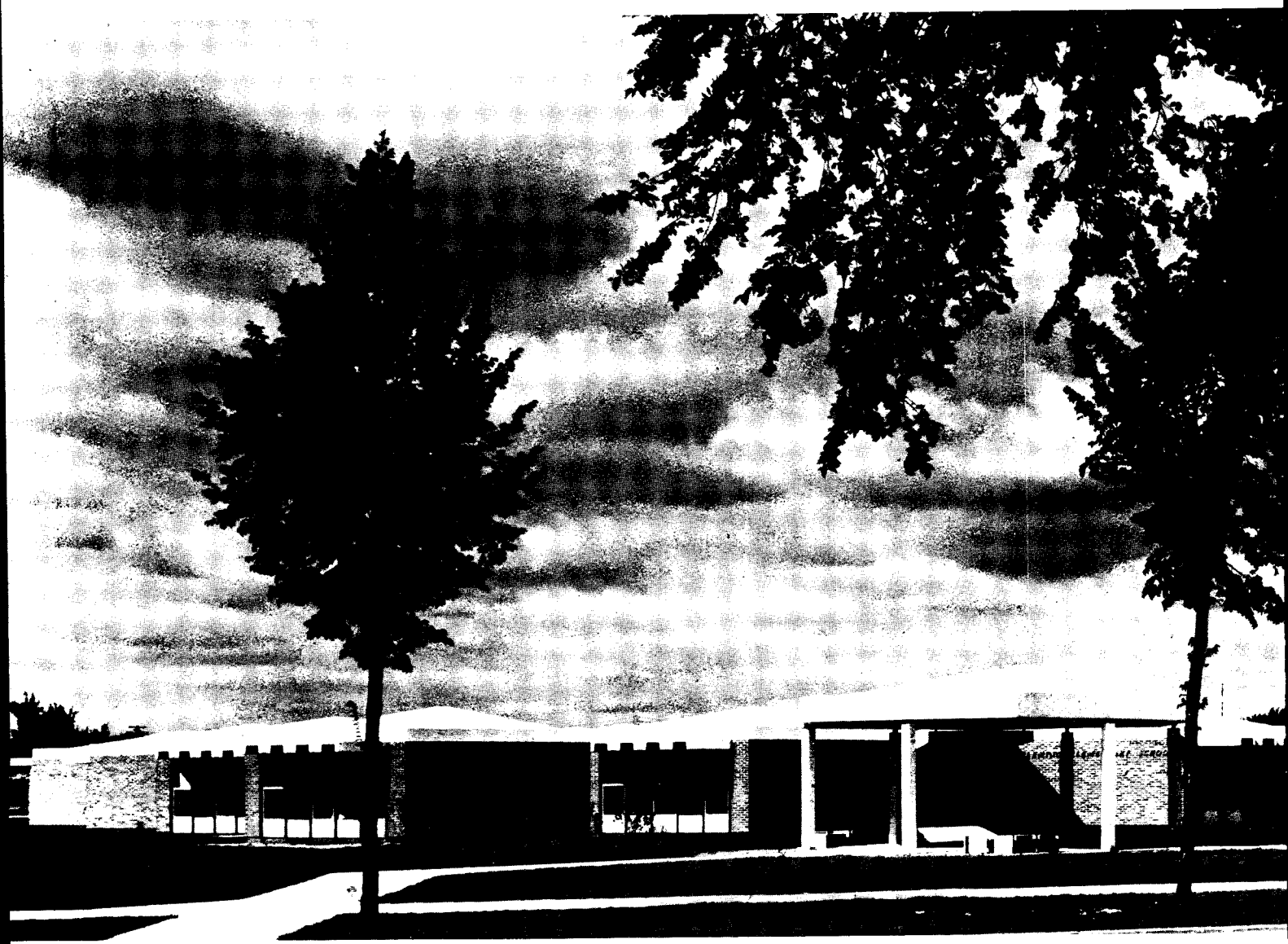
GEOMETRY OF SPACE IN SCHOOLS



The teaching areas that constitute the major part of a school are generally made up of repeated units of space. Traditionally, these units have been the classrooms, as they still are in schools where the program demands uniform classrooms. Now, however, when teaching spaces are of various sizes, the repeated unit is often a structural bay—more flexible than the old classroom in the space arrangement it allows, yet equally rigid in its geometry.

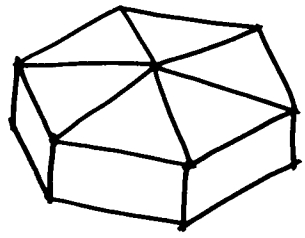
These modular units are the building blocks from which the school is assembled. They may be connected together linearly or two-dimensionally, clearly articulated or composed into compact masses. Special spaces such as auditoriums and gymnasiums may be accommodated within this spatial matrix or housed in enclosures of different scale, using different structural systems.

The schools presented on the following pages illustrate three distinct approaches to the design of such modular units and the effect of these approaches on the over-all design of the buildings.



Clusters of Hexagons

JENNIE MAY FLEMING ELEMENTARY SCHOOL • DETROIT, MICHIGAN • MEATHE, KESSLER & ASSOCIATES, ARCHITECTS



Although located in an area of small-scale single-family houses, this school was prevented by typically urban limitations of site area and budget ($16 per sq ft) from following the sprawling, segmented pattern so common in the suburbs. The effort to design a compact school, compatible with its neighbors, led the architects to adopt a uniform hexagonal plan for the 15 classrooms required in the program.

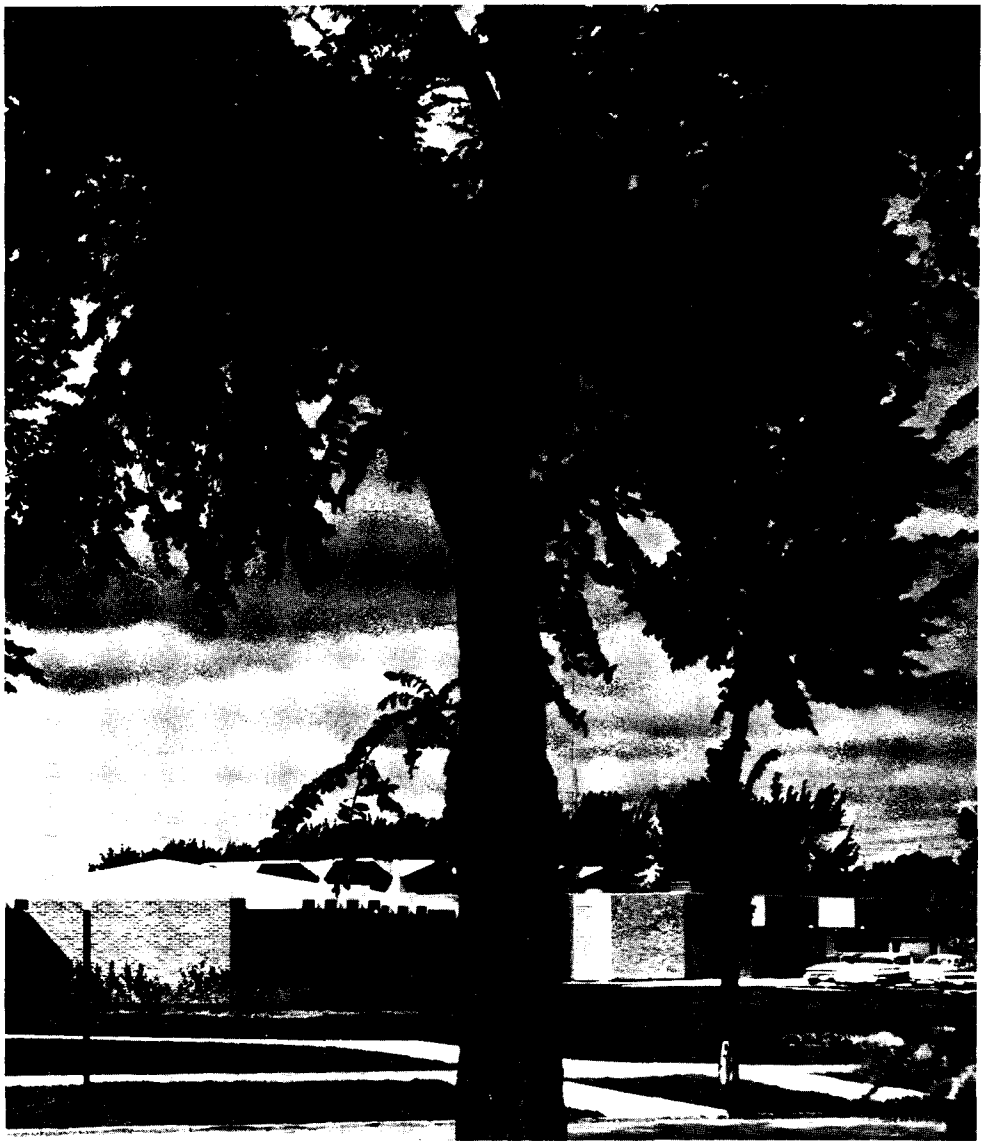
The repetition of these hexagonal units made it economically feasible to roof them with pyramidal poured concrete shells, rotating three sets of formwork among the 19 identical shells constructed. These low pyramids are a rational and expressive means of spanning hexagonal spaces, and —collectively—they give the school the appropriate appearance of a community of small-scaled houses.

These concrete shell roofs rest on concrete block bearing walls; block walls also support the steel beams and metal decking that span the flat-roofed areas of the building. The angular corners of the block walls caused considerable difficulty during construction, since a neat pattern of joints was required on the interior, where the blocks are painted; the exterior surfaces are brick veneered.

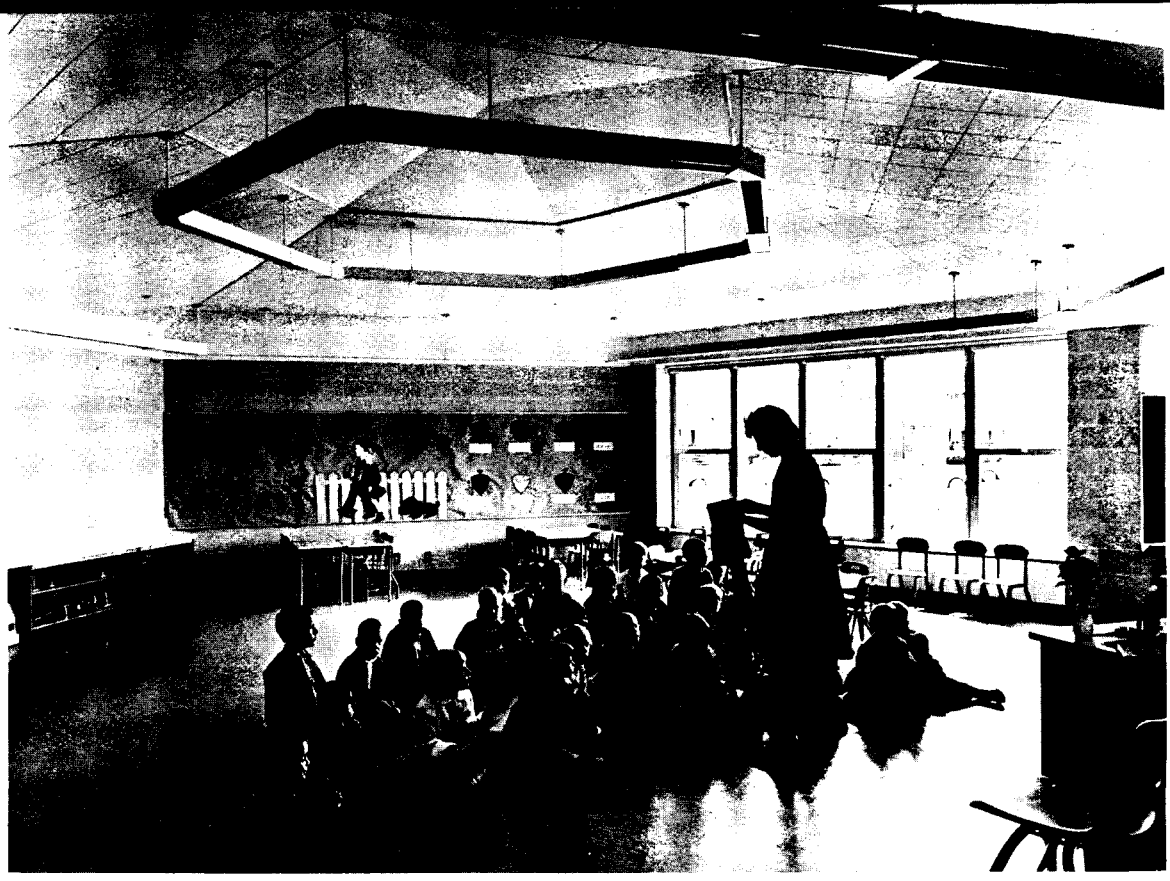
Once the hexagonal classroom plan had been established, its geometry affected the entire plan. Hexagonal shapes were applied to the separated auditorium-gymnasium wing, to sunshades, lighting fixtures, and skylights, and even to paving —not because of a whimsical or obsessive attachment to the shape, but because, in the architects' words, "there was no place to stop." The introduction of rectangular shapes in plan would have produced glaring inconsistencies and clumsy intersections.

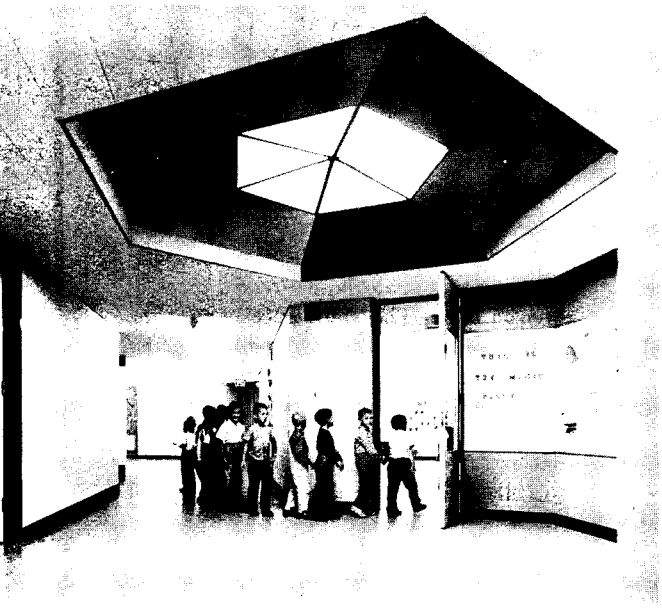
One frankly symbolic element, however, is the entrance canopy. Its form is a restatement—or rather an introductory statement—of the classroom spatial unit; its roof structure, identical to that of the classrooms, is supported on six hexagonal concrete columns.

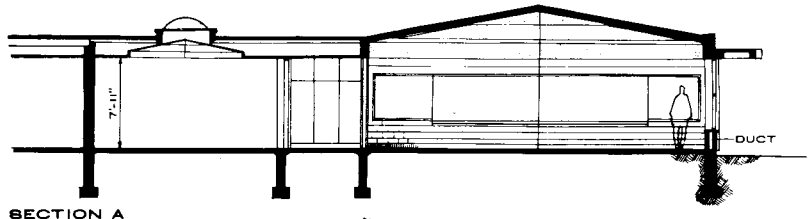
By arranging the classrooms in clusters



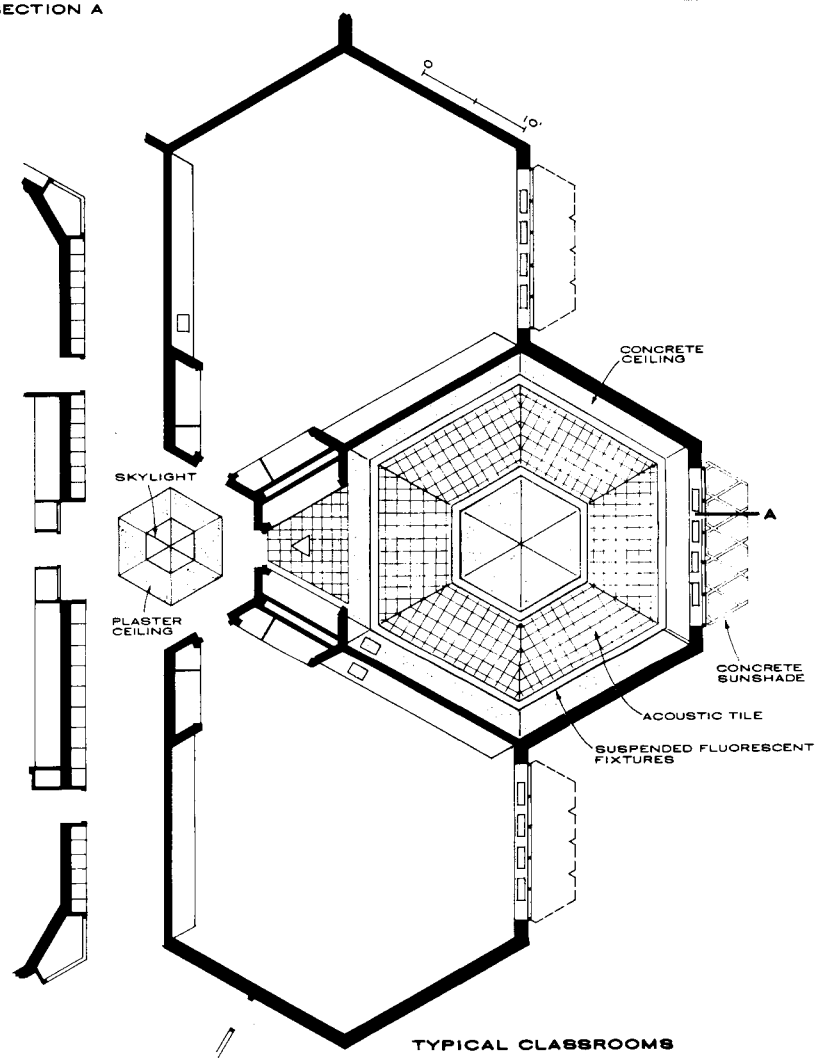
PHOTOS: BALTHAZAR







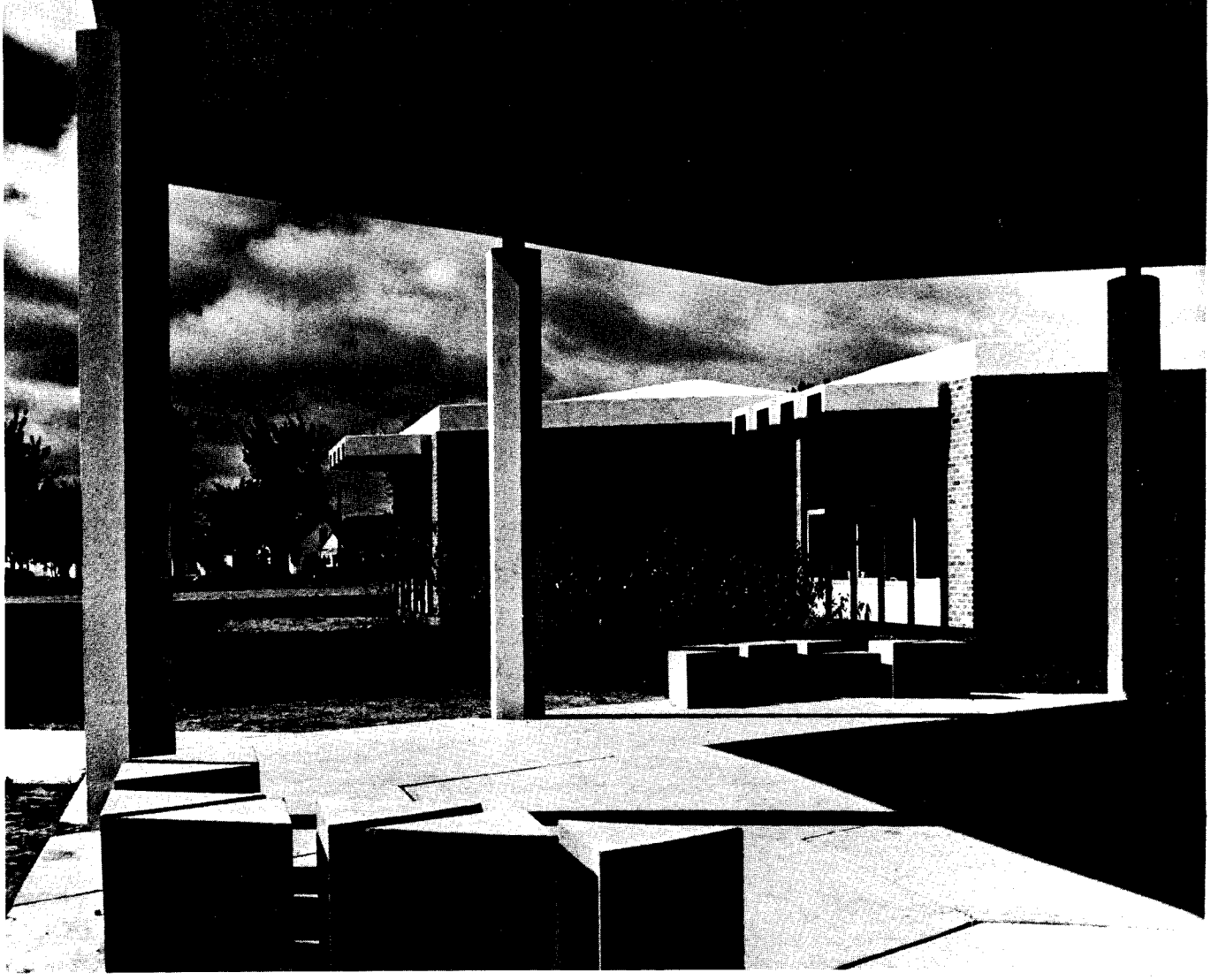
SECTION A

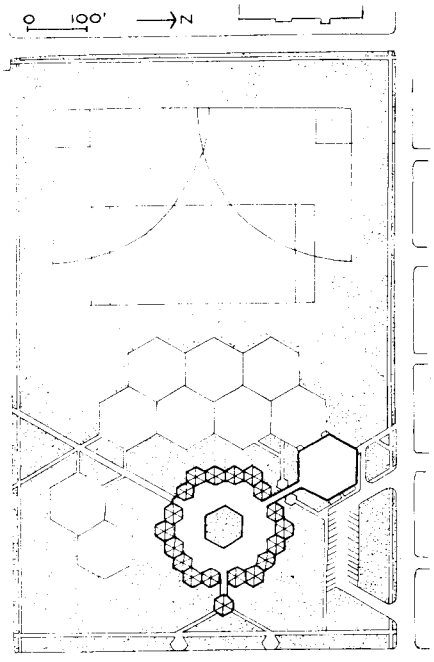


TYPICAL CLASSROOMS

The ceiling of the typical classroom (top photo) *follows the form of the concrete shell roof; concentric rings of acoustic tile and painted concrete and custom-designed fluorescent lighting fixtures conform to the hexagonal pattern.*

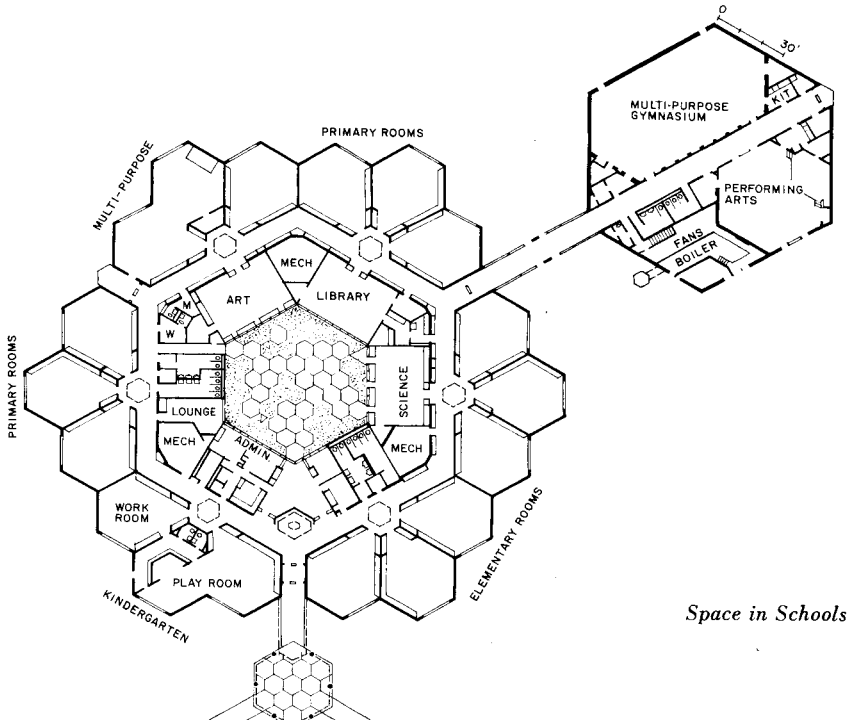
Alcoves and changes in direction lend visual interest to the corridors (photo above). *Located at the entrances to each cluster of classrooms, the alcoves provide complete changes of pace: walls are painted bright, identifying colors, which contrast with the generally neutral interior colors; hexagonal skylights introduce variation in the lighting.*

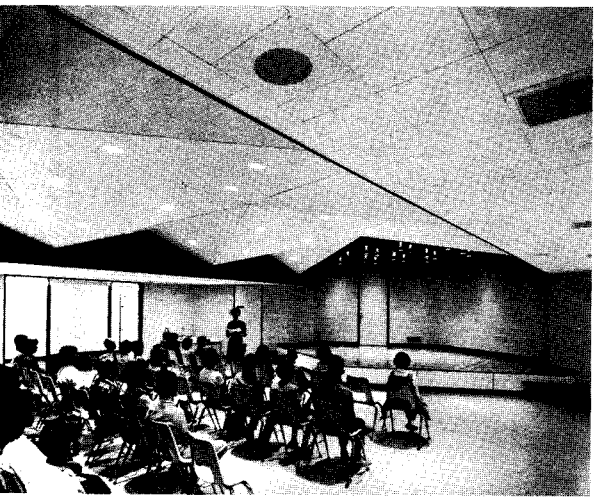




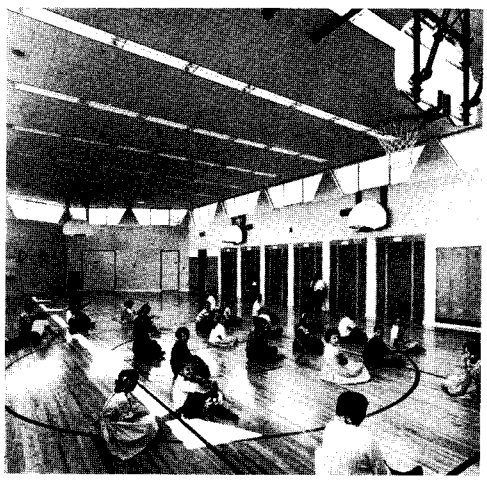
along a hexagonal corridor, the architects have met the initial requirement for compactness more than adequately. The relatively short corridor length per square foot of teaching space has yielded the lowest over-all percentage of circulation space (18 per cent) yet obtained in a Detroit school. Although the total area of the corridors is relatively small, it includes skylighted alcoves at the entrances to all principal rooms, which provide extra space where it is needed and produce an effect of spaciousness and variety.

The space on the inner side of the main corridor accommodates the library, special classrooms, the administration, and ancillary facilities—the major rooms overlooking the quiet interior courtyard. Even the six windowless quadrilaterals at the corners of this hexagonal ring have been used to advantage for storage, circulation, and mechanical spaces.

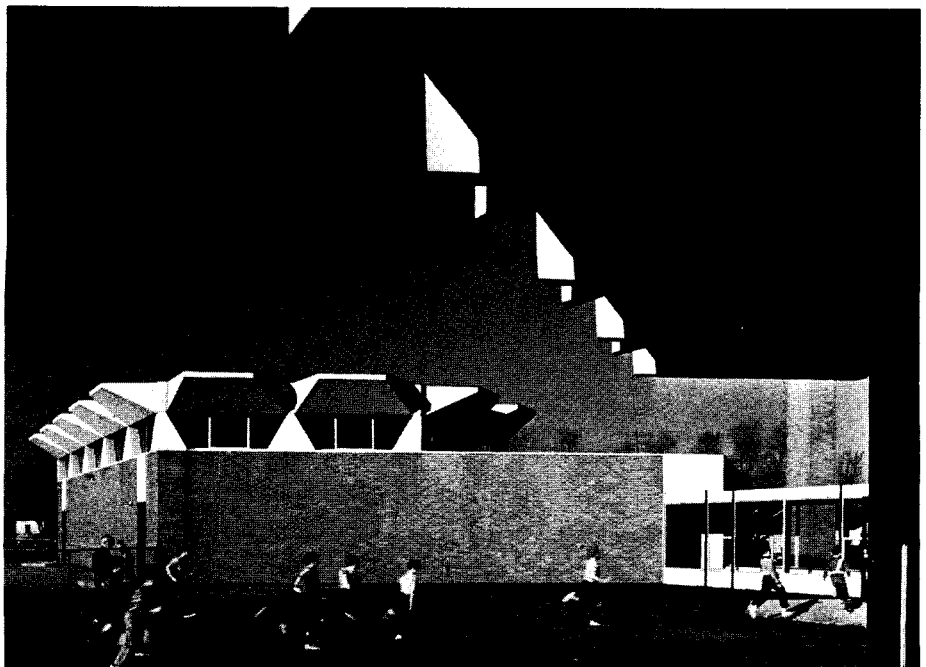


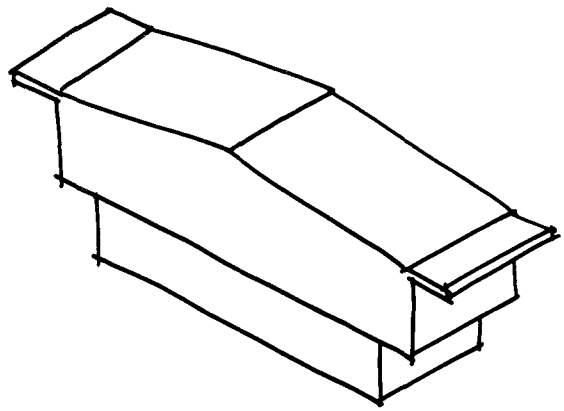


The court at the center of the classroom block (above) *was designed for the use of science classes, but it also provides a pleasant, controlled outlook for the rooms around it. The dramatic arts room* (left) *and the multipurpose gymnasium* (below) *are located in a wing that was separated from the classroom block to isolate noise and facilitate after-hours use by the community.*



The loads of the steel trusses that span the gymnasium (right and below) *are transferred to the brick-veneered block bearing walls by triangular precast bearing blocks. The windows between them are the only elements of the building that repeat the hexagonal shape in elevation.*





Zigzag Line of Bays

CHICHESTER SENIOR HIGH SCHOOL • BOOTHWYN, PENNSYLVANIA • VINCENT G. KLING, ARCHITECT

The major teaching areas of this school are located in a long wing laid out in a zigzag line along the contours of a stream bank. The uniform string of 18-ft-wide bays that makes up the wing, together with wedge-shaped bays at the bends, provides spaces that are fixed in their transverse section, but can be flexibly divided along the length of the wing. On the upper level, two 24-ft-deep teaching spaces flank a central corridor. The lower level provides for larger spaces with conventional ceiling height requirements, such as the library and cafeteria. In many bays the lower level has been left open, in reserve for expansion.

The continuous band of windows stretching like a ribbon along the upper story of the wing emphasizes its shape—the mullions indicating the small modular divisions at which classroom partitions can be located. Lower level spaces have floor-to-ceiling glass, shaded by recessed galleries.

A bridge attaches the classroom wing to the "commons building," which houses administrative offices, athletic and performing arts facilities, and shops. This building is compact in plan, with gymnasium and auditorium in the high-roofed core, and offices and special teaching spaces along the periphery.

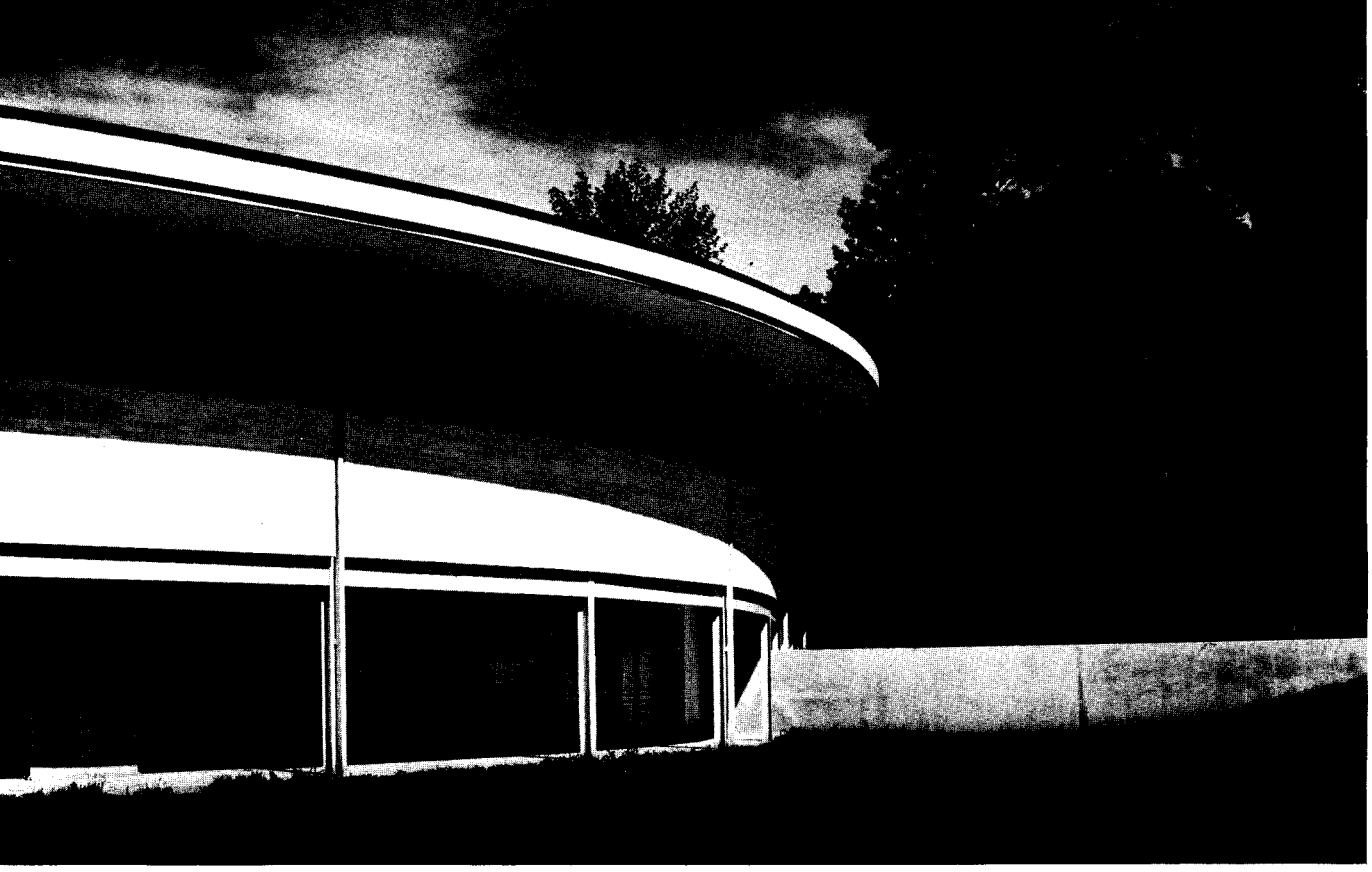
Where the bridge enters the classroom wing, there is a student project area and lounge with a wide-angle view of woods and stream. Stairs lead down from there to the cafeteria. One unusual room is the "audion" room — located between the chemistry and physics labs—which has tiered seating for viewing demonstrations.

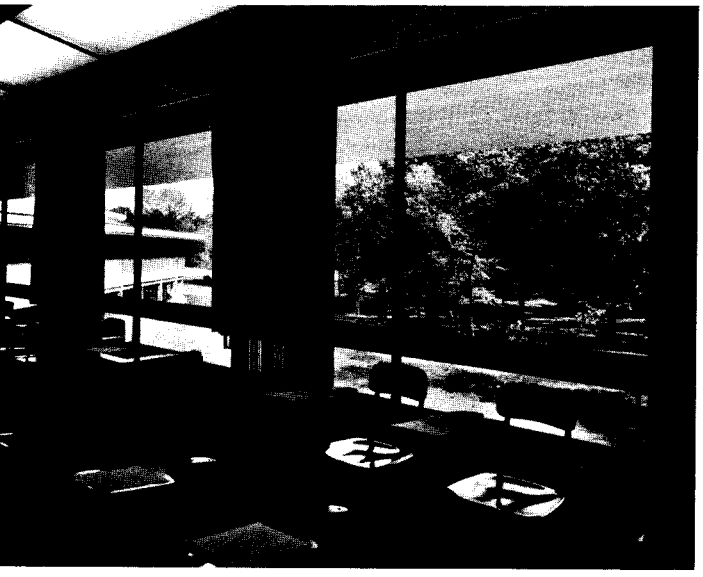
Population statistics and topography determined the broad outlines of the building. The school district, located in the rapidly growing outer suburbs of Philadelphia, anticipates a growth in senior high school enrollment from 600 this year to 1200 in 1970; provision for expansion was therefore a major requirement of the program.

The site, a 45-acre tract of farmland, slopes down gradually from a main road to the wooded banks of a stream. The relatively level, treeless acres near the road have been devoted to athletic fields, and the school has been sited at the edge of the stream-bank.

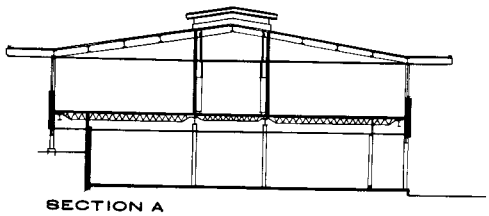
Plans for expansion call for the construction of a new 15-classroom wing to the west of the commons building. Cafeteria, library, homemaking suite, and locker rooms may be enlarged in the future at their existing locations.

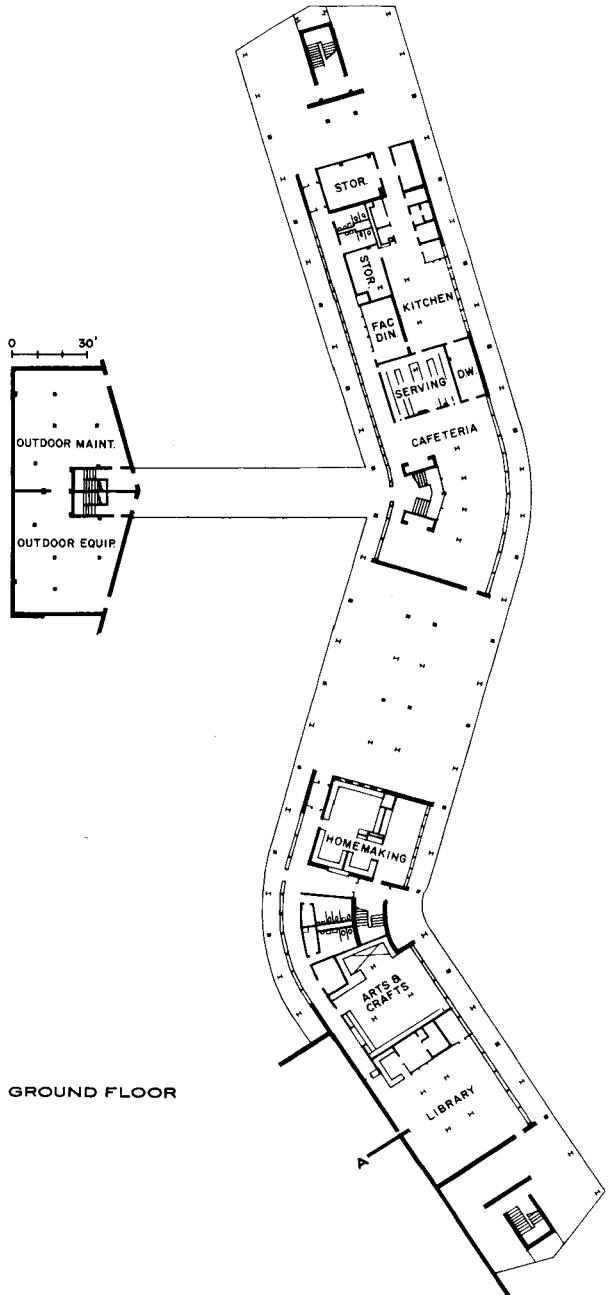
PHOTOS: LAWRENCE S. WILLIAMS



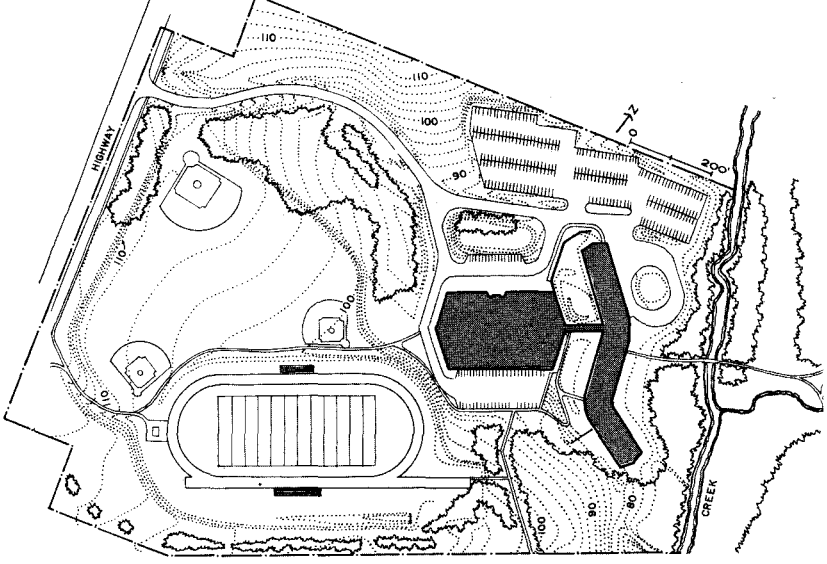


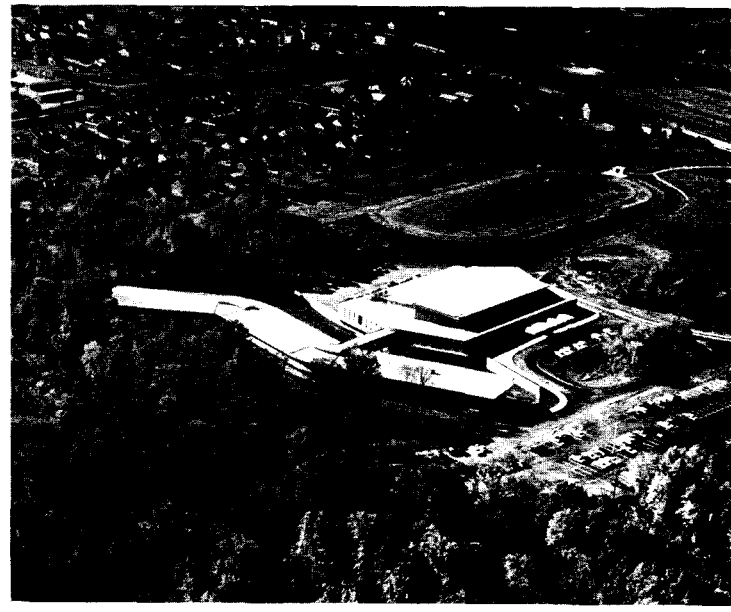
Continuous ribbons of windows on both sides of the classroom wing (top photo) *overlook the natural greenery. The "audion" room* (photo above) *is a college-style tiered lecture hall for science demonstrations.*



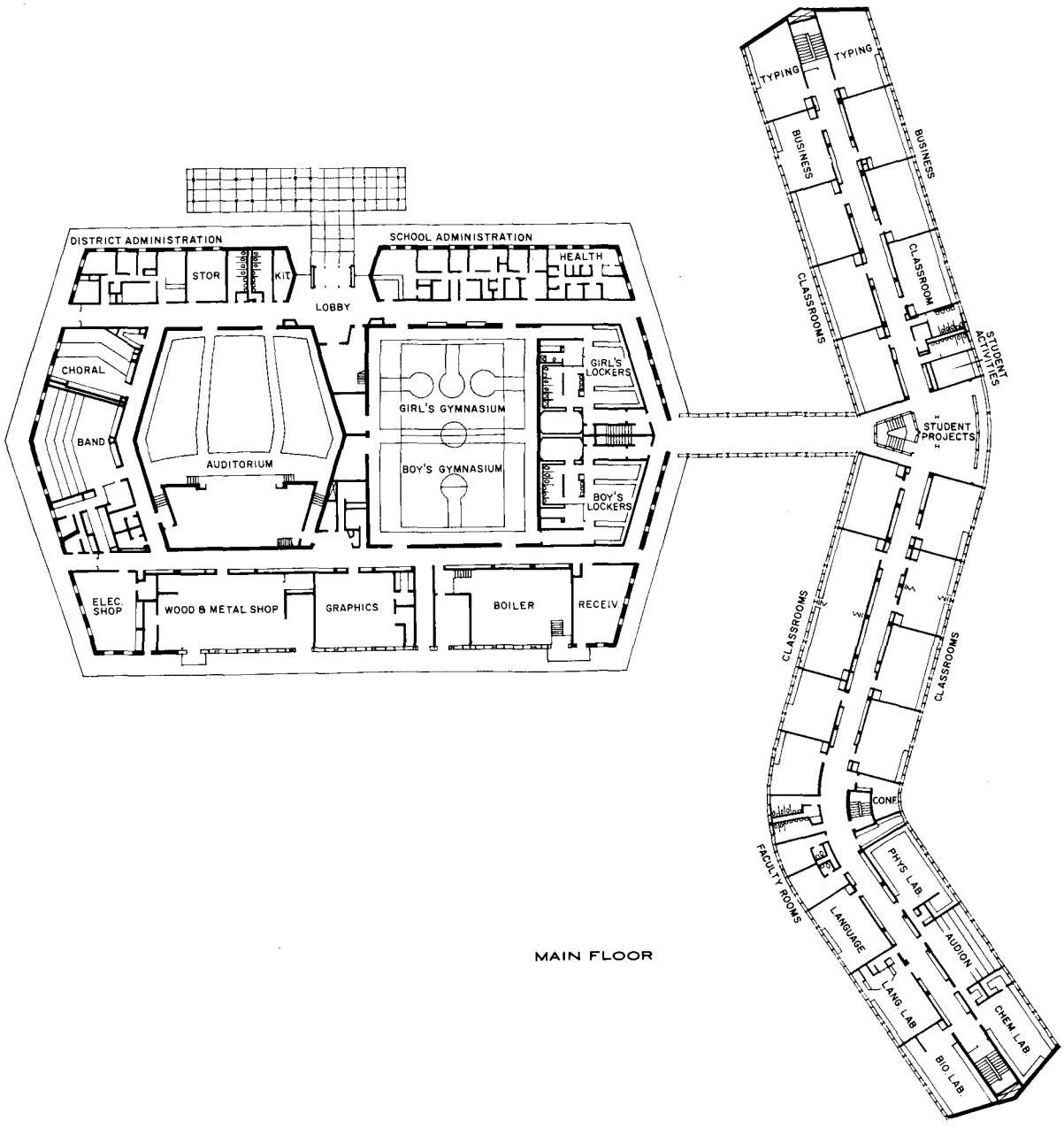


GROUND FLOOR

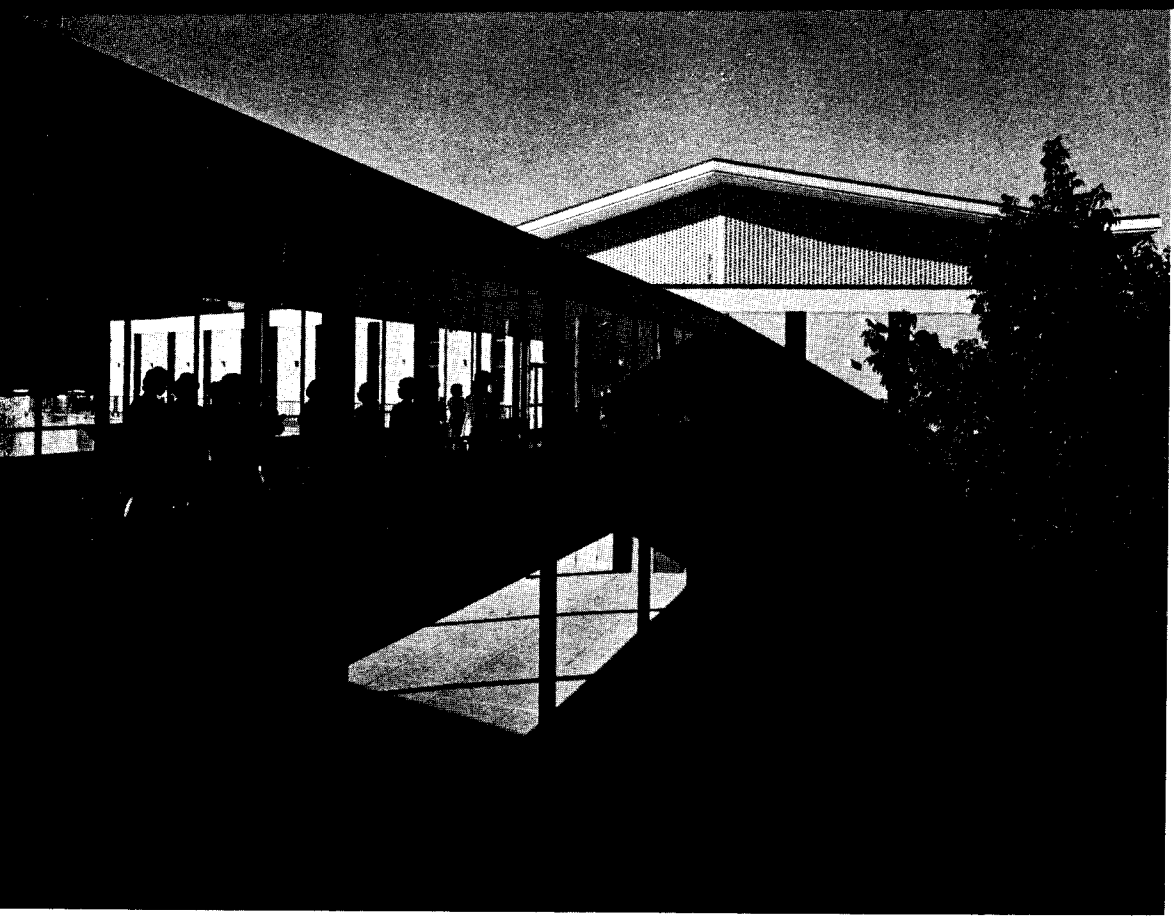


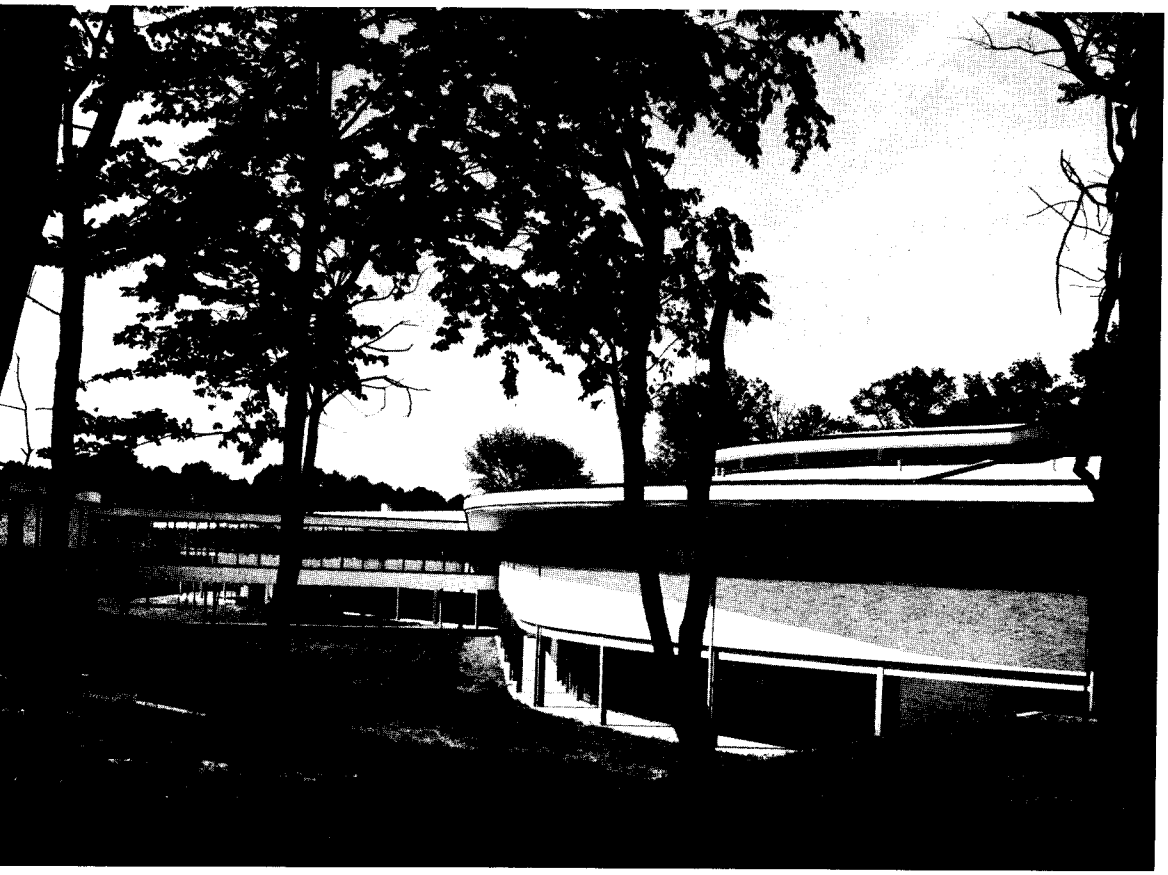


The school is sited at the lower end of a 45-acre tract that slopes gently down from the highway. The classroom wing, isolated from both the highway and the athletic fields, follows the contours of the bank along which it is built. A bus entrance directly into the classroom wing makes it unnecessary for student traffic to funnel through the "commons building." The area across the stream is used for tennis courts and facilities for other small-group sports. Inside the building (plan below), *the inherently noisy spaces such as the shops are isolated from both classrooms and administrative offices; the lower-level library is remote from all sources of noise.*



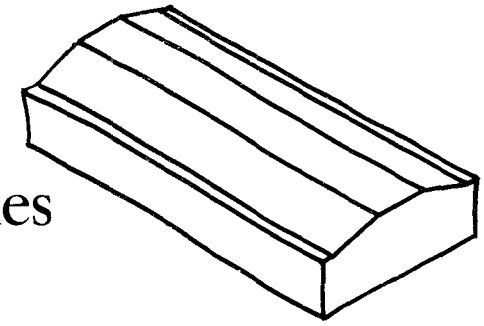
MAIN FLOOR





A glass-walled bridge (top and middle photos) *connects the classroom wing and the commons building. The diversity of spaces around the perimeter of the commons building is concealed by a uniform pattern of vertical slit windows. Pitched roofs provide the controlled roofscape required in a building that is approached from higher elevations* (bottom photo); *they also express, by changes of height and scale, the internal organization of the school.*

Gridiron of Rectangles



HARPER HIGH SCHOOL • ATLANTA, GEORGIA • TOOMBS, AMISANO & WELLS, ARCHITECTS

The loft-like design of this school results from an effort to explore the advantages of the compact, mechanically ventilated, and artificially lighted interior, freed from reliance on conventional windows. The roughly 300 ft square plan is composed of a grid of rectangular bays spanned by a folded-plate concrete roof system.

The principal advantage of such a loft scheme—aside from the economies of building and maintaining shorter exterior walls, foundations, corridors, and mechanical and electrical circuits—is the freedom it permits in laying out the interior. The typical 28′ x 56′ bay was designed to accommodate the greatest number of possible layouts for conventional classrooms, larger spaces such as shops and laboratories, and any likely future configuration of teaching space.

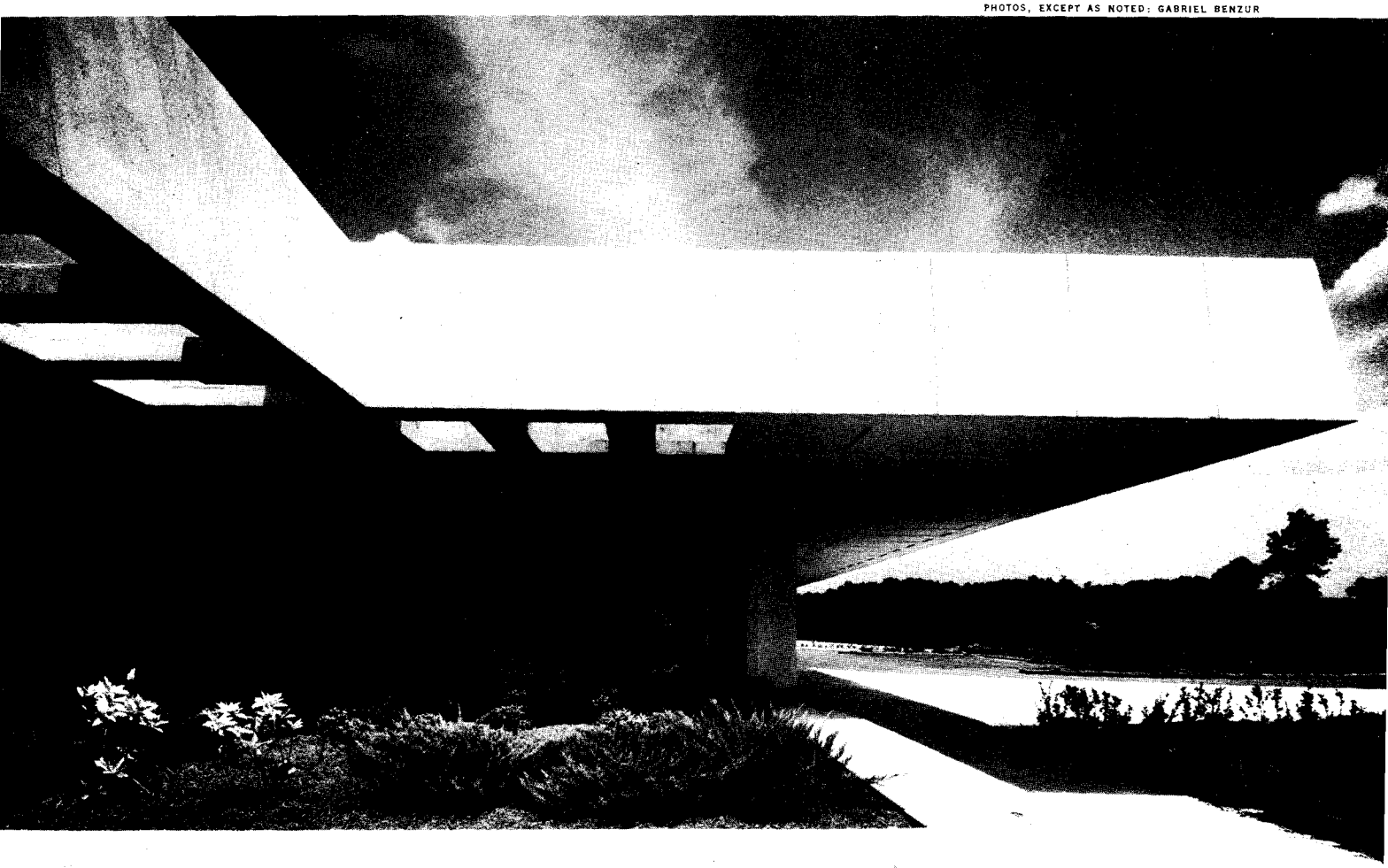
This bay size is also an economical one for 4-in. folded-plate roof construction. The same system, reinforced to cover a 50 per cent greater span, was used over the gymnasiums, thus maintaining the advantages of repetitive forms and structural continuity for the entire building.

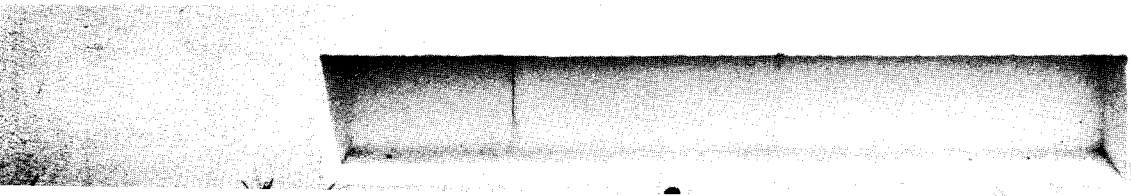
When the school received a P/A Design Award Citation (JANUARY 1962 P/A), it was reported that "the Jury admired particularly the logic of the folded-plate roof, not only as a practical and economical solution in covering a large floor area, but as a means of providing visual interest and space definition within the building."

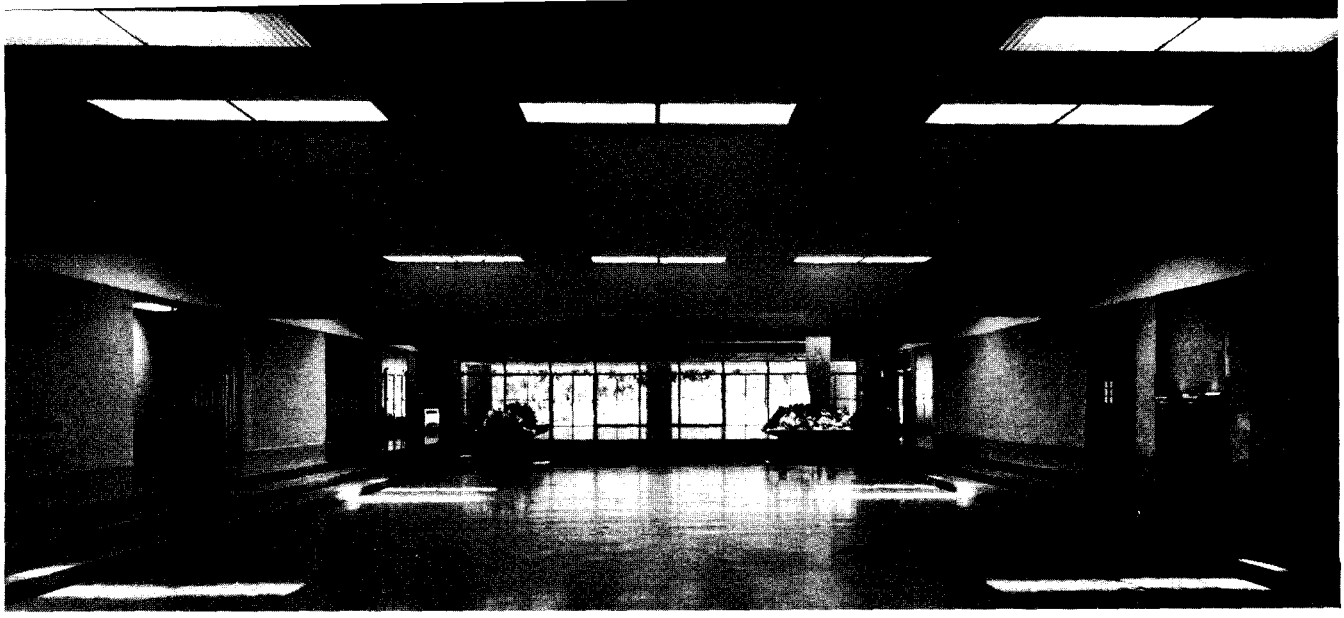
Concrete has also been used in all structural elements and most of the finished surfaces throughout the building—in columns and exterior walls, in slab-on-grade and pan-joist floor construction, and in the integrally colored concrete floors of corridors and public spaces.

All teaching spaces are located on the main (upper) floor of the school. The layout of this entire floor is related to the "demonstration area" (*photo overpage top*), which is designed to accommodate

PHOTOS, EXCEPT AS NOTED: GABRIEL BENZUR







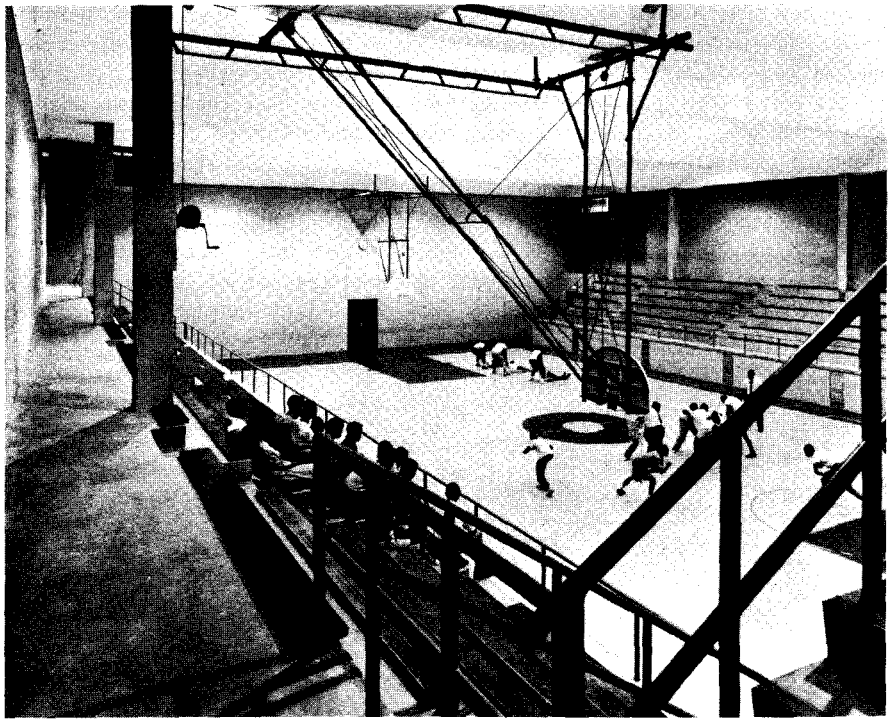


PHOTO: ALEXANDRE GEORGES

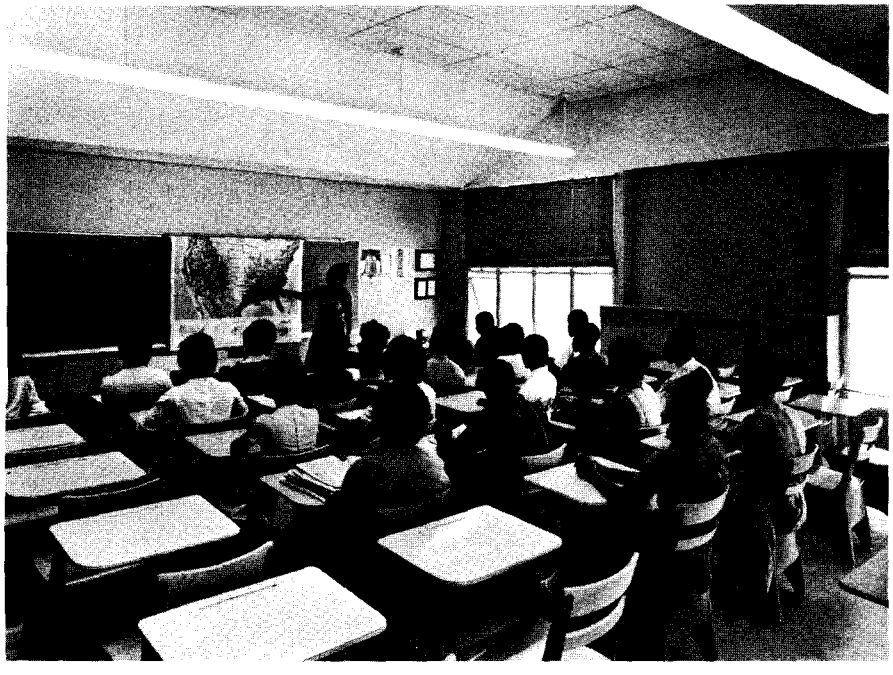


PHOTO: ALEXANDRE GEORGES

meetings and exhibitions. It is, in effect, an indoor plaza, through which one passes on entering the school and in moving from one part of the building to another; the library, auditorium, and administrative offices face it, and corridors to the classrooms lead out of it like side streets.

At the other end of the school is the block of athletic facilities (*left*), planned as a core around which the teaching spaces are wrapped, with corridors providing acoustical separation. The separate entrance to these facilities is furnished with ticket and concession booths.

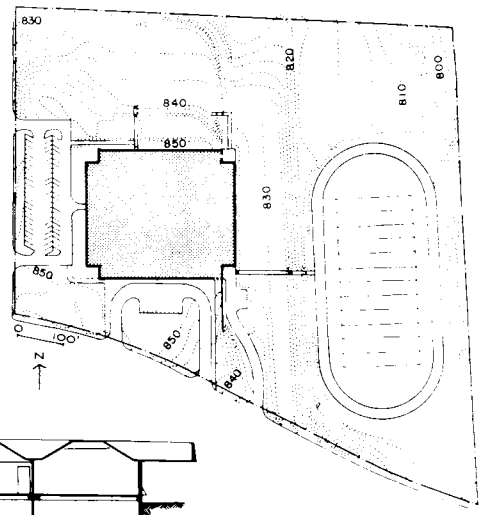
Interior colors are limited to a range extending from white to dark brown. Concrete block interior partitions are painted in shades of cream and ocher, door bucks are brown, floors are a bright "golden ocher," and blinds in the classrooms (*left, below*) are orange.

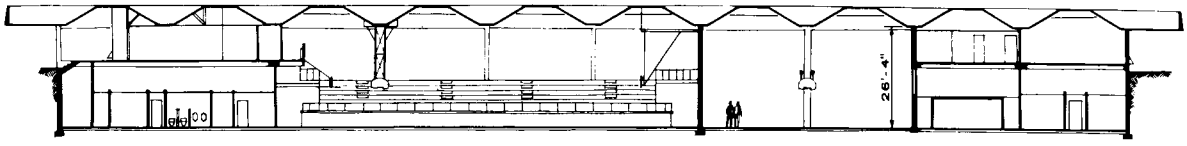
The 17'-6" ceiling height of the lower floor makes it possible to increase the capacity of the school within its present volume by building mezzanines. The architects estimate that 500 students could be added to the initial capacity of 1200 by utilizing space over the cafeteria and the girls' gymnasium. The additional initial building volume cost relatively little to construct or maintain; in this case, the cost of the additional height was partially offset by resulting savings in grading.

The ventilating system is designed for conversion to air conditioning by the mere addition of compressors in the main fan room. All elements of the system, from unit ventilators to pipe insulation, have been designed as part of a year-round air-conditioning system. Such a system would make the building useful for special summer courses.

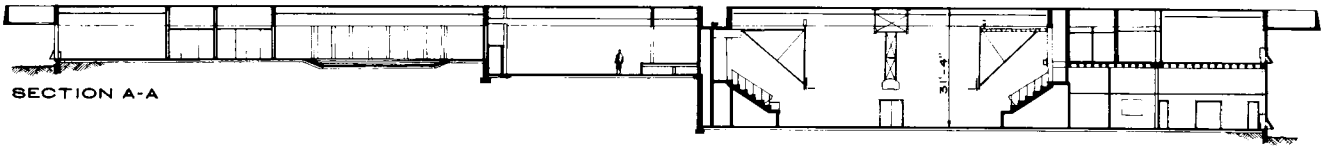
The construction cost was $1,225,278, or roughly $1020 per pupil. The cost per sq ft, with allowances for porches and extra ceiling heights, was $9.25. These costs include landscaping and built-in equipment covered in the general contract.

A folded-plate concrete roof spans the loft-like, mechanically ventilated teaching areas. The 28′ x 56′ bays are adaptable to a wide variety of layouts; one row of bays with a span of 84 ft accommodates the gymnasiums. The central expansion joint required for the 345-ft-long roof is expressed on the front (photo below) *by the paired columns.*

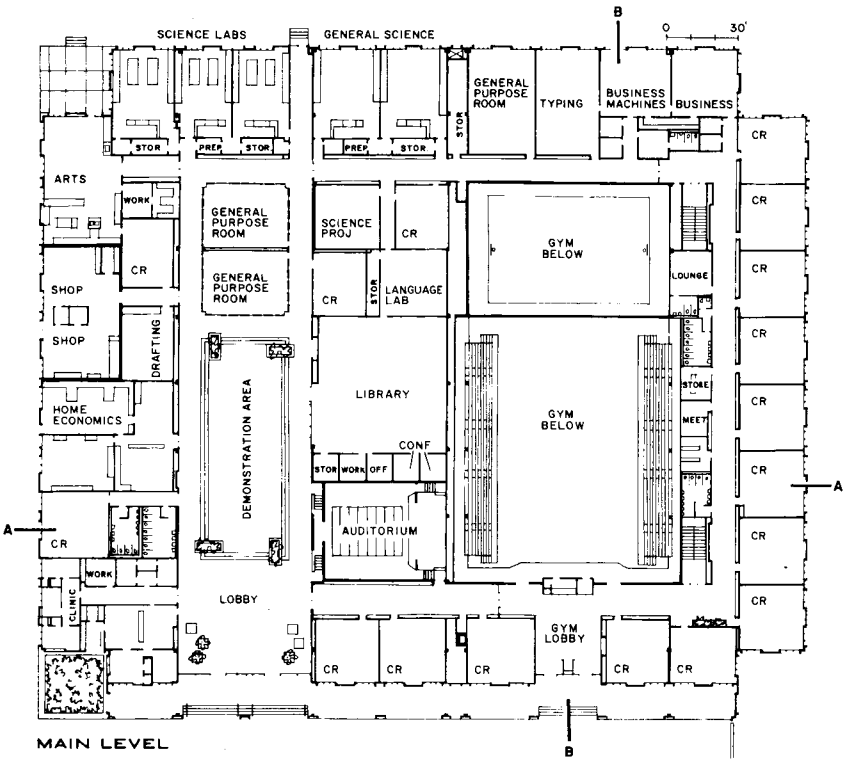




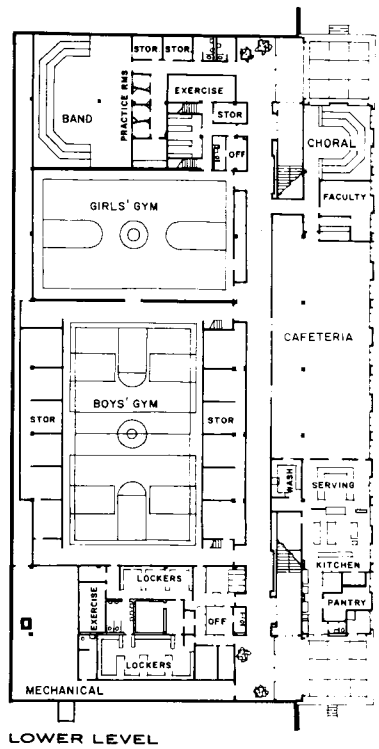
SECTION B-B



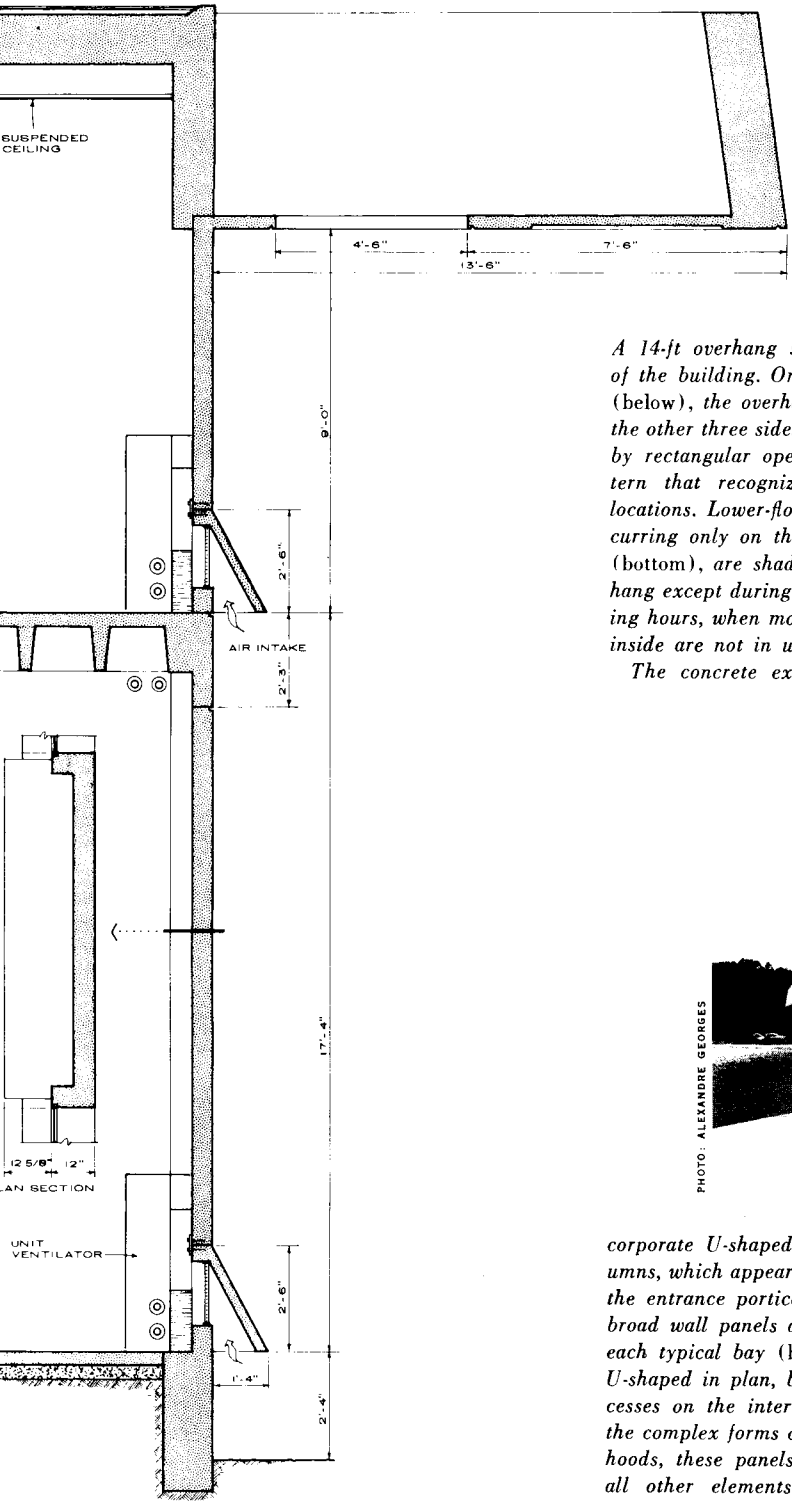
SECTION A-A



MAIN LEVEL



LOWER LEVEL



A 14-ft overhang shades all sides of the building. On the south side (below), *the overhang is solid; on the other three sides it is punctured by rectangular openings in a pattern that recognizes the column locations. Lower-floor windows, occurring only on the east elevation* (bottom), *are shaded by the overhang except during the early morning hours, when most of the spaces inside are not in use.*

The concrete exterior walls in-

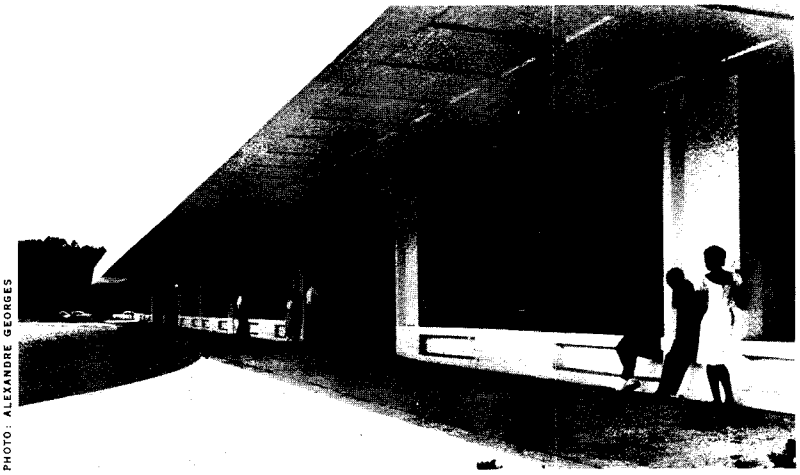
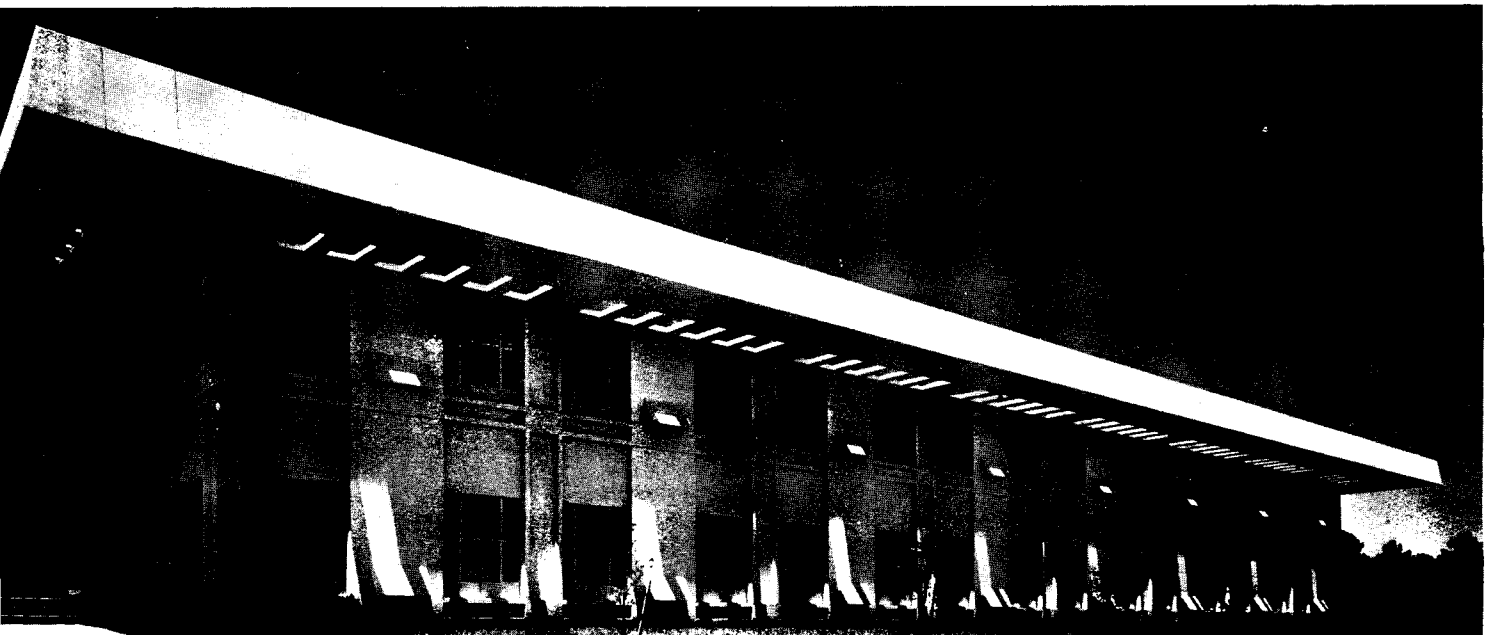
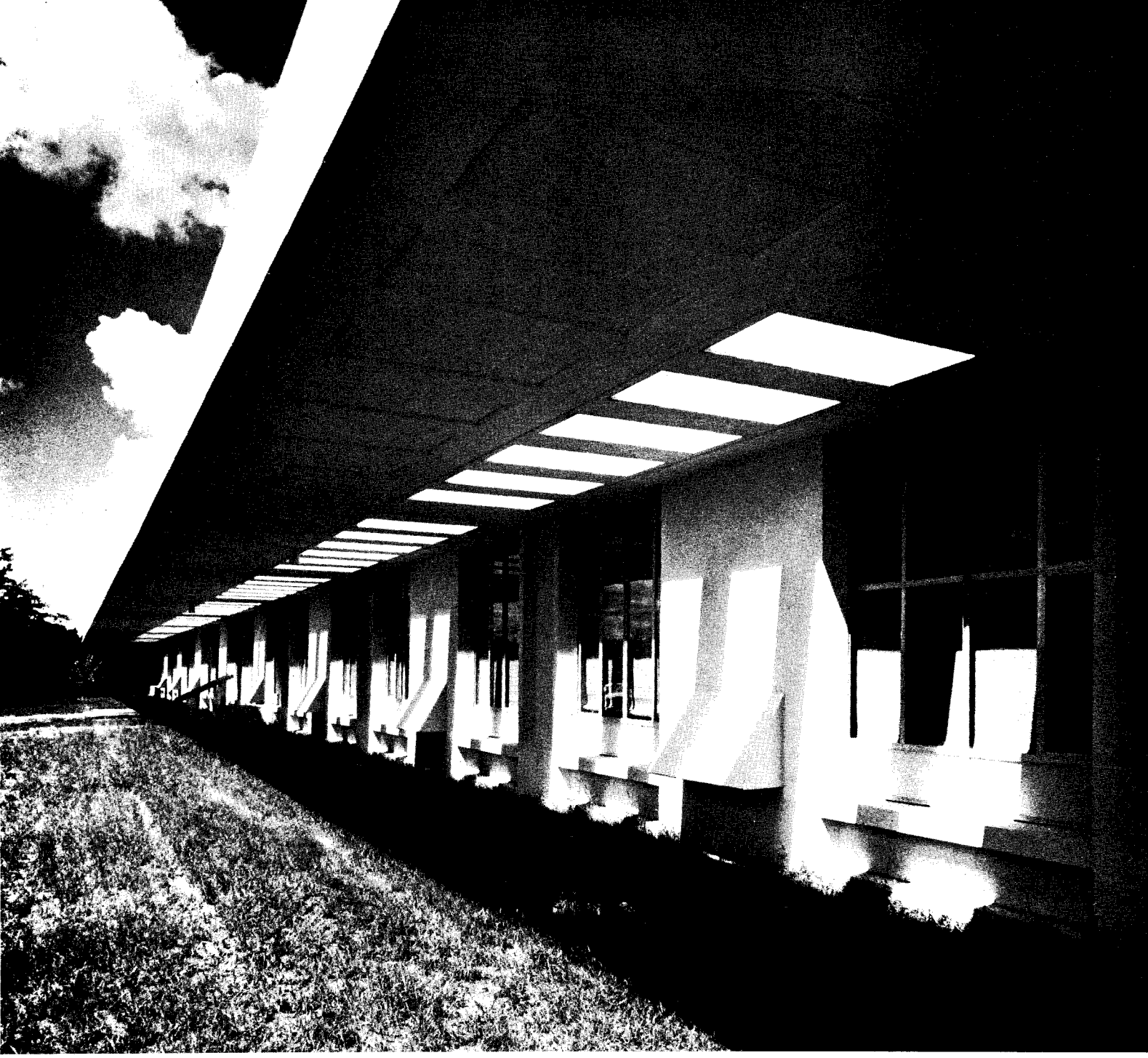


PHOTO: ALEXANDRE GEORGES

corporate U-shaped structural columns, which appear freestanding at the entrance portico (above). *The broad wall panels at the center of each typical bay* (below) *are also U-shaped in plan, but with the recesses on the interior. Because of the complex forms of the ventilator hoods, these panels were precast; all other elements were poured.*





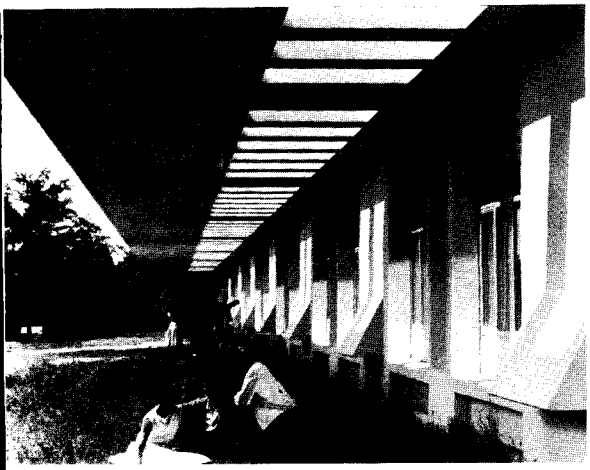
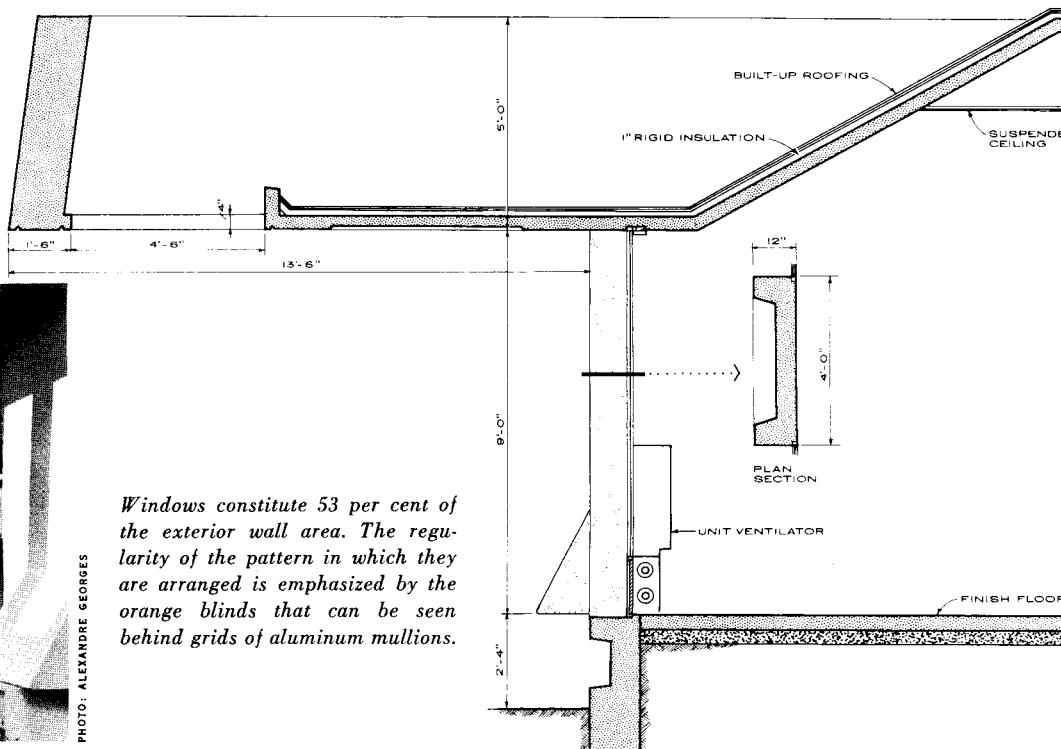


PHOTO: ALEXANDRE GEORGES

Windows constitute 53 per cent of the exterior wall area. The regularity of the pattern in which they are arranged is emphasized by the orange blinds that can be seen behind grids of aluminum mullions.



RECENT WORK OF PIERRE JEANNERET

BY U. E. CHOWDHURY

Pierre Jeanneret has quietly collaborated with his famous cousin Le Corbusier on and off for years. In fact, the first three volumes of Le Corbusier's monumental Oeuvre Complète, *covering the years from 1910 through 1938, are a record of their joint work. It was through Corbu that Jeanneret first went to India in 1951, but it is the quantity and quality of Jeanneret's work at Chandigarh that prompts the author of this article to say, "It is* his *work that makes the biggest impact in the city proper." In the following pages, Mrs. Chowdhury, a close friend and colleague of Jeanneret, traces his career to these most recent projects, where, she feels, he has come into his own. This work should interest architects who have had little opportunity to follow the latest work of an early pioneer.*

For more than 40 years, Pierre Jeanneret has worked with his world-famous countryman Le Corbusier. The two are actually cousins—few architects need to be told that Le Corbusier's real name is Charles Édouard Jeanneret. Their families are of solid middle-class Swiss stock from the neighborhood of Geneva, and have worked there as clockmakers for generations. Although Le Corbusier broke away from his family in his boyhood to earn an itinerant livelihood throughout Europe, Jeanneret was given an academic architectural education.

The two young men came together in 1920 in the intellectually highly-charged atmosphere of Paris. By this time, Le Corbusier had already formulated iconoclastic ideas. Jeanneret had been exposed to new concepts regarding the use of reinforced concrete through his work with August Perret. (Corbu had also been in the Perret atelier, from 1909 to 1910.) The cousins decided to work together. Le Corbusier had no academic qualifications but was overflowing with ideas. Jeanneret, nine years his junior, was officially qualified to practice and was interested in Le Corbusier's theories. The partnership was promising for both.

Paris was, in the 1920's—and perhaps still is—the center of intellectual life of Europe. In cafés, in noisy apartments, and in streets, discussions raged, imposing theories were put forward and torn down. No watertight compartment divided the practitioners of one art from those of another. Le Corbusier was writing prolifically at this time. During this early period, much of his energy was spent destroying myths about the applicability of historical styles to the present day. A little later, he began to contribute more positive ideas of his own.

The buildings erected by Le Corbusier and Jeanneret at this stage were stark and bare. These works denied all that went before, yet at the same time they made some new affirmations. Perhaps the most famous of these early buildings was the Villa Savoie at Poissy (1928–30), which embodies the five points laid down by Le Corbusier: (1) the functional independence of wall and skeleton; (2) the free pillar; (3) the free plan; (4) the free façade; and (5) the roof garden.

Side by side with their architectural work, both men were designing furniture, and Le Corbusier was simultaneously developing as a painter. Even their interest in architecture was not a narrow one, limited only to the design of single buildings: their ideas extended to the philosophy for living in them and to the integration of every building with its surroundings. It was therefore a logical step for them to do research in town planning and to evolve ideas for the spatial relationship of groups of buildings in an urban environment.

The first large-scale application of their ideas was their 1927 project for the League of Nations buildings in Geneva. Although theirs was the only design that came to grips with the functional problems involved, the academicians could not bring themselves to award it the first prize. The befuddled jury finally awarded nine first prizes, and the building—as constructed—was an unsuccessful hotchpotch of several designs.

Then followed two large projects in Paris: the Salvation Army hospice (1929–33); and the Swiss pavilion of University City (1931–33). Both show the inventiveness and boldness that have made them landmarks of modern architecture.

During World War II, when construction was practically at a standstill, the two cousins worked apart. Jeanneret designed light, prefabricated houses and schools, for the most part. In 1950, he began the design of an industrial training school in southern France, at Béziers (*see photos, facing page*).

To Chandigarh in 1951

When Le Corbusier was commissioned to design the new capital of the Punjab, it was evident that someone would be needed at the site to interpret his ideas, since he himself was not prepared to leave Paris and live in Chandigarh. The obvious choice was Jeanneret, who was not only a renowned architect in his own right, but because of his long and close association with his cousin could also be relied upon to transcribe Le Corbusier's ideas faithfully at the site. Furthermore, Jeanneret had established a reputation for bringing out the best in the young students who had come to work for them. To the Indian authorities entrusted with the task of selecting architects, it was immediately recognized as a great asset to have a man who could, by his influence and example, turn out confident and creative architects in a nation where they are scarce.

With Le Corbusier's appointment as planning consultant and chief architect to Chandigarh, it was stipulated that he select three senior architects to be appointed by the Punjab government. These three were to set up offices on the site (hiring

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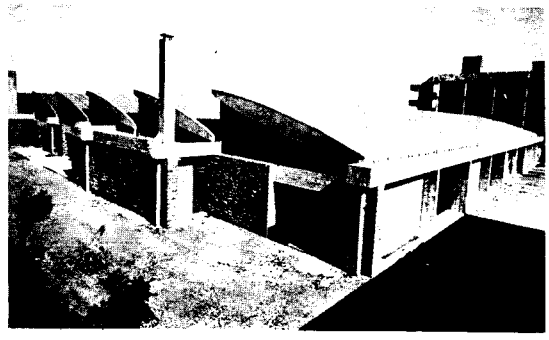

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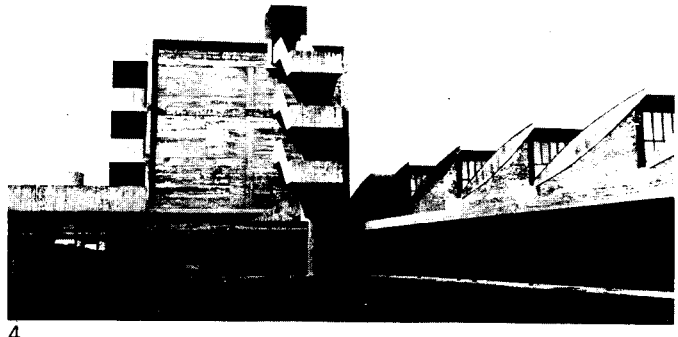
In 1950, Pierre Jeanneret began the design of this technical school in Béziers, France. The simple, cubist forms are a latter-day continuation of the vocabulary so eloquently used when he and Le Corbusier first worked together in the 1920's. In the same way, in relating a series of elements to each other, Jeanneret is concerned with some of the same problems that, in theory and practice, have absorbed the two cousins since their earliest years together. The wing-shaped units at Béziers are workshops. Materials used throughout the school—stone, concrete, and brick—are precisely those that Jeanneret used in his extensive work at Chandigarh.



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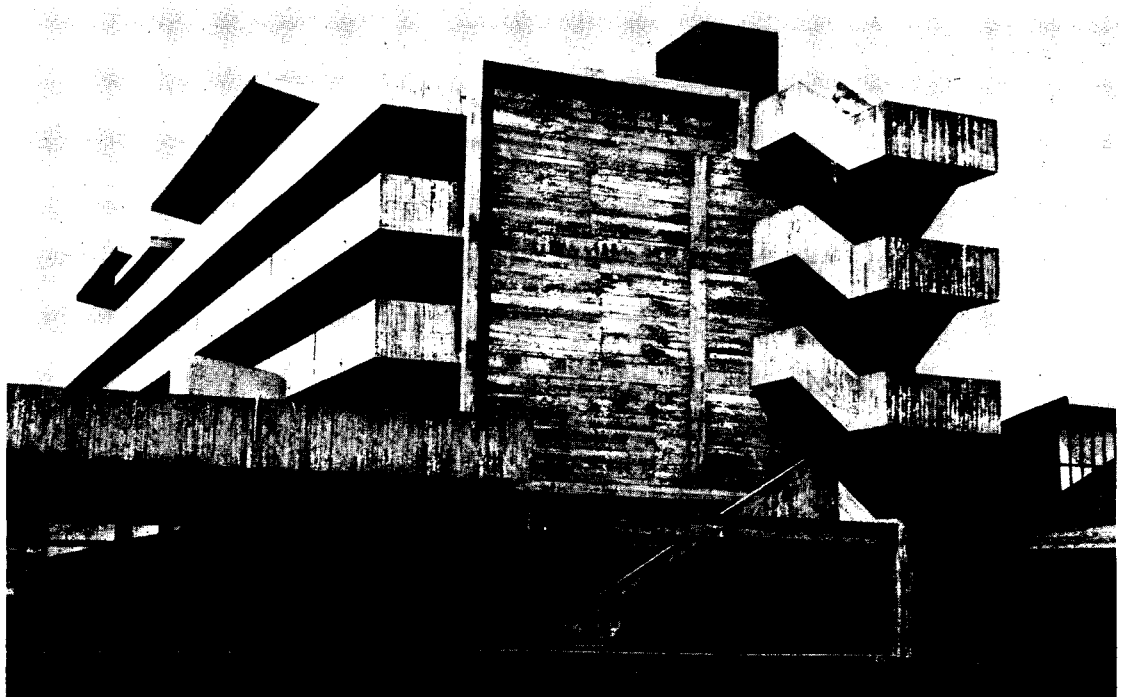


Indian architects exclusively) and remain in India solidly for the next three years. Although Maxwell Fry and Jane Drew did leave in 1954, Jeanneret stayed on—overseeing construction of Le Corbusier's governmental buildings, and designing his own great variety of work: housing of all types, schools, offices, shops, clinics, and major structures in the university enclave.

Although the master plan of Chandigarh is Le Corbusier's, it actually evolved through years of research in town planning carried on in his studio in collaboration with Jeanneret. Le Corbusier was responsible for the buildings in the capital complex—the area to the north of the city, comprising the most important buildings of the state: the High Court, Secretariat, Assembly, and Governor's residence. But the majority of other buildings in the city were designed by Pierre Jeanneret. It is his work that makes the biggest impact in the city proper.

Design Approach in India

In Jeanneret's approach to design, there is a sound reason for every design decision. To the casual viewer, his work may appear to contain an element of fantasy, but even a perfunctory examination reveals the logic behind particular forms.

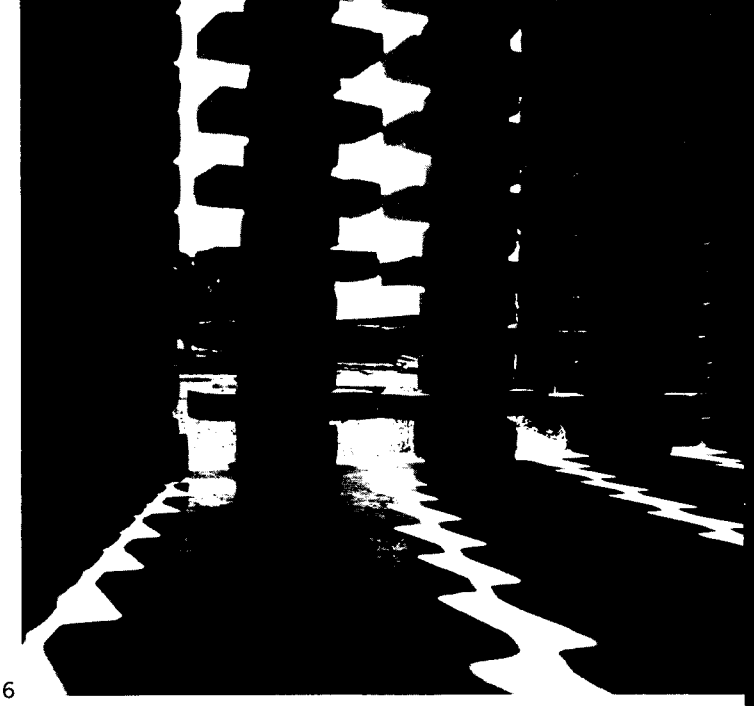
Working with the basic program requirements, Jeanneret seeks a solution that will simultaneously meet exigencies of climate, social usage (present and future), and economy. Cost is perhaps the biggest determining factor in the design of buildings in Chandigarh. Since brick is the cheapest material, economy has necessitated that it be extensively used; it is the basis of the bearing-wall construction of nearly all Jeanneret's buildings. He has used brick imaginatively in arched porches, screen walls, and sunscreens. He has been the first in India to use unplastered brick extensively for low-cost dwellings.

Although it seems likely that other architects before Jeanneret would have adopted the same approach and arrived at similar results, his buildings are actually unlike any that have preceded them in India. Traditional buildings had followed a standard pattern: the principal rooms were crammed into the core, with little thought as to their visual or spatial continuity; girdling the core were subsidiary rooms and verandas. This girdle was the only attempt at solving the problems of climate. Ceilings were very high, rooms immense. Economy in the utilization of space was a secondary consideration. For finishing touches of "beauty," Graeco-Roman moldings were applied, and the exterior plastered. This, in brief, was the legacy of the British to the architecture of India. Indigenous architectural forms—minarets and domes—were also used, but because they were originally intended for a different type of society, where the emphasis was on tombs, temples, and palaces, these forms were ill-suited to such modern buildings as railway stations, hospitals, and schools, and in fact have no application today.

Jeanneret soon decided that the ubiquitous veranda was an expensive solution to the problems of climate. The cost per square foot of a veranda is not much less than that of a room; and because of it, interiors are dark and depressing. Jeanneret looked for other solutions to protect walls and openings—sunbreakers, canopies, and fins (*see photos, this page*). Frequently, too, the exterior wall itself is treated with projecting bricks, to provide shade and thus reduce the amount of heat that will be received, stored, and radiated. His work shows a tireless search for effective and economical ways to combat the heat and other problems of the difficult climate.

Housing Types

Chandigarh will ultimately have a population of 500,000 people. Despite the impressive contribution of Le Corbusier—the magnificent sculptural buildings for the governmental functions—it is the humbler buildings in the day-to-day life of the people that contribute equally to the atmosphere of this capital city. Responsibility for all house designs has been in the hands of the three senior architects, and it is here that Jeanneret has



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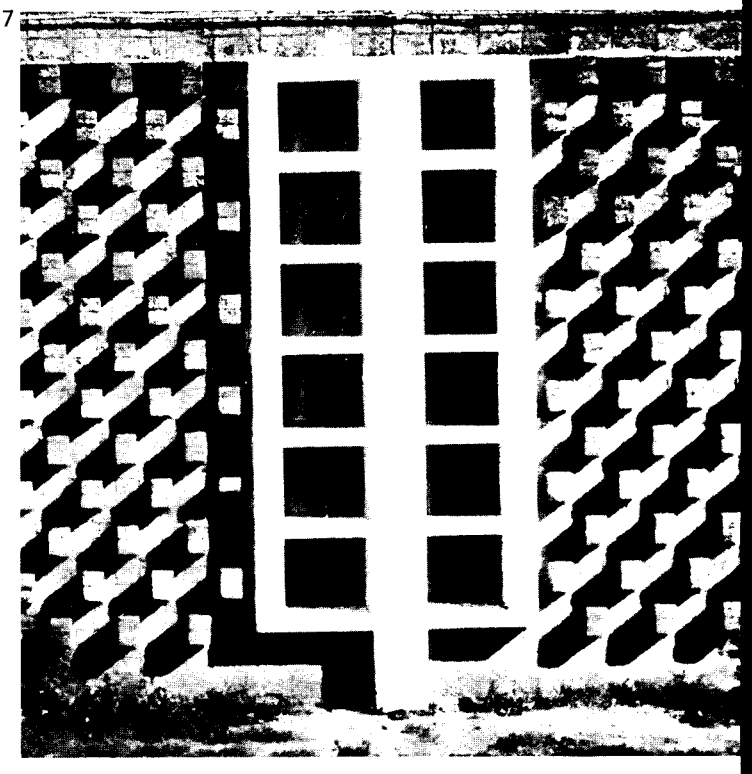

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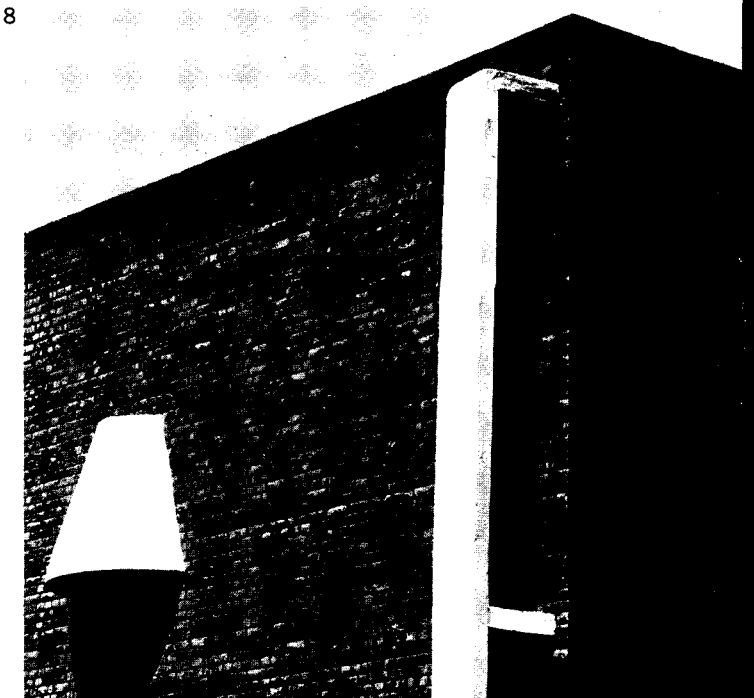

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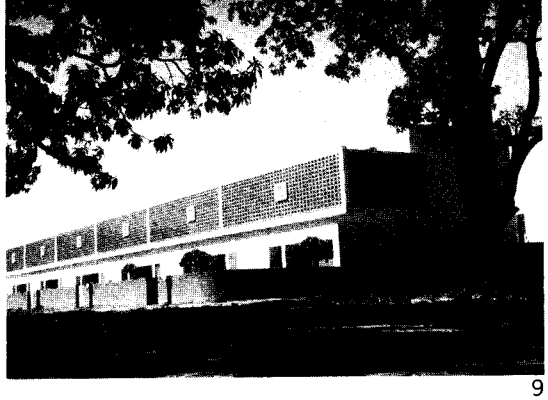
Maxwell Fry has said that there are six climates in Chandigarh, the major ones, however, being a cold winter, a dusty dry heat before the monsoon, and a humid heat afterward. There are thus problems of a strong sun and stinging sand storms, and a need for through-ventilation during the monsoon. Jeanneret has met the challenge of these conditions imaginatively. Shown here are a dramatic brick sunscreen ***(6)****; a wall where projecting bricks give partial shade* ***(7)****; and a curved fin that serves as "wind-catcher"* ***(8)****.*

The building materials are also restricting: economy dictates extensive use of local brick. Much of Jeanneret's work is a translation of traditional bearing-wall construction into contemporary terms.

There are 13 categories of housing for government servants in Chandigarh, ranging from minimal dwellings for peons, built for $650, to $15,000 detached residences for ministers. Examples of Jeanneret's work include: low-cost units arranged so that ground-floor residents sleep in back courtyards, upper-floor residents on the roof ***(9)****; a peon "village"* ***(10)****; row housing with two bedrooms on the second story* ***(11)****; another middle-income block, with recessed balconies* ***(12)****; apartments for members of the state legislature* ***(13)****; and a private house for the well-known Indian writer, Nayantara Sahgal, daughter of Mme. Pandit* ***(14)****.*



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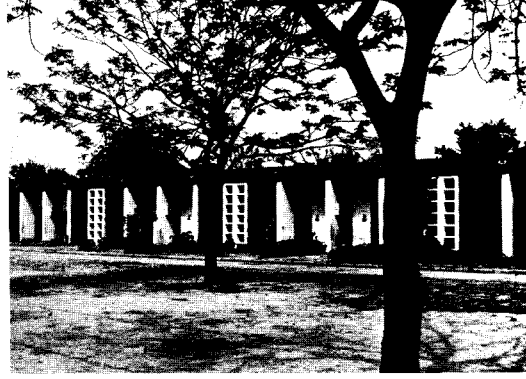

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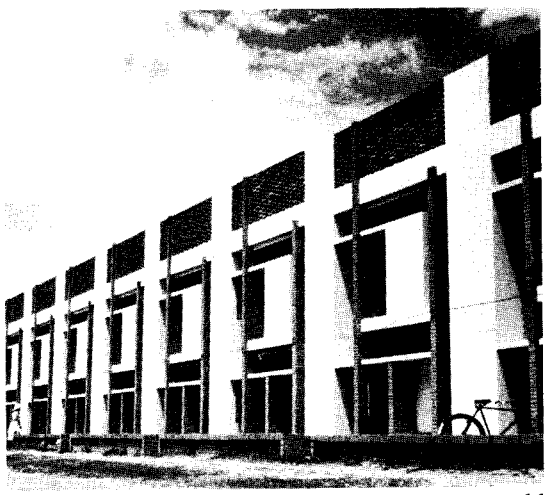

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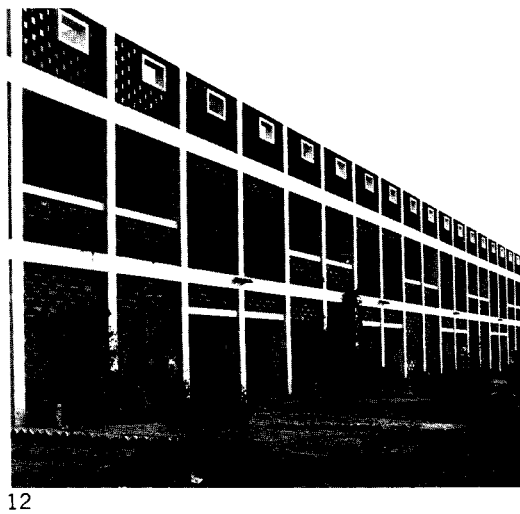

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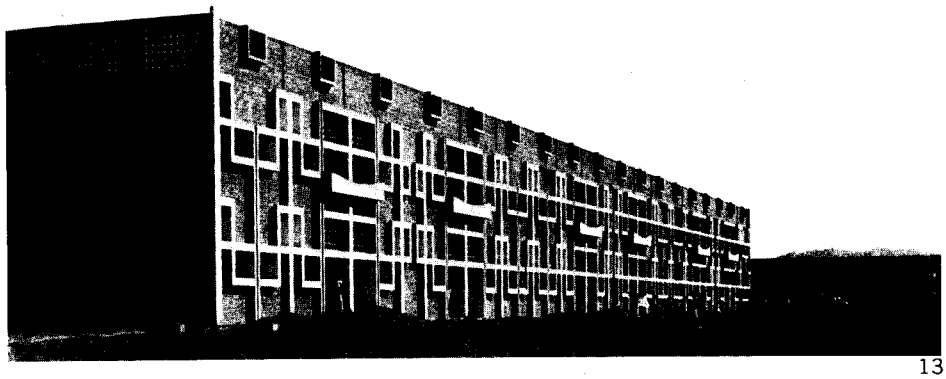

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made, and continues to make, a solid contribution.

The housing at Chandigarh, according to Jaqueline Tyrwhitt, is "deliberately experimental in a country where there have been few original experiments in housing." She reports that each design has led on to another, and she concludes, "There is no doubt that a new ferment has started in the design of dwellings for India that may be able to bring to birth a new and truly Indian development of domestic architecture."

The housing at Chandigarh is a unique product—not a duplicate of anything previously done in Europe or India. In program, it seeks to interpret contemporary Indian life, which is a blend of traditional habits and Westernized ideas and which is changing rapidly in this fast-moving world. For instance, a compromise must be made between existing living habits, and the habits which, of necessity, will be coming to the fore as a result of a changing economic pattern. The joint family is rapidly giving way to the single family, but in view of current usage it is still necessary to provide accommodation for the multi-family unit. The policy at Chandigarh has thus been to give more rooms to some occupants of low-cost houses and smaller houses to people in the upper-income brackets.

All low-income housing is in rows, with common side walls. This arrangement does away with objectionable refuse-filled alleys between houses, and effects a considerable economy in development costs, since plots are deep and narrow and the length of services is reduced. Housing for peons is grouped to form enclosed "villages," with a small park or square as focal center, perhaps a large tree or well at the center. This grouping is intended to recall the village life of India and encourage community spirit—the feeling of social integration that is often lost in the hives of modern cities. The peons' houses all have running water, electricity, and waterborne sewerage—and two rooms instead of the traditional one space. A kitchen is also included, as well as a bathroom and a separate toilet. Total area is approximately 450 sq ft. Since the northern Indian climate and local custom demand a private outdoor sleeping area for the hot months, an enclosed back courtyard is provided. In Jeanneret's low-cost housing, windows form vertical slits in the corners of rooms, ensuring maximum privacy.

Higher-income houses are generally two stories high, with living areas on the ground floor and sleeping space on the upper floor. Jeanneret has found that it is not essential to give sun protection on the north and northeast sides of a building; the two most vulnerable sides are the south and southwest. The plan is usually so organized as to provide verandas, storage, hall, and bathrooms on the vulnerable sides of the house.

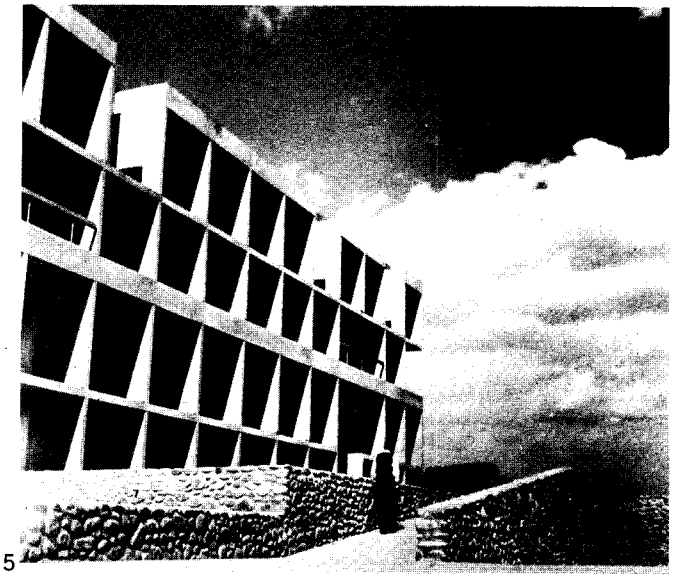
One of Jeanneret's most interesting buildings is the four-story hostel for members of the Legislative Assembly. Walls are of bearing brick frankly expressed on the façades. The play of natural materials, brick and stone, in contrast with the flat surfaces of plaster, is characteristic of Jeanneret's work.

Other Buildings

Jeanneret's designs for schools, offices, and other institutional buildings are generally straightforward. His major construction at Chandigarh, however, is the university campus, which forms almost a small town in itself within the city of Chandigarh. Here his most noteworthy buildings are the library; the secretariat; and the Gandhi Memorial (*see photos, right*).

Although it is too early to assess Jeanneret's influence, it is certain even now that it has extended throughout northern India. His copyists have often misunderstood and mutilated his ideas, but their imitations are sincere enough proof of their admiration.

(For photo credits, see page 188.)



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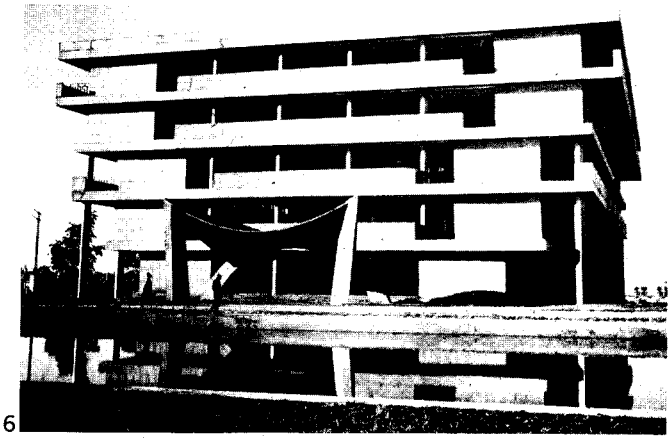

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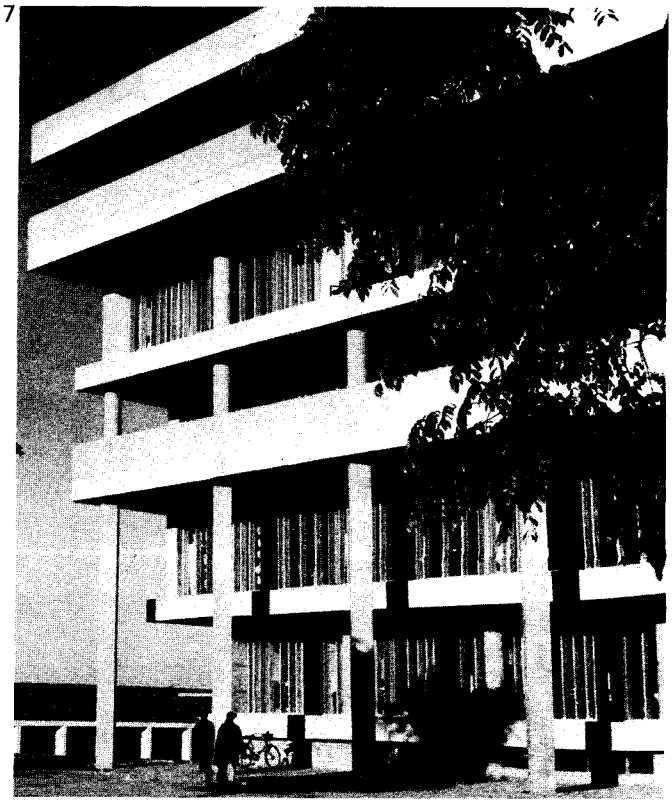
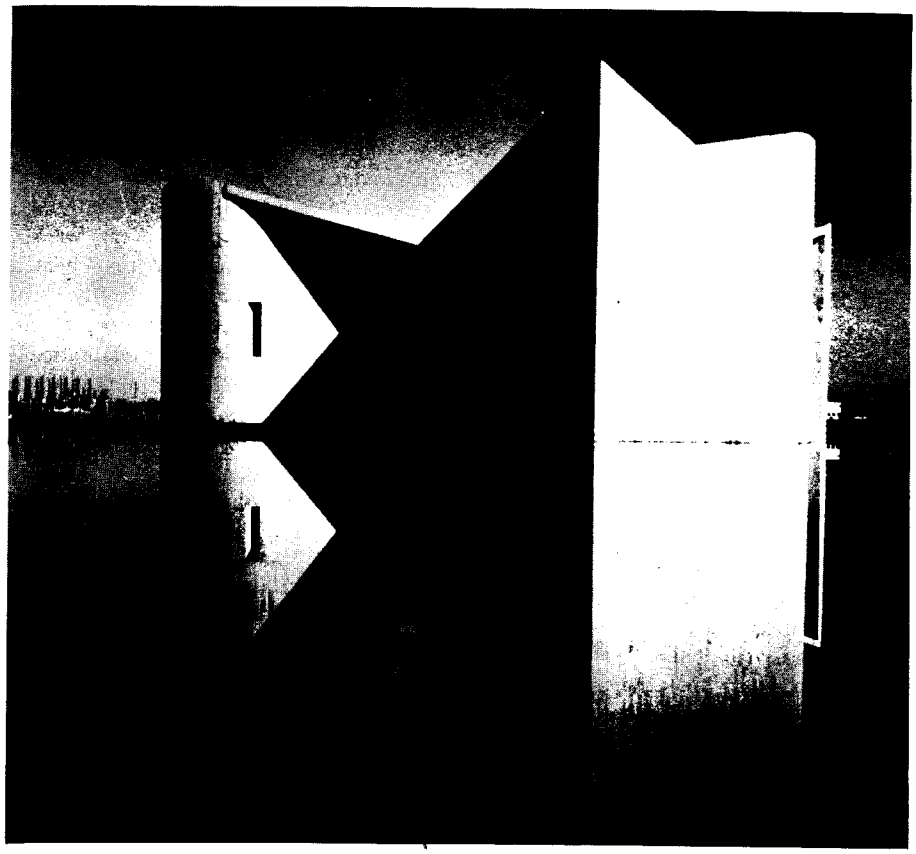


Jeanneret's major project in India is the university campus, which is a sizeable sector of Chandigarh. These buildings are mostly of concrete, a material not common in his residential work. Among his university works are the library, a concrete frame faced in red stone ***(15)****; the secretariat, a modern restatement of traditional overhanging eaves* ***(16, 17)****; and the Gandhi Memorial* ***(18, 19)****, a three-part building with library, lecture hall, and meeting rooms.*

It is interesting that a Swiss-French architect (together with his countryman Le Corbusier and the British architects Jane Drew and Maxwell Fry) has contributed so much to this capital city for the Punjab, and indirectly to new architecture throughout India. It was the Indian government's hope that Westernized ideas could be brought into a healthy interaction with Indian traditions—Nehru has said that a nationalism unable to absorb from the outside is both provincial and dangerous. To the extent that Jeanneret has given sensitive thought to the native climate, society, and economy, his buildings are a credit to the Indian leaders who trusted him to build with them.



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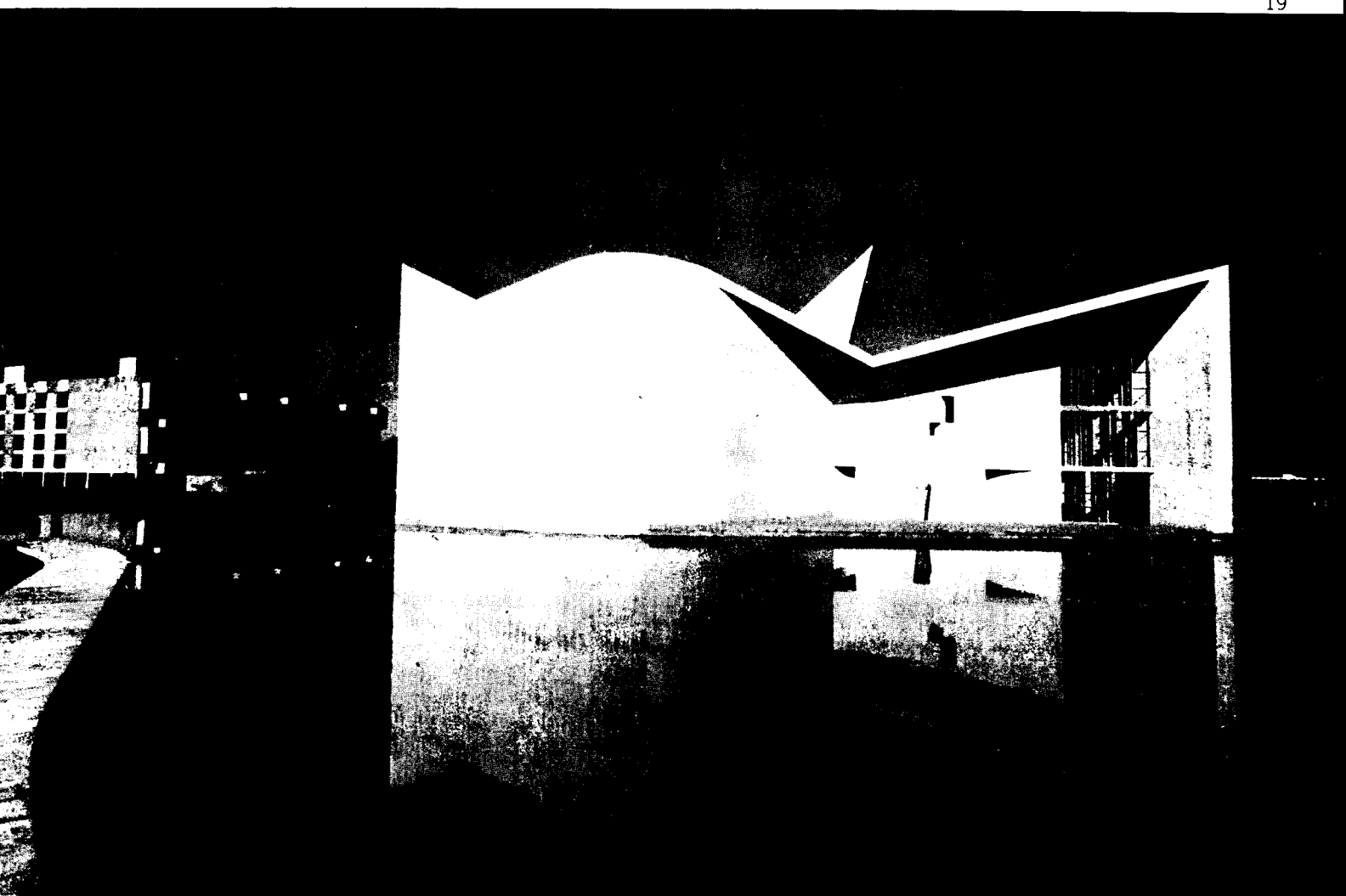


Architectural Practice in Mexico

BY RAYMOND L. W. WRIGHT

Although Mexico and the U.S. share a common border, they have little in common in their practice of architecture. The problems are different—the challenges, too. Here are observations by one young American architect who has practiced in Mexico City.

Young architects have much more opportunity to set up an independent practice in Mexico than in the United States. From the time they are in their third year of school, students often hang out their shingles, and, if they have the necessary audacity, ability, or connections, can obtain a large clientele before graduating. Finding a registered architect or engineer as collaborator or associate is not difficult, and low office rents or co-op offices make thrifty operations possible. The educational system also encourages a student to work. School hours, from seven until ten in the morning and resumed again at six in the evening, leave most working hours free. (Many architectural professors are also in private practice.)

One result of this system is a great shortage of trained personnel for drafting, engineering work, and job supervision. The majority of draftsmen are students with little or no experience. They must be trained on the job, and, once trained, may leave to open their own small office. The situation has been changing in recent years, as more large architectural offices have opened. But the traditional influence of the small independent practice is still felt; offices have a number of associates, rather than the vertical corporate setup of the U.S.

Draftsmen's wages range from 40¢ (U.S.) to $2 an hour. Engineers, supervisors, and designers receive from $150 to $500 a month. As for other office personnel, bilingual (Spanish-English) secretaries receive $150 to $250; receptionists, $100; and office boys, $40 a month. Office furnishings cost about the same as in the States; drafting equipment, even pencils, is high due to the import duties.

Clients and Contractors

Residential clients account for at least 70 per cent of all jobs. Since there are no project builders (or very few, beginning with the work of Casas Badil and Austroplan de Mexico in 1960), anyone who wants a house will use an architect or engineer and will expect to receive a custom design. Construction of an average house costs as little as $5/sq ft; $12/sq ft will buy a marble castle and $2.50/sq ft a shelter.

The architect is often his own general contractor, directly hiring all workmen under his own foreman (generally a mason), purchasing all materials, and paying all workmen every week, after presenting accounts to the client. Daily job inspections are thus vitally necessary. Many sketches for the work are made at the site itself, and minor adaptations made on the spot. The disadvantage to the architect is the limited amount of work that can be accomplished during the day.

A further corollary of frequent job inspections is that architectural drawings are usually little more than finished sketches. It is common for detail drawings to be done on the job, often on scratch pads or half-finished walls. Many workmen, although highly skilled craftsmen, cannot read plans. Times are changing, however, and more workmen are learning to read plans — a result of Mexico's fantastic drive for education, both in basic subjects and in trade fields. It is common now to have more complete plans, although they seldom have as much detail as in the U.S.

As contractor, the architect must keep complete daily files on each job, and have an up-to-date knowledge of all labor laws, social-security laws, and so on. Subcontracting brings no economic advantage either to architect or client, with the exception of extremely large or simple jobs.

An interesting outgrowth of the tradition of architects serving as contractors is that most construction companies are owned and operated by licensed architects or engineers, and also give architectural services. A recent trend is the emergence of companies dedicated solely to construction, but as yet they are important only on large jobs.

Materials and Techniques

Wood-frame construction is not common in Mexico; almost all work has brick or block walls, with reinforced-concrete slab roofs and floors. Masonry, in fact, is the oldest building profession in the country; skilled craftsmen existed before the arrival of the Spaniards, 400 years ago.

The few prefabricating companies work in aluminum, asbestos cement, or concrete —none in wood. Wooden structures are simply not acceptable, partly because of tradition and partly because of the high cost of raw materials. Even with the widespread earthquake problem, which would seem to make wood ideal because its jointing makes it flexible in shocks, it is doubtful whether wood construction will gain acceptance in this generation.

In Mexico City, which is built on an old lake bed, a sea of mud, there is a serious problem with foundations. Soil resistance under multistory buildings is often only 3 tons/sq yd of surface, requiring great care and ingenuity in designing foundation systems. Floating slabs, displacement basements, sectional piles, or deep piling are common. One extreme condition, with a resistance of 800 lbs/sq yd, required floating foundations 20 per cent larger than the house structure.

Although frost is rare, there is extreme cold by night and heat by day; temperatures can vary 45 degrees over a 12-hour period, causing cracking of masonry and serious waterproofing problems.

All interior walls are wet plastered (unless left in natural brick or block); dry-wall construction is not used.

Labor costs are extremely low. A first-class mason will earn $2 to $3 a day; a carpenter, plumber, or electrician, $3 to $4; a day laborer, $1.80. Such wages, of course, often permit detailing that would otherwise be impossible in tight budget work.

Standardization of building elements is not extensive. There is nothing like *Sweet's Catalog;* the nearest is a reference book approximately the size of *Time-Saver Standards* filled with commercial literature. The architect must therefore gather his reference material from the major suppliers. For example, only four companies make standard doors; no company makes a standard window that can be ordered by catalog. Aluminum is coming into use for window and door frames, but iron work (both structural and tubular) is the usual material. Wooden window frames do not exist.

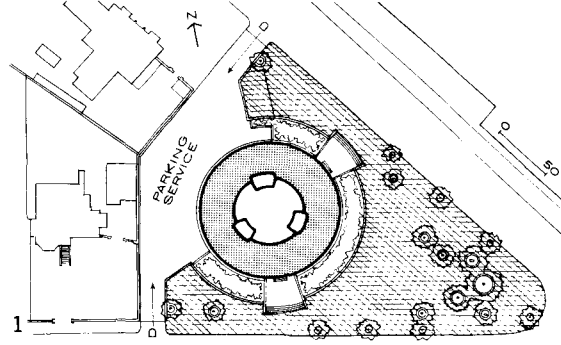
Conclusion

Here, then, are some of the difficulties of architectural practice in Mexico. It is rather like playing regulation baseball with a five-man team, but the compensations are great.

The young architects are well-trained and have a keen interest in new ideas. Their design philosophy in general is based on Bauhaus teachings, with adaptations to suit the local conditions, materials, and love for bright colors. Form has become something of a plaything, as can be seen in the well-known Pedregal subdivision. But the continuing challenge is to follow the rich heritage of Mexican culture, while developing new ideas and new methods of building and of practice.

Materials and Methods

PRECAST ANNULAR EMBASSY



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The following presentation reviews the design influences, precasting procedures, planning analysis, structure, and erection of the United States' youngest overseas embassy.

Presently nearing completion in Dublin is the new United States Embassy Office Building for the Republic of Ireland. Target date for dedication has been set for St. Patrick's Day. In solving the program established for this commission, Architect John M. Johansen, of New Canaan, Connecticut, has designed an annular three-story building, topped with a clerestory band of glass to provide natural lighting for a rotunda within, and constructed primarily of precast-concrete components.

The site, selected by the Office of Foreign Buildings of the U.S. State Department, is a triangular property at the intersection of Elgin and Rembroke Roads, situated about one mile from the downtown area of the city **(1)**. Although this location is in a section of the city that permits a fair amount of design freedom for its buildings, the property is a part of one of the old estates of Dublin and final designs had to be submitted to its owners for acceptance. A more severe design control is imposed on many of the surrounding estates. This site is sufficiently large to permit a free-standing building, and, since the 42° angle of the street intersection makes façade alignment difficult, if not impossible, a free-shaped building of one sort or another was considered necessary. Remaining portion of the site has been made into a public garden having an open, paved terrace forming the setting for the embassy and its large, surrounding trees. Neighboring buildings are primarily two-story, brick residences fronted by gardens.

Design Influences

At the time that this commission was awarded (about five years ago), Johansen was keenly interested in the sculptural possibilities of exposed concrete. Beyond this personal interest, however, the use of precast exposed concrete seemed particularly fitting to him since the basic modular character of office design immediately suggests some kind of precasting system. Further, the designs for Eero Saarinen's U.S. Embassy in London had recently been made known. Since this structure was to have a dominant three-dimensional rectilinear façade, a more fluid line was sought for Dublin. In addition, Johansen has been interested in reviving the arcade and medieval tracery, and has a fondness for round towers and the circular form commonly found in architecture of the Celtic-Christian tradition. Practical arguments for the circular form, as cited by Johansen, are: "most suitable within the existing governing setback requirements; smallest appearance with respect to volume; a continuous façade that turns its back on no one; a direct structural system is permitted while providing the largest rotunda volume on the interior."

These varied influences, together with an awareness of the inappropriateness of a specular metal-and-glass structure for Dublin, caused the architect to fashion a three-story sculptural frieze revealed by a continuous, precast-concrete façade for both the exterior and interior of the building **(2, 18)**.

Although there were Dubliners who had hoped for a Georgian-type design for the U.S. Embassy, there was also a far-sighted group of individuals who would have been distressed with a neo-classical building and who are now far more delighted with this example of contem-

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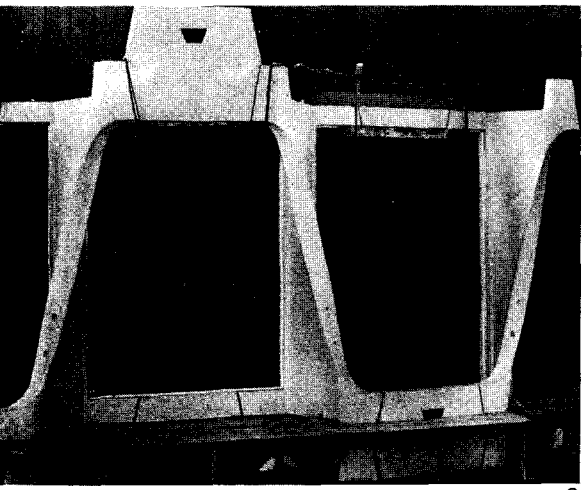

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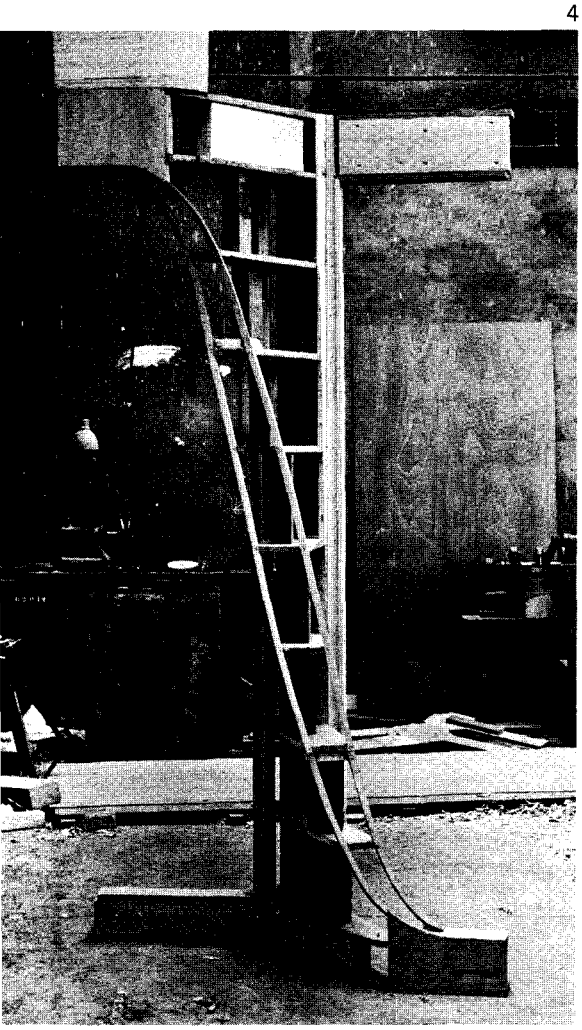

porary U.S. architectural design.

Precasting Procedures

Although there are competent precasters in Ireland, as well as in Great Britain, N. V. Schokbeton, of Kampen, Holland, was chosen to produce the concrete components because of its long record of quality precasting of structural components on the Continent.

One of the most difficult, and interesting, aspects of this assignment was the design and fabrication of the mold necessary to cast the primary, vertical twisted support members. All members of the interwoven exterior façade were assembled in a one-bay mock-up demonstrated at the precasting plant in Kampen **(3)**. In his detail drawings, the architect provided nine plan sections, which were cut at equal intervals throughout the height of the vertical unit. (*See Selected Detail, page 162, for typical plan section.*) Using obeche (a kind of African wood) and plywood, a model of the vertical support was constructed. First, straight-line wood generators (from the plan sections) were arranged in such a manner **(4, 5)** that doubly-curved surfaces would result when plywood strips were bent over them **(6)**. After approximate surface curvatures had been obtained, they were corrected and finished so that a natural, continuous, flowing line was achieved. Next, an epoxy-resin material was applied over the positive **(7)**. Onto this surface, laminations of glass-fiber cloth of various grades of fineness were built up to a thickness of ½ in. **(8)**. To insure rigidity, the glass-fiber negatives were provided with plywood supports and each half mold was anchored to a steel frame. After opposite-hand molds were completed **(9)**, specified reinforcement was placed **(10)**.

Subsequently, molds were mounted on a shocking table, framed of rolled-steel sections, which produced shocking by an abrupt travel movement of ¼ in. upward and downward at the rate of 250 times per minute **(11)**. During shocking, the twisted units were so positioned that the straight backlines faced upward, with the unit in a horizontal position. In the Schokbeton process, shocking starts simultaneously with the casting of the no-slump concrete (only enough water is added to complete chemical reaction); therefore, the time necessary to fill the mold approximates the time required for shocking. For this particular unit, the time elapsed was about ¾ hr. Before casting, each mold was provided with a special parting agent to facilitate removal of the precast unit **(12)**.

Compressive strengths specified were: for columns: after 7 days, 3300 psi; after 28 days, 4950 psi; for floor slabs: after 7 days, 2750 psi; after 28 days, 4125 psi. Average compressive strengths obtained from daily tests were: for columns: after 7 days, 5687 psi; after 28 days, 6705 psi; for floor slabs: after 7 days, 4437 psi; after 28 days, 5514 psi. All of the test figures are based on the use of 8 in. test cubes.

Molds were designed with tongue-and-groove construction and bolted to prevent seepage of concrete during shocking. One might question whether the achievement of sharp, curvilinear arrises presented any problem. The precasters report that this requirement only imposed extra attention to the construction of the mold, plus special accuracy in placing the reinforcing steel. Final finish of the concrete was bushhammered, revealing broken white gravel with white cement and some yellow sand.

Following shocking, columns and slabs were stored inside the heated production plant (while proprietary curing procedures were administered) and then stripped from the forms on the following day. Slabs were then moved outside to the stockyards, while units to be bushhammered were stored within the plant. This last step was necessary because of the inclement weather; normally, these units may be finished outdoors.

Wedge-shaped floor and roof panels **(13, 14)**, as well as spandrels and other panels between floors, were far less complicated as far as mold preparation was concerned. "Cabinet-making" precision was observed, however, since more than 1600 individual precast members were

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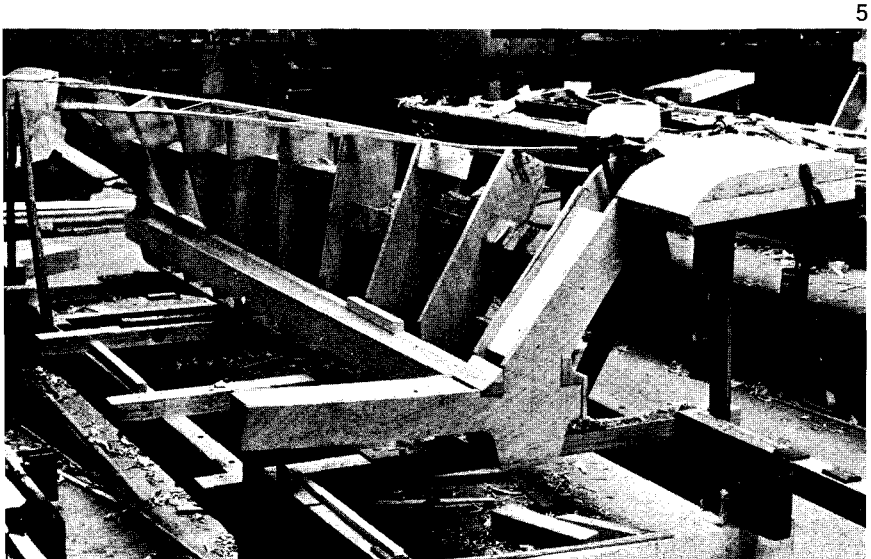

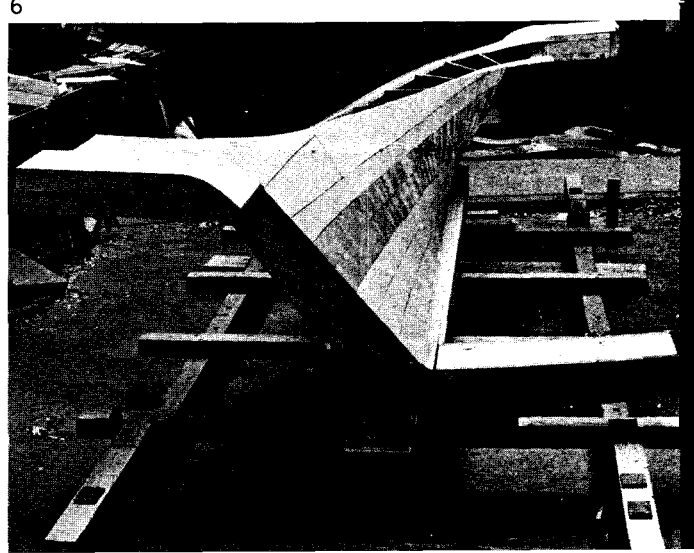

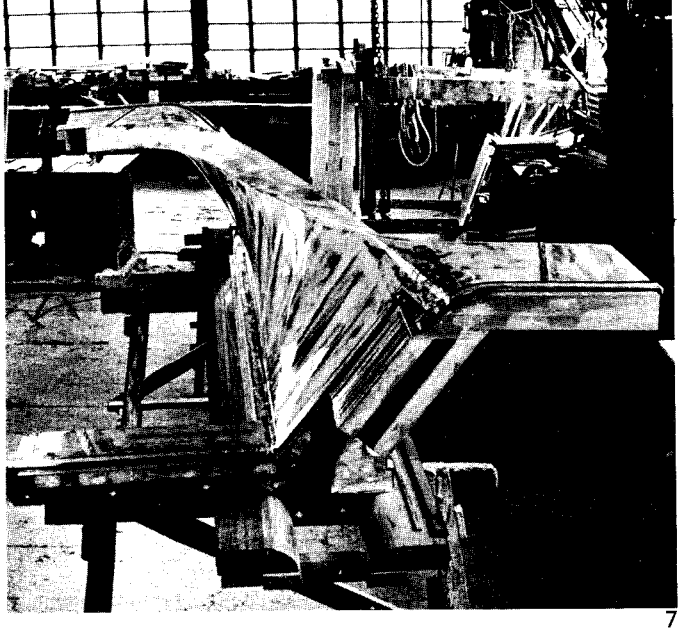

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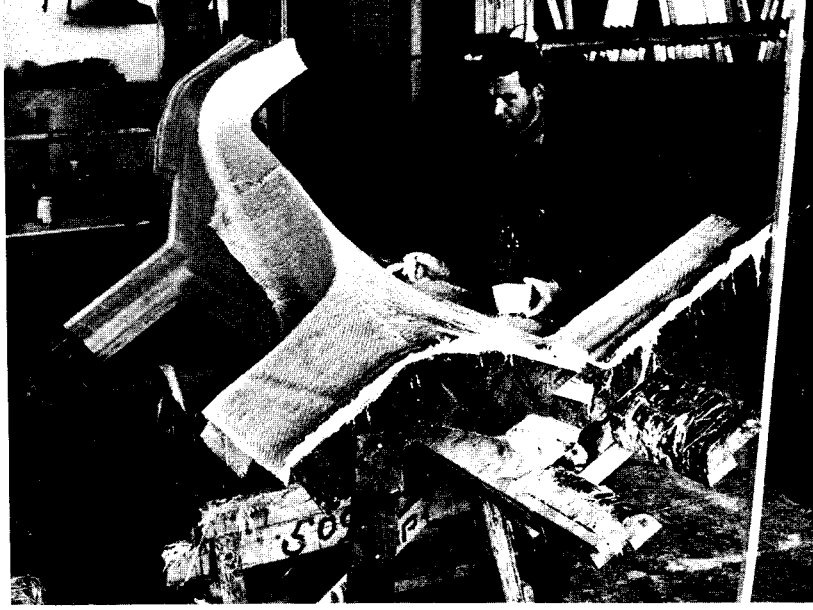

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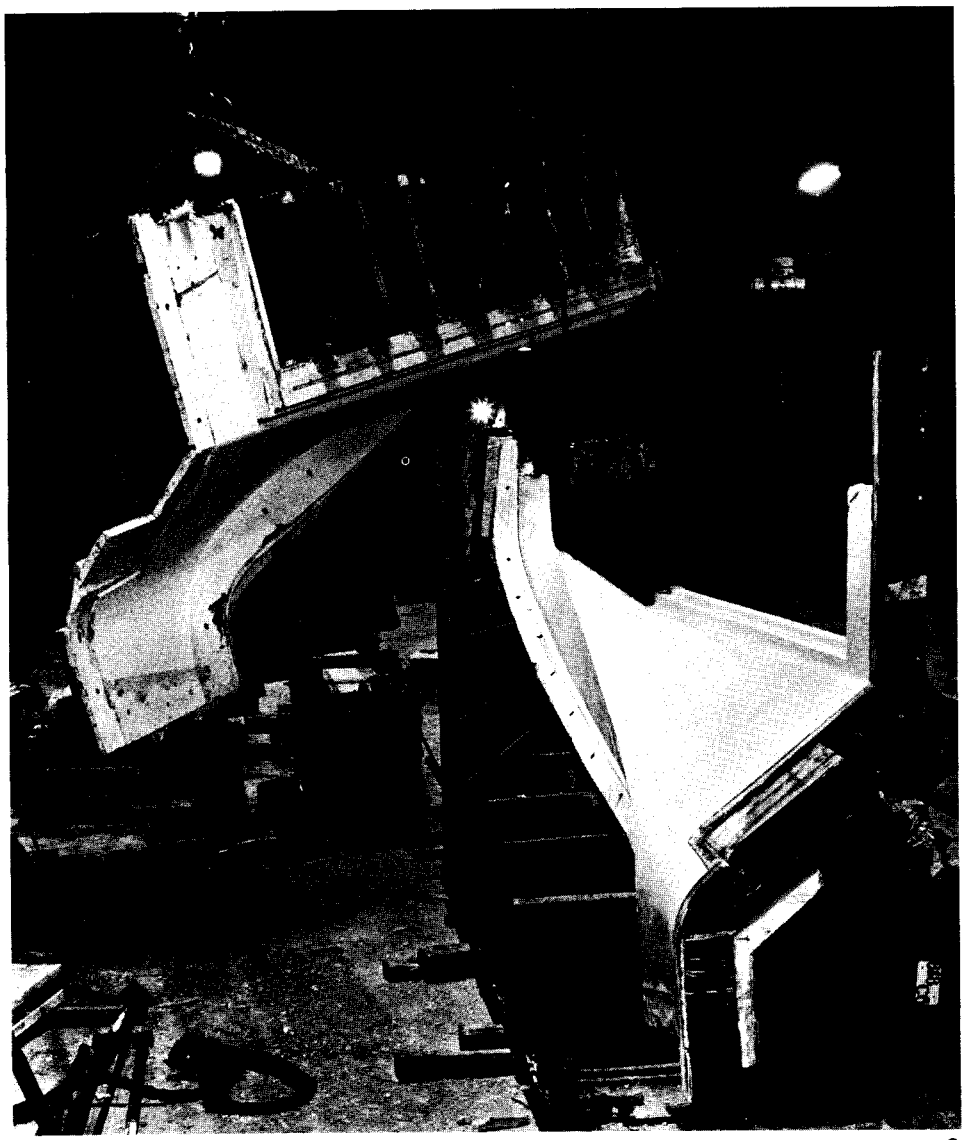

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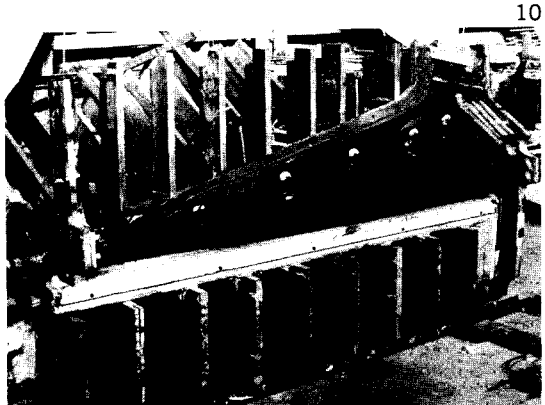

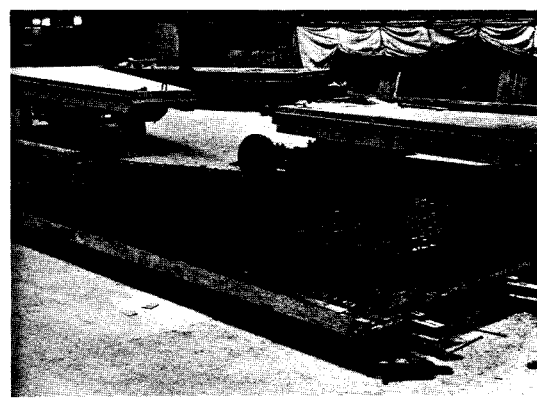

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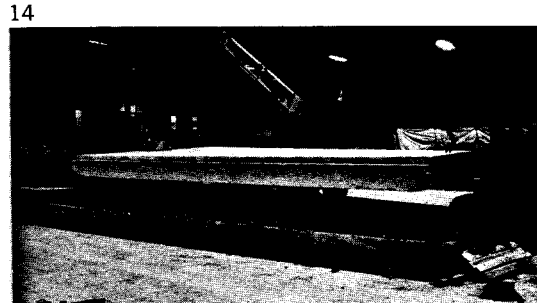


produced at Kampen before being shipped by boat from Rotterdam **(15, 16, 17)**.

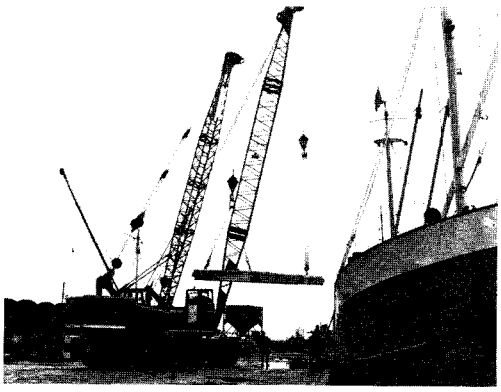
Planning Analysis

The embassy is separated from its public terrace by a circular moat to be filled with planting (*section below*). This is a "friendly" moat, yet it will provide personnel in ground-floor offices a degree of privacy by preventing visitors from peering into office windows. Service parking area and garages at the rear are similarly lowered so that a continuous relation of building to ground is achieved and automobiles are eliminated from view. Two bridges spanning the moat provide access to the embassy entrances.

A basement houses mechanical equipment, while the ground floor provides space for garages, servicing, lunch room, kitchen, commissary, and storage. The entrance floor has two vestibules, a large reception area in the 50-ft diameter rotunda **(18)**, and offices for the consulate in a circular arrangement. Second and third floors provide arcaded circular corridors overlooking the rotunda, and allow access to private offices for the ambassador, attachés, and staff (*plan below*). Vertical circulation is afforded by three towers that rise to a height of 50 ft above ground level and support the rotunda roof over clerestory lighting. The circular plan provides complete flexibility through its continuity of office space, and a modular system of 7′-6″ establishes flexible partition arrangement. All columns have been eliminated from useful interior space. Floors are terrazzo throughout, with green marble chips, except where girder rings occur. These areas remain as exposed concrete surfaces so that users of the building may be aware of its structural character. Stair and elevator towers have bushhammered surfaces. Office ceilings are of a suspended, luminous plastic, with fluorescent lamps above.

Structure and Erection

Early studies, in collaboration with Ammann & Whitney, consulting engineers for the structural design, confirmed that a cast-in-place erection system would have been impractical due to the character of the façades. Johansen's initial design



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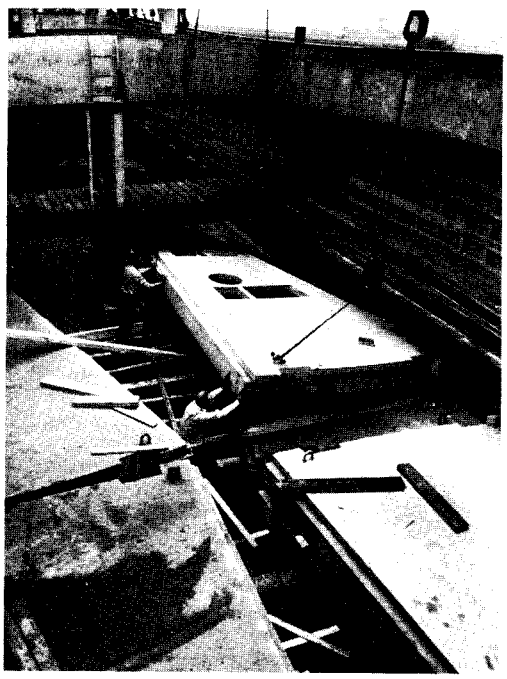

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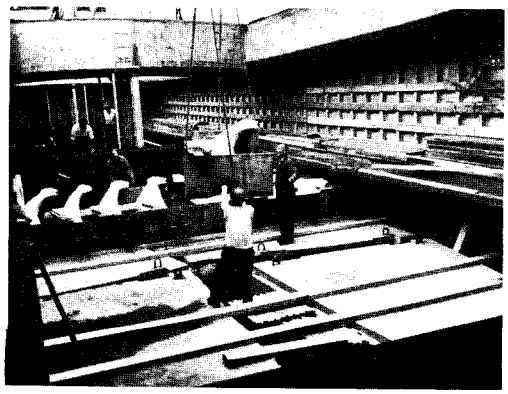

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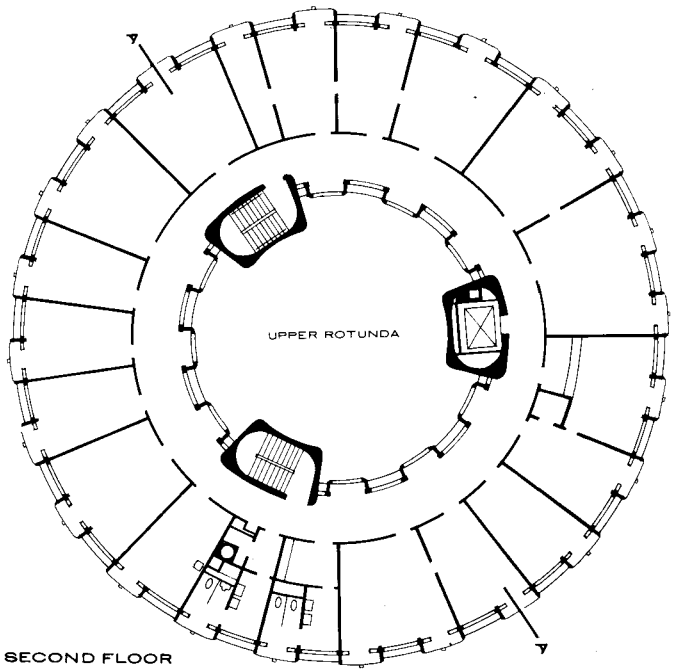
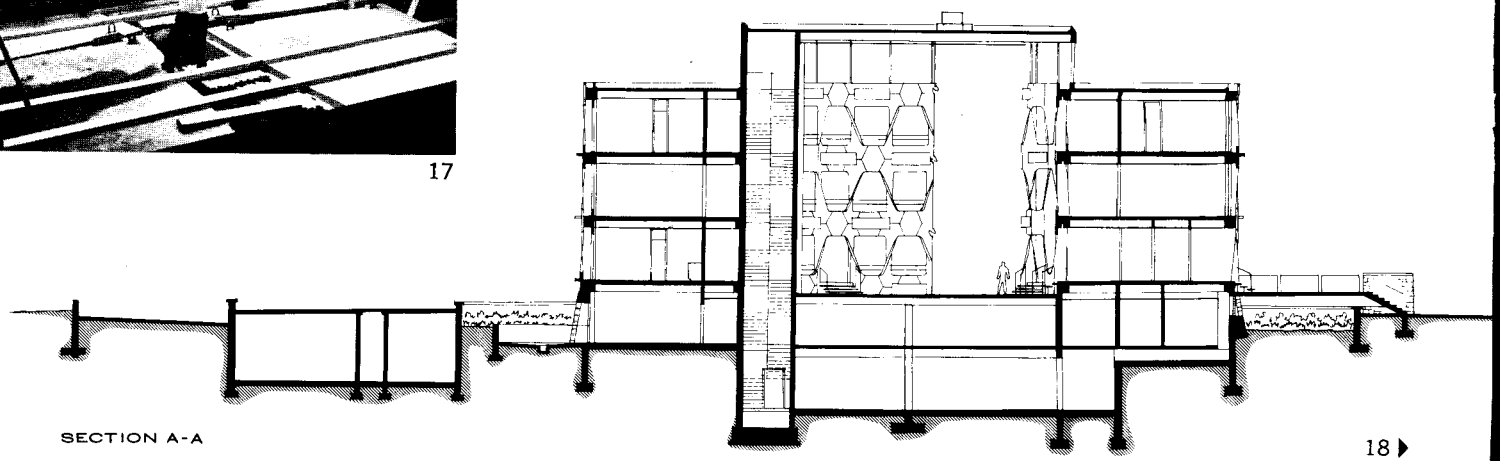


SECOND FLOOR



SECTION A-A

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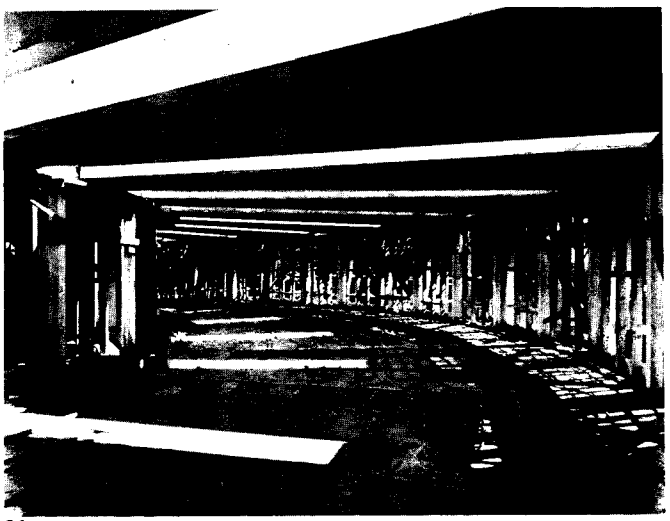
called for the vertical supports to have a 180° twist. Accordingly, a test bid was sought to determine the economic feasibility of this amount of turn. Since the result of the test indicated that the budget would be exceeded, a compromise twist of only 90° was acceptable, since it satisfied both design and economic considerations. The exterior and interior girder rings that link the structural elements together act as continuous beams that resist the reactions of the precast floor panels (each weighing 3½ tons) as well as supporting the wall elements **(19–26)**.

Stair cores serve as shear cores, and all wind forces, which induce ring forces, are transferred to the cores via the precast floor slabs **(19, 20)**. Only the straight portion of each vertical precast unit acts as a column **(21, 22)**, the curved remainder serving as wall cladding (*see Selected Detail*). In the erection sequence, the foundation walls were cast-in-place. Vertical units were then set in place and secured by scaffolding **(21)**. Voids remaining at the top of the foundations were filled with a locking concrete grout. Next, exterior and interior rings were formed at the second level. Areas over columns that were to receive bearing portions of the next ring of vertical units were left empty (*see Selected Detail, upper right corner*). Precast slabs were then set in place on the ring and the following tier of vertical uprights were positioned. Voids were again filled with grout and, upon setting, the formwork could be removed **(22)**.

On the interior, that girder ring was cast in three segments and the cores were poured simultaneously with the following ring **(18, 19, 20)**. A vital factor to the success of this kind of structural design and construction depends upon the extreme accuracy of the precaster (**23, 24** *roof details;* **25, 26** *head and sill connections*).

(For photo credits, see p. 188.)



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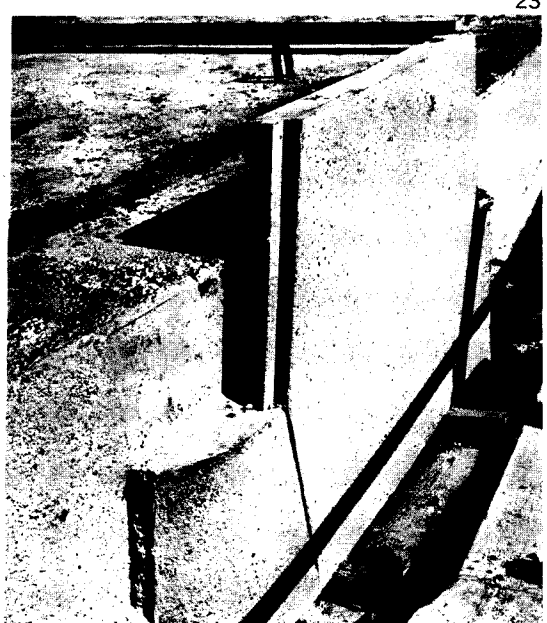

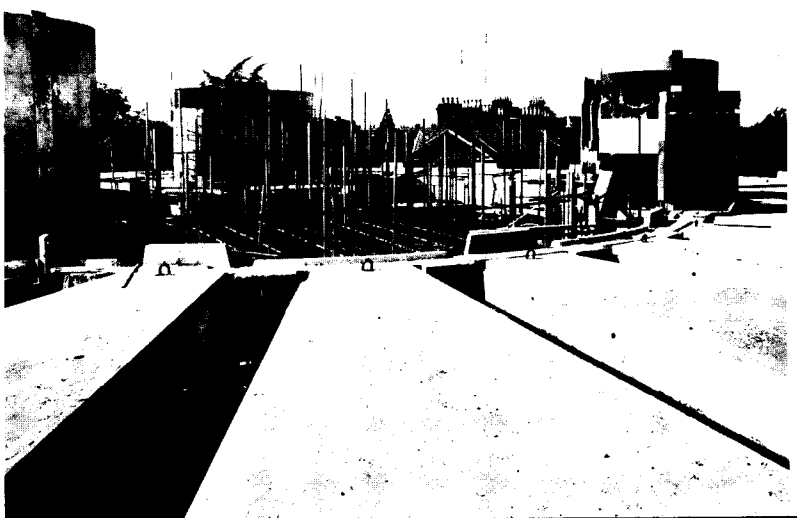

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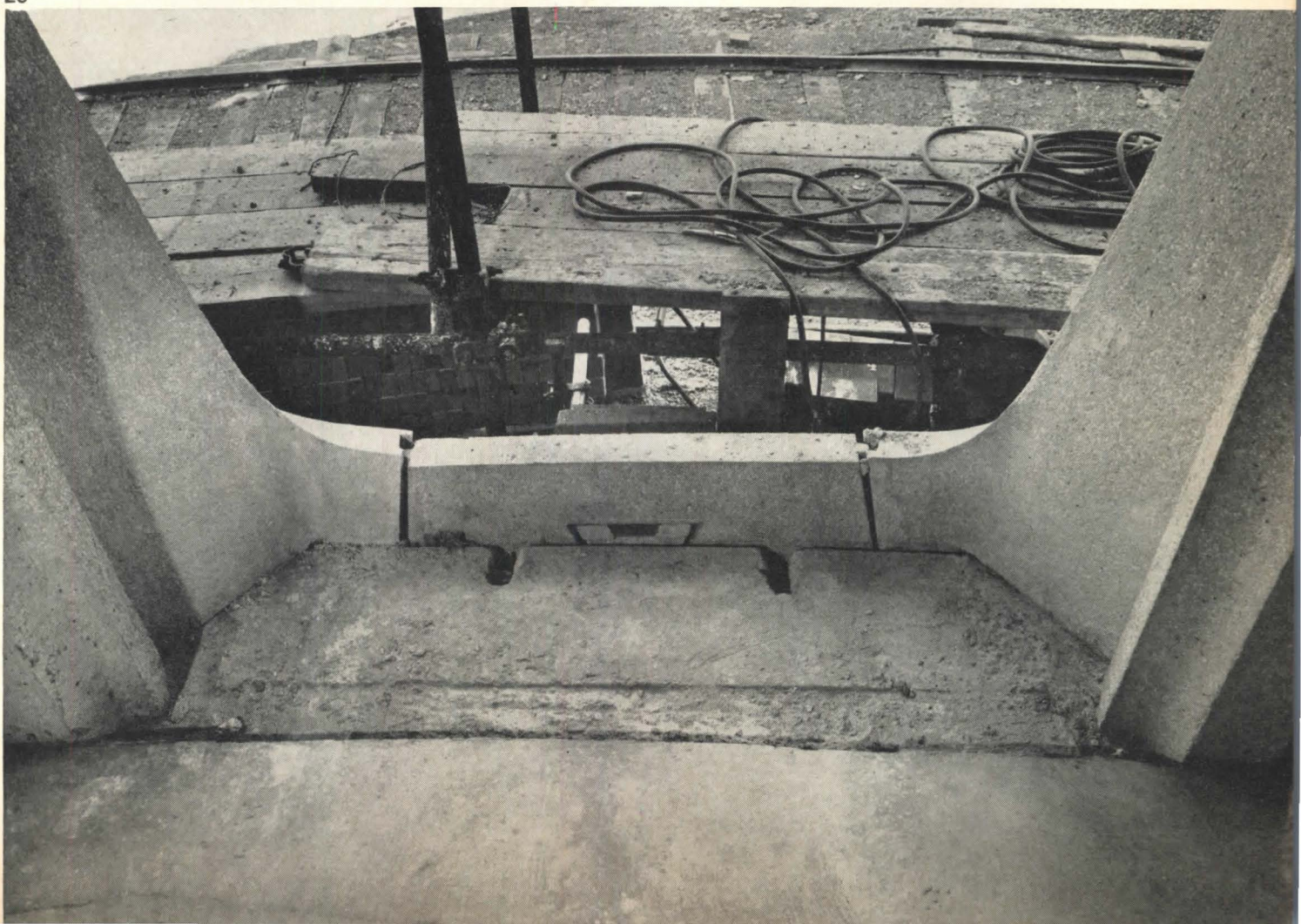
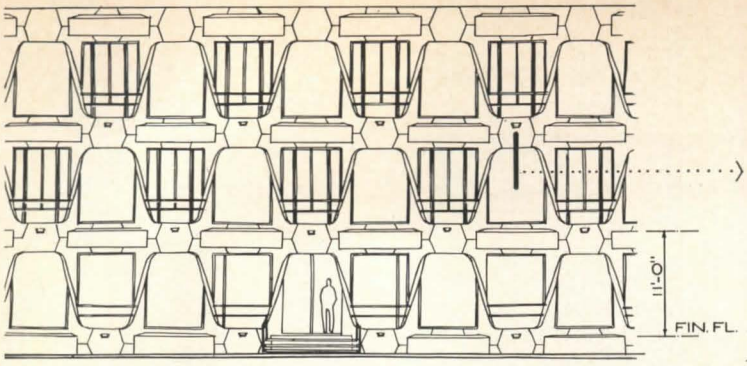
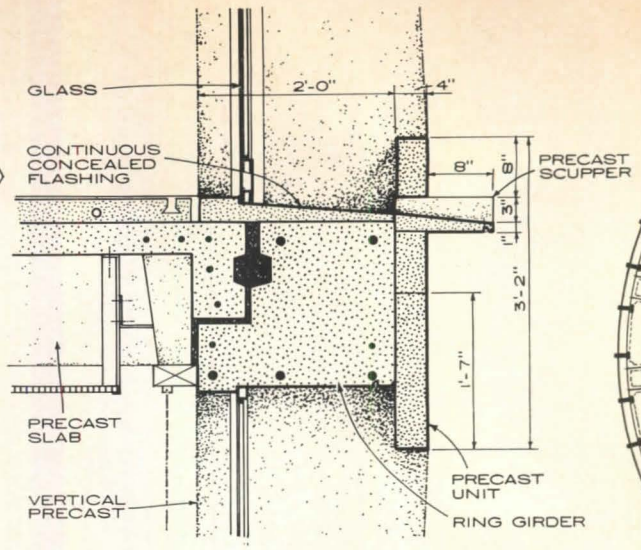
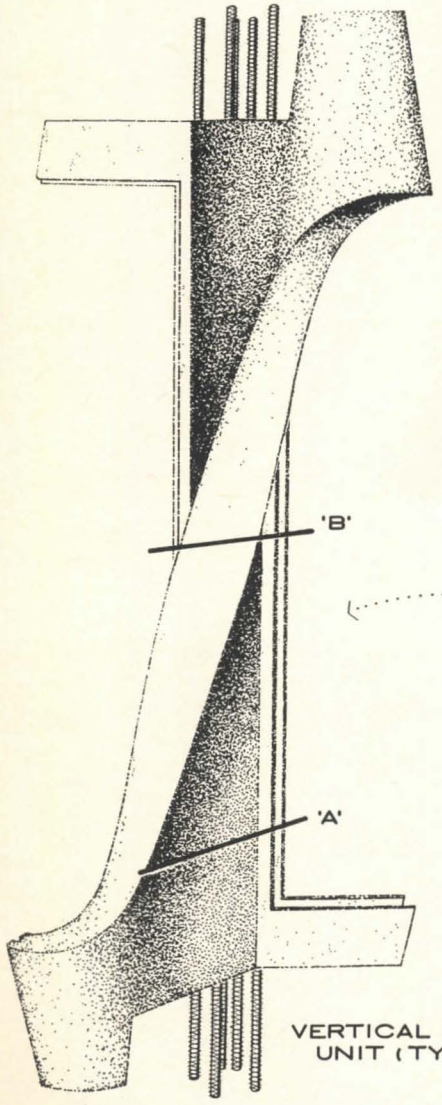




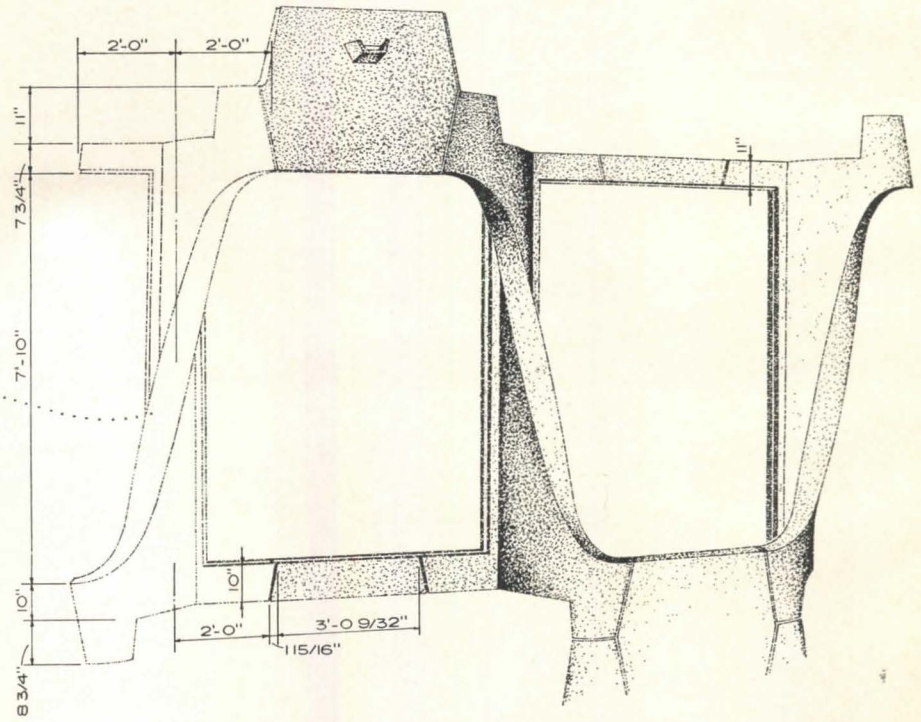
PARTIAL ELEVATION



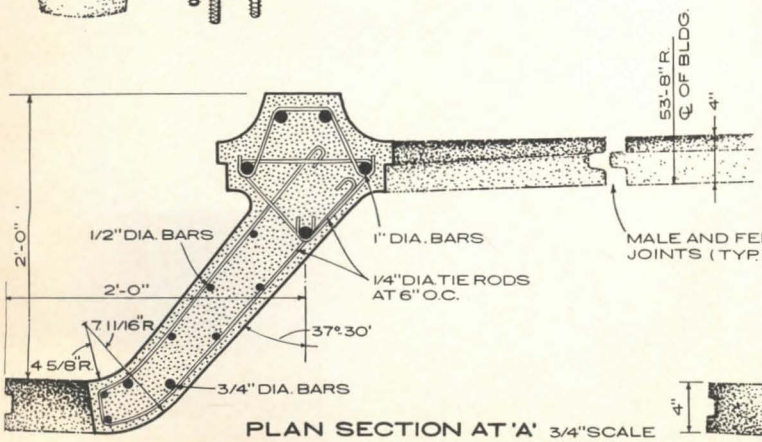
VERTICAL SECTION 1/2"SCALE



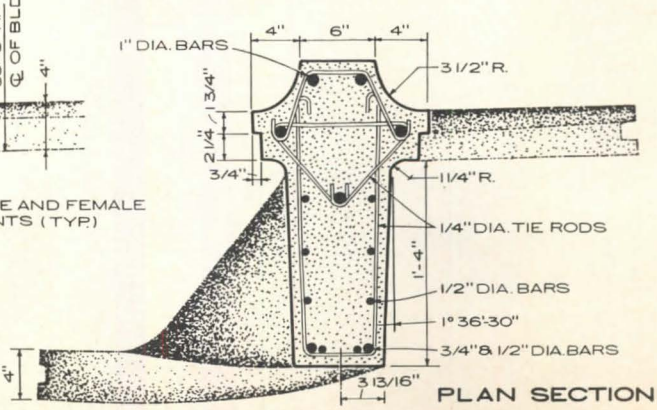
VERTICAL PRECAST UNIT (TYPICAL)



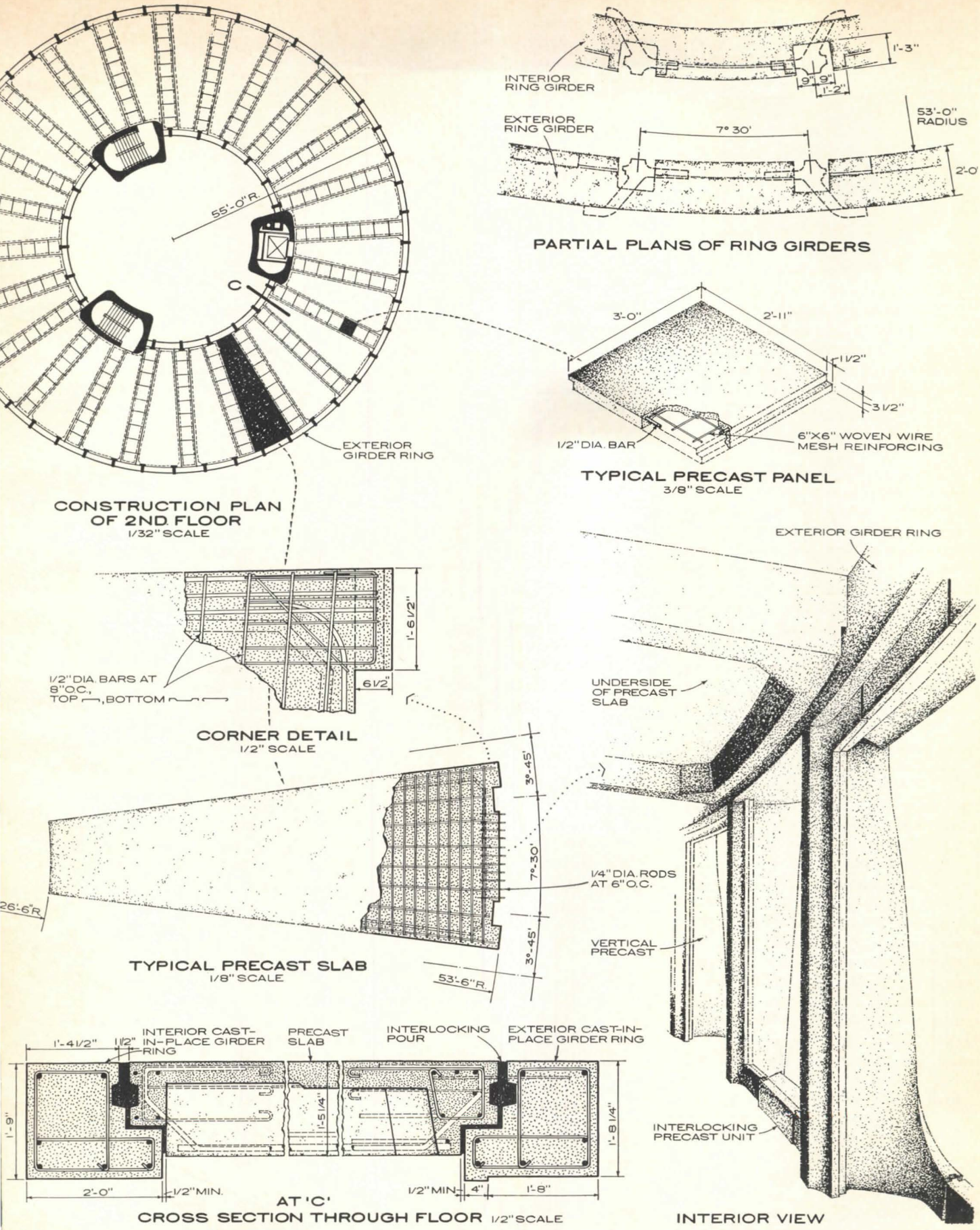
ASSEMBLED EXTERIOR PRECAST UNITS



PLAN SECTION AT 'A' 3/4"SCALE



PLAN SECTION AT 'B'



PARTIAL PLANS OF RING GIRDERS

TYPICAL PRECAST PANEL
3/8" SCALE

CONSTRUCTION PLAN OF 2ND FLOOR
1/32" SCALE

CORNER DETAIL
1/2" SCALE

TYPICAL PRECAST SLAB
1/8" SCALE

AT 'C'
CROSS SECTION THROUGH FLOOR 1/2" SCALE

INTERIOR VIEW

U. S. EMBASSY OFFICE BUILDING: Dublin, Republic of Ireland
JOHN McL. JOHANSEN, Architect

SELECTED DETAIL
STRUCTURAL COMPONENTS

Winter Humidity Control

BY WILLIAM J. McGUINNESS

Three aspects of indoor winter humidity — control, equipment, and maximum allowable percentage—are interpreted by the Chairman, Department of Structural Design, School of Architecture, Pratt Institute.

The discussion on "Design Parameters," by Consulting Engineer Sidney J. Greenleaf, in the OCTOBER 1963 P/A, established a number of criteria for comfort design. Among them are: (1) air temperature; (2) average temperature of surrounding surfaces; (3) relative humidity. Too often, the first of these has been our only consideration. The second is solved by better insulation or radiant panels. The third, relative humidity, has usually had proper study for cooling systems, but has often been a neglected item in planning winter indoor conditions. Systems utilizing air for all-year climate control in large buildings invariably provide for winter humidification and its control. In smaller buildings, particularly residences where piped heating is employed, separate humidification is seldom added.

The importance of maintaining adequate humidity in winter is well known. In addition to its value as a comfort aid, reports from ear, nose, and throat specialists indicate that it promotes better health. It also has other values; among them, notably, is that related to prevention of wood shrinkage. The advent of the first International Symposium on Humidity and Moisture, in May 1963, emphasized all of these values.

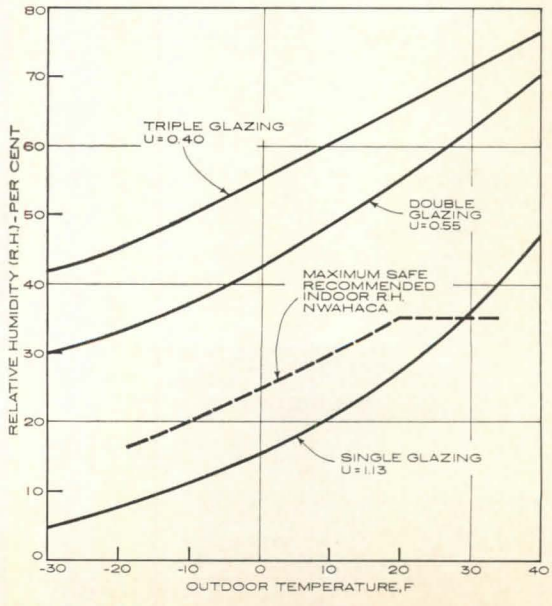
More important than the general lack of humidification is that humidity content, natural or artifically produced, has been largely uncontrolled. It is true that tight houses retain moisture longer than older, drafty structures. An open pan of water emits 0.33 oz of moisture per hr. A kettle, when raised to a boiling temperature, produces 60.0 oz/hr. This kind of difference in vaporization rate (ratio of 1 to 200) during various periods needs a bit of controlling.

One company, active in the production of control equipment to solve the problem of providing humidification during the many periods of dryness, and relieving its excess during times of cooking-bathing-laundering operations, is Ranco, Inc., of Columbus, Ohio. Two control-types are needed, because of the unavoidable partnership of activity-produced humidity and that which is contributed by the new power-type humidifiers used in furnace plenum or return duct. The switches that formerly controlled exhaust fans at baths, kitchens, and laundries now become two-position controls. They may be turned "on" to remove odor-laden air. But if left on the "automatic" position (the only other choice), they operate the fans to exhaust air which carries humidity in excess of the amount that has been dialed by the occupant. On another control, the occupant also dials his choice of R.H. This control operates the power-type humidifier in the warm-air duct system whenever the R.H. drops below the selected value. One such humidifier, produced by Lau Blower Company of Dayton, Ohio, has a small cylindrical blower that vaporizes water picked up from a pan by a rotating hollow cylinder of soft fibrous material. Where piped systems are employed, a space-humidfier responds to the humidistat.

Now arises the problem of how high a level of R.H. may be maintained. Unfortunately, this is controlled by considerations other than those of health or comfort. National Warm Air Heating and Air Conditioning Association (NWAHACA) sets R.H. values *(see graph)* slightly greater than the approximate values at which condensation and frosting occurs on single glass at various outdoor temperatures. Of equal importance with glass fogging is the freezing of airborne moisture, which finds its way to cold surfaces of wall cavities through vapor barriers that are seldom as impervious as planned.

In the United States, the variation of outdoor design temperatures ranges from about +40 F to —40 F. With 0 F as the approximate average of these, it is evident that 25 per cent R.H. is the maximum value permissible in the average house at critical outdoor temperatures.

NWAHACA, Ranco, Lau, and others have provided us with information and equipment to maintain this value. Improvements in vapor barriers and increased use of double glass must occur, if desirable values of 35 R.H. or greater are to be held at outdoor temperatures of 0 F or below.



Relative humidity of inside air necessary to cause condensation on glass.

from Haughton Elevonics...*

Total Elevator Automation

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The United California Bank Building,
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The exciting new home of the United California Bank is the largest building in Beverly Hills, California . . . and the eleventh major office building to be built by the Kreedman organization. Its superb blending of functional beauty, comfort and convenience gives tangible meaning to the Kreedman creed . . . *Building as it should be.* For example: five Haughton elevators under fully-automated electronic control answer calls with uncanny speed and efficiency. Their remarkable performance is made possible by a new, advanced-design computer created by Haughton Elevonics. This computer constantly monitors traffic demand and responds instantly to match elevator service with the need. Include Haughton elevators in your building or modernization plans. Ask your Haughton Sales Office (listed in the Yellow Pages) for details, or write to us.

*Haughton's advanced program in systems research and engineering with specific emphasis on the creative application of electronic devices and instrumentation for betterment of systems design and performance. Reg. in U.S. Patent Office.

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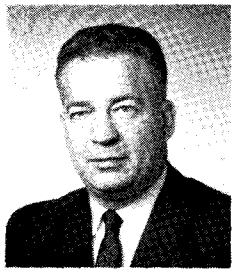

Spec-Data Sheets

BY HAROLD J. ROSEN

A proposed joint CSI-PC specifications data sheet is previewed by the Chief Specifications Writer of Kelly & Gruzen, Architects-Engineers.

The Construction Specifications Institute and the Producers' Council are working jointly to evolve a Specifications-Data Sheet that would present purely technical information about building products in a concise, consistent format. The "Spec-Data Sheets," as they will be termed, are intended for the specifier and as such will eliminate nontechnical, promotional information which has little value for the technician.

This new format for the presentation of technical information would permit architectural and engineering specifiers to compare competing products more readily, since the information contained in the Spec-Data Sheets would be presented in the same organized manner. Technical data and test results would be referenced to the same standards and test procedures, so that the specifier would not be burdened with attempting to reduce varying test results to the same common denominator.

The manufacturer would be in a position to present, and the specifier would readily be able to find, the specific technical data essential to the writing of specifications for building products and equipment. This concept will be a boon to the manufacturer, inasmuch as he is constantly striving to find the proper means of communication with the specifier. He will now be able to take the criteria established for the Spec-Data Sheet, prepare the required information on a product he manufactures, have the proposed Spec-Data Sheet reviewed by members of a CSI committee, and upon final approval issue it as a Spec-Data Sheet.

Although the current effort is a joint undertaking, the program will eventually be available to all manufacturers of building products who may wish to utilize this form of product literature.

Since the Spec-Data Sheets may carry the stamp of approval of CSI, it is this writer's opinion that specifiers will, in time, be more prone to specify products described in Spec-Data Sheets. In addition, they will assure them that the information contained has been assessed by qualified, competent architects and engineers.

The general rules for the Spec-Data Sheets are as follows:

1. Only one product shall be described in each Spec-Data Sheet; in this context, a "sheet" may consist of one to four pages of text.

2. Text material must be technical in nature. It may include tables, graphs, and photographs where applicable. The text should not include vague generalities, unrelated material or text, testimonials, product history or manufacturing processes, or other informational copy of a nontechnical nature.

3. Each Spec-Data Sheet shall follow the format prescribed by the joint CSI-PC committee.

4. Before publication, each Spec-Data Sheet shall be approved by the joint CSI-PC committee until such time as this function is delegated to another reviewing authority.

The proposed format will include the use of a standard masthead that will include the seal of CSI and of PC for its member organizations; a place for a company label, logo, seal, corporate image, or the like; a date; and an identifying file number related to the CSI Format for Building Specifications. The product trade name will be prominently featured, either as part of the masthead or as part or all of the title of the Spec-Data Sheet.

The following data will be presented in the same order in all Spec-Data Sheets. Where a particular item is not applicable, or where certain information is not available, the heading will be retained for uniformity and a brief explanation shall be given to the specifier for its omission.

1. *Product Description*:
   a. Brief, detailed description of product; principal uses; limitations of use.
   b. Grades, if any, and differences that determine these grades.
   c. List sizes, shapes, surface finishes, textures, colors. State limitation of its availability nationwide.
   d. List applicable standards, including ASTM, ASA, Federal and Military Specifications; Dept. of Commerce Commercial Standards; Trade Assn. Stds.; etc.

2. *Technical Data*:
   a. List numerical values of physical characteristics such as: strength in compression, tension, shear; durability; life expectancy; chemical resistance; insulating qualities in terms of "K" factor; coefficients of expansion; density and specific gravity; resiliency; melting point; heat distortion characteristics; and any other pertinent technical data.
   b. If available in more than one grade, tabulate for ready comparison.
   c. List recognized rating bureau such as Fire Underwriters and Factory Mutual.
   d. For each numerical physical value, indicate the test method.

3. *Cost*:
   a. Indicate cost range; F.O.B. plant or other basis; sectional differences in cost; list prices from distributors.
   b. Give average range of installed costs; list at least two market areas to indicate the geographic variances.

4. *Installation*:
   a. List methods of installation and note regional or sectional differences.
   b. List preparatory work required to receive product.
   c. List building code restrictions concerning installation.

5. *Guarantees*:
   If other than standard one-year guarantee, explain in detail.

6. *Maintenance*:
   Brief description that would suffice for owner's custodial personnel.

7. *Technical Services*:
   Describe manufacturers' services available to the specifier. Indicate where and how to procure them.

8. *Filing Systems*:
   CSI, AIA, Sweets Catalogs, CEC.

For further information, consult the Construction Specifications Institute, DuPont Circle Bldg., Washington, D.C.

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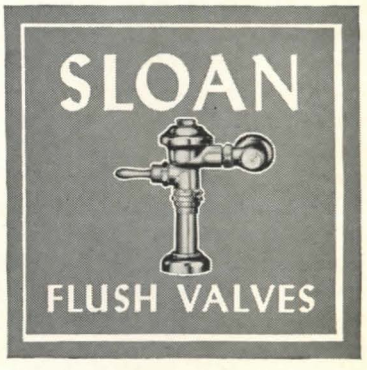

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Need for Careful Site Inspection

BY JUDGE BERNARD TOMSON AND NORMAN COPLAN
Nassau County District Judge and a New York attorney examine a decision that underscores the importance of a careful inspection of the site and project by a contractor before he enters a bid.

Who, as between the contractor and owner, bears the risk and cost of construction work, the necessity for which is not known or realized at the time of the contractor's bid or the making of the construction contract? This was the issue in a recent case in New York (*Kay Field Construction Corp.* v. *Board of Education of the City of New York).*

In this case, the plaintiff-contractor had agreed to perform the general construction work for the alteration and addition to a junior high school in accordance with the architect's plans and specifications for the agreed sum of $1,679,000. The contract obligated the plaintiff to perform all work specified, and an addendum to the contract required specifically, in relation to the windows of the project, that the contractor "replace all rotted, badly split frame members and trim." At the time this contract was bid, no rotted or split frame members were visible and the drawings did not show or indicate any required replacement in this connection.

During the course of construction, the contractor discovered that a deteriorated condition in the windows existed, involving rotted and badly split frame members and trim. This condition could not have been—nor was it—discovered by visual inspection at the time of bidding. The situation was brought to the attention of the client, the Board of Education, who directed the contractor to perform "extra work" and to "remove and replace all rotted, badly split frame members and trim as directed at the site." A change order, signed by the chief engineer of the Board of Education, was issued.

The contractor performed the work and forwarded a bill for the purported extra in the amount of $3,695.29. Upon receipt of the bill, the client advised the contractor that this sum would be added to the total contract price. However, upon submitting his voucher to the Comptroller of the City of New York, payment was refused by the City on the ground that the work in question was not an "extra" but part of the original contract work, and the City rescinded the change order that had been issued.

The Court, in ruling in favor of the Board of Education and against the contractor, stated that the contract was clear and unambiguous in calling for the replacement of rotted and split frame members and trim of windows within the contract price. In rejecting the contention of the contractor that he was confused as to what was required because the contract drawings were at variance with the specifications, the Court stated:

". . . the contract itself specifically recites that the plans, drawings and specifications form part of the contract. In the first instance, the contested clause means what it says and there is no need to refer to any plans or drawings. The very purpose of the undertaking was that the plaintiff was to construct a new addition to an existing school building and to modernize and put the existing school building into first-class condition. Obviously part of the work of putting the old building into first-class condition was to have extensive repairs made to the windows and to replace the bad ones with the good. If the plaintiff's argument is carried to his logical conclusion, then the pertinent clause of the amendment to the contract which required the replacement of all rotted and badly split frame members and trim to be replaced would be useless and of no contractual effect."

The contractor also had urged the Court that, since the drawings did not show the location of rotted or split frame members and such condition was not visible upon inspection prior to bidding, he should not be held to the cost of furnishing this work within the original contract price. In response to this contention, the Court said:

"The drawings concededly do not show the location of the rotted, badly split frame members. Plaintiff's representative had an opportunity to examine the building and conduct that inspection which was necessary for him to bid. The fact that the condition was not visible, assuming it was not visible, nor was shown on the drawing, the provision requiring replacement of the rotted and badly split frame members and trim was a caveat to the plaintiff to inspect with care. . . . In any event, it is the law of the state that where a contractor submits a closed bid for the entire performance of any given work he assume the risk as to the nature and quantity of the work to be performed."

The third contention of the contractor was to the effect that he was entitled to rely upon the change order of the Board of Education and that the City should be stopped from dependence upon its purported rescission of that authorization for extra work. The Court also rejected this position, stating:

"Plaintiff's reliance is primarily on the 'change order' and the interdepartmental communications in the city offices which stated that the work was in fact 'extra work.' However, it should be noted that the 'change order' was rescinded and the City had such a right to rescind. What was done may not be invoked as an estopple in the case where the city under the contract was authorized to do the very thing which it did."

This decision illustrates the importance of an adequate inspection by a contractor of the site and project before bidding. From the owner's and architect's point of view, it also illustrates the importance of adequate and unambiguous construction contract documents insuring a complete project for the price contracted. Thirdly, it illustrates a principle that is significant to all parties having dealings with municipalities—that is, the rights of such municipalities may not ordinarily be waived by acts of its representatives.

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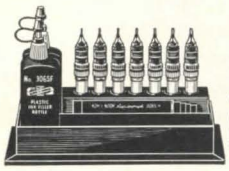

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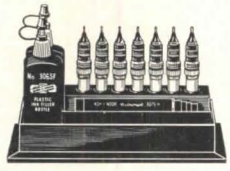

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A Presage of New Beginnings

BY WILLIAM ALEX

PIER LUIGI NERVI: BUILDINGS, PROJECTS, STRUCTURES, 1953–1963. *Introduction by P. L. Nervi. Frederick A. Praeger, 64 University Place, New York 3, N.Y. (1963, 168 pp., illus. $15.) Mr. Alex, a writer and critic, was general editor of the Braziller series,* Masters of World Architecture; *more recently, he served on the President's Advisory Council for the rehabilitation of Pennsylvania Avenue.*

If certain beings from a nearby galaxy announced their intention to visit neighbor Earth, and if all the nations agreed to co-operate in preparing a reception place to demonstrate or house whatever edification we expected to provide, the first decision would probably be to build a small, orderly city in which to receive our guests. Apart from what to show, discussion would then center on the sorts of buildings needed for this city and, most likely, agreement would be universal that works of engineering be made dominant. For these, signifying what is most advanced in our technological and structural development, are the most powerfully expressive works of our time.

Chances are that the leader of the European delegation to the building congress (CIAM quickly resurrected?) would be Professor Nervi. Why Nervi? First, one would need great, elegant, lacy hangars built in the style to which spaceships might be accustomed. Second, one would need grand assembly and demonstration halls enclosing space with precision, with the greatest economy of means, in a natural and accomplished way, but with flair. Third, as a matter of pride, these halls would have to be constructed so as to suggest our capacity for dealing with some of the forces pervading the cosmos, reflecting the highly advanced activities within these structures where our knowledge of the atom will surely be demonstrated. One must, of course, assume that the world has been made a safer place to receive guests, nuclear energy having been harnessed by this time with the understanding and grace with which Nervi now controls the forces of gravity through structure. Nervi's plastic inventions are no less a response to natural forces than processes involving the atom. The parallels become remote on application, however. The abrupt fashioning of matter by the fusion of atomic components, in a sense the most sophisticated plastic process we have yet developed, is basically devoted to the most inartistic purpose imaginable. Nervi's operation, plastic in the more familiar sense, begins with simple materials, not much refined beyond their original state—limestone, clay, and iron. To fashion these together, he adds water and transforms them into shelter—the primary concomitant of civilization. Then to range to the highest level, beyond the parable of creative morality which Nervi's work manifests and which for complex and unfortunate reasons is sadly lacking in the arts and even more so in the sciences, his results seem to consummate the spatial aspirations of our time.

The latest lessons of Nervi's own conquest of space are presented with characteristic clarity in this recently published volume of his works between 1953 and 1963. In format, it resembles the publisher's previous volume on Nervi and seems destined to become part of a series, as time passes, like the *oeuvre* of Le Corbusier. The books overlap slightly in content, with examples like the Pirelli building of Milan and the Paris UNESCO headquarters shown in both but given more complete coverage in the second volume. A total of twenty-six structures, buildings, and projects are shown in clear photographs, drawings, plans, and completely understandable details. Each work is presented in a sequence that generally begins with the site and progresses through the building to its details. A pertinent summary includes the program and functional requirements, explains structural techniques, mentions special problems, and sometimes gives the construction deadline—the added challenge on which Nervi thrives. Aside from a few pages with irregular-size drawings which are not numbered and make for some initial confusion before one finds the proper sequence, the volume, with its good translation, is a compliment to the art of bookmaking.

Nervi makes engineering appear so easy that many attempt it who shouldn't. It almost seems to work this way: Somebody telephones, say from Genoa. Professor Nervi takes his briefcase and goes there. The needs are explained—a

JOINTS

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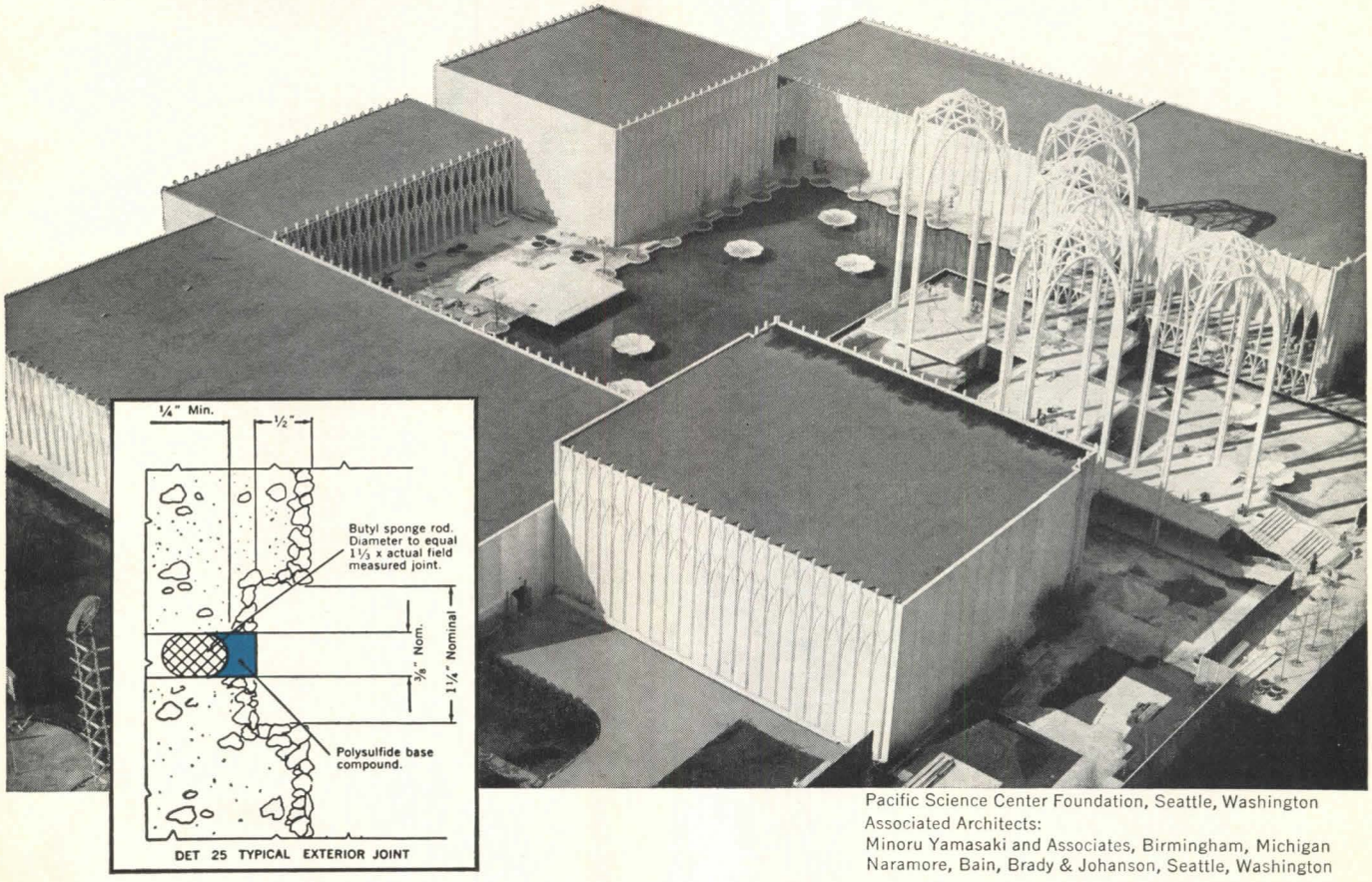

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structure so large, to serve this or that function; economy is stressed, time limits are discussed and everyone drives to the site, gets out of the car and stands in a group. Soon Nervi takes out a pad of paper, points in several directions, sketches a moment and makes a few sweeping motions with his arm. Heads nod and someone is heard to say; "Yes, yes, that's just what we had in mind." The fact of shelter seems now to have always been there, a little invisible or slightly out of focus, the structural forces pervasively playing around somehow. It just needed Nervi to *see* them, sort them out, align some here, adjust a few there, and then bring some reinforced concrete and ferro cement to encase them so that they hold still. And there it is—a small, sensible palace for the gods of technology. No stylistic arguments, no fashionable schools of thought, no dogma to be propounded, no discretionary excuses, no esoteric justifications, no willfulness.

In the past few years, Nervi has served as a juror in many international structural competitions. He notes, in his introduction to the book, that the large majority of solutions submitted were characterized by "the unrestrained search for the new at any price—even the price of inconstructability." He gently calls attention to the lack of adequate educational preparation for both architects and engineers to meet the challenge of "structural architecture," the term he uses to designate the new class of buildings whose large-scale requirements—air terminals, large industrial buildings, great stadia, and exhibition halls—are fully synchronous with modern technology and materials. But architects, he finds, tend to begin with a form which they then elaborate graphically; engineers, on the other hand, direct themselves to the mechanics of structure which leads too frequently to concentration on theory and mathematics. "Both forget that a structure is nothing but a system of reactions and internal stresses capable of balancing a system of external forces; and, therefore, it must be conceived as a material organism directed toward that precise end."

Nervi's own program follows these steps; the conception and proportioning of a structural system; the choice of materials and methods best suited to the final purpose and environment of the work, evaluating at the same time the problems of thermal variation and settlement, intuitively if required; and finally, a search for the greatest economies. Afterward, the theory of structures and necessary calculations are applied, and models may be built for test purposes.

Keeping this in mind, one looks at Nervi's structures and becomes aware of the realities words do not express, that an inseparable blend of operating method, principle, and intuition have combined (during fifty years of continuous effort) into a single, integrated process, consuming and producing in the optimum technological sense. The self-conscious striving of architecture and the difficulty of deciding merely what is "given" seems very far away and a little redundant when one looks at Nervi's Savona Railway Station and sees how the "engineer" has crossed over into "architecture" with embarrassing ease. This is something Nervi has not always been able to do with consistency. On the other hand, he can state pure engineeering with matchless power and fluency, as in the Burgo Paper Mill at Mantua, really a suspension bridge, where an 800-foot-long rolling mill is covered by a steel roof deck hung *horizontal and taut* between two enormous 16-story-high, reinforced concrete trestles. Not the first of such structures, it is nevertheless breathtaking, and ultimately right. The

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Installation Details on Opposite Page

Turin Palace of Labor perhaps best fits Nervi's definition of structural architecture. Yet it is neither architecture nor engineering but some sort of gigantic organic mechanism, or series of mechanisms, for embracing a vast space; steel fireworks atop huge tapered concrete columns, isostatic adventures around the mezzanine perimeter, great glass walls delicately braced against the wind—altogether, it presages new beginnings.

Perhaps Nervi is receiving a telephone call right now, say from Genoa, via radio-telephone on his small ferro-cement yacht sailing off the coast, being interrupted just as he is telling a guest, "You know, that reinforced-concrete airplane wing that Freyssinet designed? They really built it . . . ."

OTHER BOOKS TO BE NOTED

Dar Es Salaam: A Study in Urban Geography. Harm J. de Blij. Northwestern University Press, 1840 Sheridan Rd., Evanston, Ill, 1963. 112 pp., illus. $3.50

This study, implemented by maps and photos, of an African urban center emerging from colonialism is of value to city planners, urban geographers, and social scientists. The city of Dar es Salaam developed under Arab, German, and British administrations and is now the capital of independent Tanganyika. Research and publication were supported by the Michigan State University African Studies Center.

Exterior Design. Henry and Lilian Stephenson. Studio Books, London. Distributed by Sportshelf, P. O. Box 634, New Rochelle, N.Y., 1963. 96 pp., illus. $9.25

To be reviewed.

Gothic Architecture. Paul Frankl. Translated by Dieter Pevsner. Penguin Books Inc., 3300 Clipper Mill Rd., Baltimore 11, Md., 1962. 315 pp. plus 192 plates. $16.50

To be reviewed.

The Japaneses House: Its Exterior and Interior, by Tatsuo and Kiyoko Ishimoto. Crown Publishers, Inc., 419 Park Avenue South, New York 19, N.Y., 1963. 128 pp., illus. $5.00

Among the more than 200 photographs in the book, there are many excellent illustrations of the Japanese home—both its charming atmosphere and its fascinating details. Unfortunately, the standard of taste is not uniformly high, particularly in those sections that deal with Westernized Japanese houses and the adaptation of Japanese ideas for American houses.

Life for Dead Spaces: The Development of the Lavanburg Commons. Charles Goodman and Wolf Von Eckardt. Published for the Fred L. Lavanburg Foundation by Harcourt, Brace & World, Inc., 757 Third Ave., New York 17, N.Y., 1963. 127 pp., illus. $12.50

To be reviewed.

Meetinghouse and Church in Early New England. Edmund W. Sinnott. McGraw-Hill Book Co., Inc., 330 W. 42 St., New York 36, N.Y., 1963. 243 pp., illus. $10

To be reviewed.

Modern Sculpture: Origin and Evolution. Jean Selz. George Braziller, Inc., 215 Park Avenue South, New York 3, N.Y., 1963. 304 pp., illus. $17.50

An understanding of today's diverse sculptural forms is sought in this exploration of sculpture from 1850 to 1920. Jean Selz, French art critic, stresses three developmental forces: (1) Rodin; (2) the painter-sculptors from Daumier, Degas, and Renoir to Picasso and Gris; and (3) primitive sculpture.

New York Landmarks. Edited by Alan Burnham. Sponsored by the Municipal Art Society of New York. Wesleyan University Press, Middletown, Conn., 1963. 430 pp., illus. $12.50

To be reviewed.

The Peripheral Journey to Work: A Geographic Consideration. Edward J. Taaffe, Barry J. Garner, and Maurice H. Yeates. The Transportation Center, Northwestern University, 1818 Hinman Ave., Evanston, Ill., 1963. 125 pp., maps, tables. $7.50

The movement of centers of employment to the periphery of the city greatly affects urban transit and the spatial organization of the city. Based on data from the Chicago area, this study identifies the key differences between a journey-to-work to a peripheral center and one to a downtown center, presents principles for analyzing this new pattern, and speculates on the implications of

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EP-38A

continued increase in peripheral commuting.

The Public Lands: Studies in the History of Public Domain. Edited by Vernon Cartensen. The University of Wisconsin Press, 114 N. Murray St., Madison, Wis., 1963. 548 pp., $6.75

These articles on the history of public lands have been selected from historical and other journals published in the past 50 years.

The Selection, Care, and Laundering of Institutional Textiles. L.A. Bradley. The Cornell Hotel & Restaurant Administration Quarterly, Cornell University, Ithaca, N.Y., 1963. 84 pp., $2 (paperbound)

Publication, mainly for the hotel manager, has one section of interest to the interior designer. Here is an explanation of the composition of synthetic and natural fibers and a comparison of their reactions to prolonged usage, sunlight, dyes, wetness, and cleaning.

NOTICES

New Branch Offices

ALAN GOLIN GASS AND ROBERT BREWSTER GAY, Associated Architects of Denver, Colo., have opened an office at Main St., Rapid City, S.D.

GORDON INGRAHAM AND ELIZABETH WRIGHT, Associated Architects of Colorado Springs, Colo., have opened a branch at 1401 Elizabeth St., Pueblo, Colo.

New Addresses

BOYKEN & MOSS, Architects, 335 George St., New Brunswick, N.J.

JOSEPH ESHERICK, Architect, 120 Green St., San Francisco, Calif.

SMITH, ENTZEROTH, INC., Architects-Planners, Pierre Laclede Bldg., 7701 Forsyth Blvd., St. Louis, Mo.

MAX O. URBAHN, Architects, 642 Fifth Ave., New York, N.Y.

Elections, Appointments

SOL ADLER was appointed Director of Research and Development of Barclay & Barclite products, BARCLAY MFG. CO., Bronx, N.Y.

ROY I. ALBERT, GEORGE CHIPMAN, VINCENT J. CRAMPTON and MILTON LENHARDT received new appointments in the firm of HARLEY, ELLINGTON, COWIN & STIRTON, INC., Detroit, Mich.

HUGH A. BARNES has been named Corporate Vice President of Manufacturing for the BASTIAN-BLESSING COMPANY, Chicago, Ill.

ROBERT R. BLEEMER has been appointed to the design staff of the Miami branch of HENRY END, Miami, Fla.

RINO COPPOLA has been appointed Executive Vice President and head of the Rome office of FRED S. DUBIN ASSOCIATES. HARRY KATZ has been appointed controller of LEO KORNBLATH ASSOCIATES, New York.

HOWARD M. DUNN appointed architect at firm of COHEN, HAFT & ASSOCIATES, Washington, D.C.

SANFORD KAUFMAN has been appointed National Director of Planning for FSA, New York and Chicago.

LARRY RICHMOND named associate in firm of BERNARD VINICK DESIGN ASSOCIATES, Hartford 5, Conn.

JOSEPH WILLIAM SABOL has been appointed head of the Engineering Cost Control Dept. of JOHN HANS GRAHAM & ASSOC., Washington, D.C.

EUGENE TARNAWA made Associate Designer in firm of BERNARD VINICK DESIGN ASSOCIATES, Hartford, Conn.

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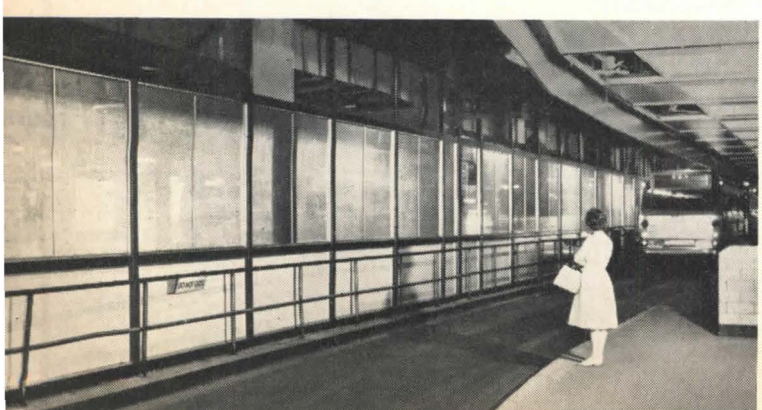
Port of New York Authority Bus Terminal. Square tubing is employed to frame glass and porcelain enamel sandwich panels which protect waiting passengers from bus exhaust fumes. Tubular framework extends from floor to ceiling and full-length along each 200-ft. long platform. Final tube fabrication was by White Plains Iron Works, Peekskill, N.Y.



Extensive service plaza building program. Square and rectangular steel tubing was picked for columns, beams, and spandrels in stations like the one shown. Flat sides of the tubing simplified fitting of glass, masonry, and curtain wall sections. Tubing was fabricated by The Austin Company—Designers, Engineers, and Builders.

Ford Motor Company pavilion at the New York World's Fair. Welton Beckett & Associates, Architects, used over 50 tons of rectangular tubing in the design of this pavilion. Tubing serves as framework support for glass panels enclosing the 235-ft. diameter, 56-ft. high rotunda.

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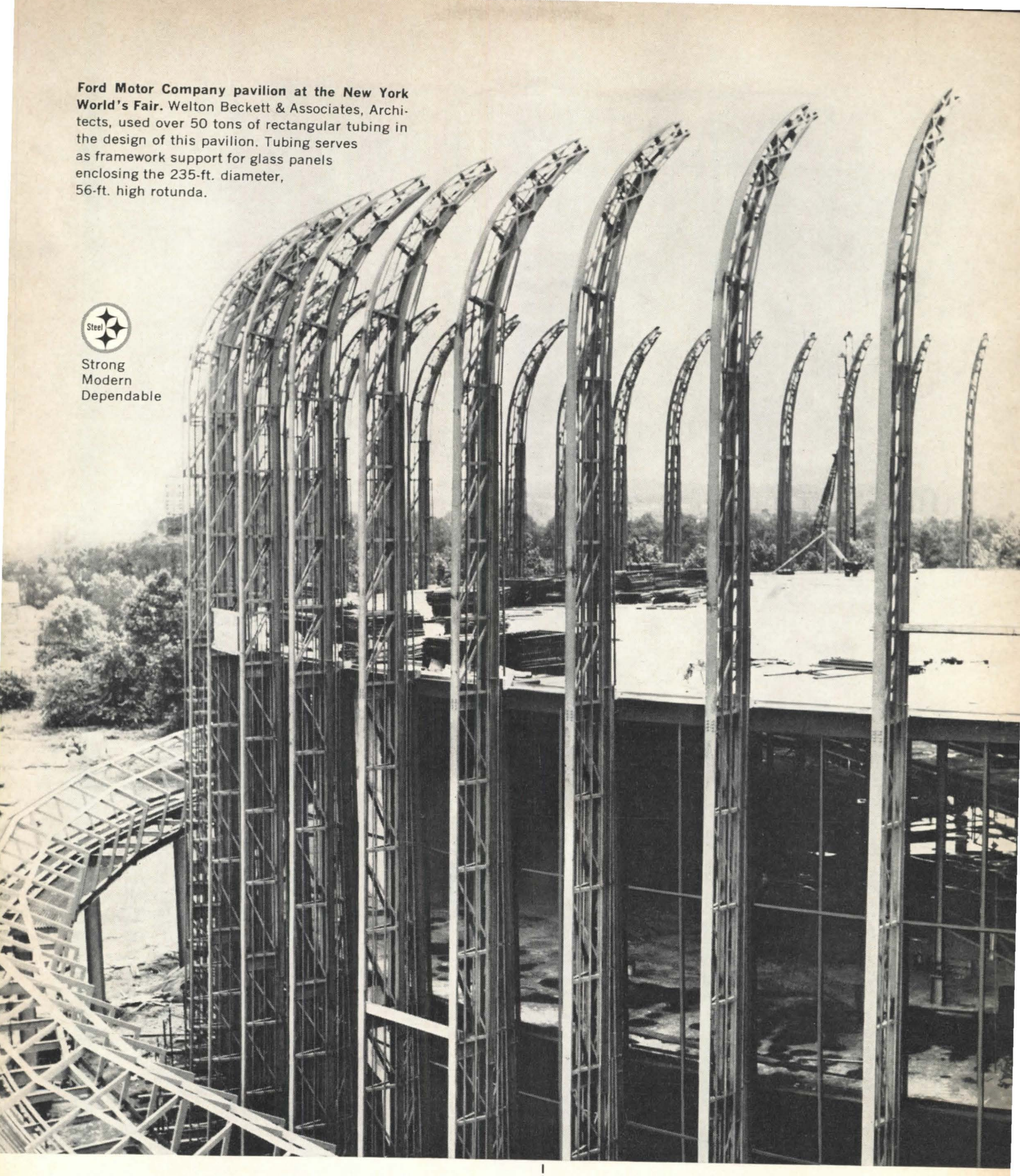

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	Elongation in 2", Min., percent	25	25	20
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	Yield Strength (.2% offset), Min., psi.	**33,000**	**46,000**	**60,000**
	Elongation in 2", Min., percent	25	25	10

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Continued from page 26

the program which delineates the architect's role.

The whole notion of "expanded services" in which the architect is a leader of a team of experts establishes him not as architect but as administrator. I have no objection to administrators but for heaven's sake, let's not call the administrator the architect except as a metaphor ("He was the architect of the Atlantic Alliance").

Your statement that the AIA represents in large part a protective association for the financial well being of its members is, of course, correct. The question is whether it could exist if this wasn't its primary concern. I believe what you are calling for is a new organization devoted to the total problem of habitat, embracing as large a field as art, science, and society.

PERCIVAL GOODMAN
New York, N.Y.

Dear Editor: I appreciate your Editorials probing the future of architecture as a profession. The inroads by others have been noticed here also. Looking back on the general level of architecture over the past twenty years, I often wonder how we as architects control as many of the buildings as we do.

I believe that we will still survive and lead. The basis for leadership needs to be consistent performance at a higher level. If we wish to control those projects which are governed by economics, I think we can do so by adding the economical performance of these buildings to our general evaluations. There is more truth than we realize in Emerson's "the line of beauty is the line of perfect economy."

We need the competition you have noted to hasten the day when architecture to the general public means a very high level of quality on an economical, technical, functional, and aesthetic basis. I think this is a worthwhile goal.

JOHN DESMOND
Hammond, La.

Dear Editor: I do agree this is an issue of paramount importance. As the subject of next year's AIA convention is the city, it seems to me that a document describing the dilemma and the solutions, signed by many, should be introduced as a resolution.

ULRICH FRANZEN
New York, N.Y.

Dear Editor: Your Editorials concerning the architect and civic responsibility were excellent. Our profession is prop-

erly concerned with the position of the architect in the increasing complexity of urban construction.

The need is for a more integrated point of view. The architect, who is a unique compound of builder, businessman, and artist, should be particularly able to serve the community in solving these complex problems. But in most vast projects today, the architect is reduced to a more specialized and less significant position, working within rigid limits established by others.

Perhaps the most neglected aspect of the architect is the most required today: the architect as an artist. The complex urban problem may only be solved by the artistic imagination which we should possess.

Every other art is subjected to constant criticism by artists as well as by critics. When we severely limit criticism of architects by architects we lose an important source of vitality for our profession. We also risk losing the unique compound of elements required for fine architecture.

HERBERT OPPENHEIMER
New York, N.Y.

Dear Editor: I think that the design of total physical environment would depend not so much on the will of the public to accept the architect's leadership, but rather upon whether the architect can train himself to deal with design at this larger scale. At the present time, we have only planners who work at this scale, but no architects.

I agree with all you have to say about the architect's leadership. Since the Institute represents the profession, its action must reflect the supraprofessional nature of the problem. Again, this the Institute cannot do, although it should, until there are architects who can competently deal with design at urban scale. However, I don't feel that the AIA is any different in attitude from the American Medical Association or the National Association of Manufacturers, with whom the public must also deal.

JOHN M. JOHANSEN
New Canaan, Conn.

Dear Editor: I was very interested in your comments and projections, and delighted to see that P/A does not hesitate to face the reality of conditions we all should become aware of.

It is not a question as to whether your Editorials represent reality as I see it, or for that matter reality as may be interpreted differently by our fellow architects. Rather, I feel it is valid in that you have publicly expressed concern,

and have projected comments for our consideration. This, to me, is important.

We certainly are experiencing a perplexing array of changing concepts and values that will be our task to consider. Because of this, it is my belief that unless we architects, along with all other interested citizens, can develop a fuller understanding of the forces motivating and influencing the changing scene of our human drama, we will not be adequately equipped for a more creative part in helping to shape our future culture.

Our biggest immediate problem may be a pragmatic one. I mean that we are likely to become subject to acting hastily, giving less consideration to the wider range of knowledge that should be reflected in our future planning. Again, this is why I feel your Editorials are valid, for they should encourage thinking, studying, and the expression of various viewpoints.

My view is that I do not think that the future of the architectural profession is uncertain, but that we might be left without credentials in these changing times. On the contrary, it would appear that while we are in for some changes, the necessary adjustments involved will lead to a greater strength and solidarity within the profession, rather than weaken it.

That there are many architects who are concerned about the future of their profession is understandable. Needless to say, any transitional evolution, whether it takes place in oneself or in society, can be a very disconcerting experience. Certainly, today, we are not just witnessing a minor adjustment to our way of life. Rather, we are experiencing, and will continue to experience for some time, a social and economic evolution that will touch the very roots of our society.

Today, we tend to attribute our plight to the growth of an industrial complex. That, by its very nature, creates bigness, confusion, and certainly a complexity of interests. This rapid growth in our society has for the main part occurred without adequate social or economic planning. Since little or no study has been devoted to ecological considerations —the cause and effects of our actions and designs upon society—we can surely understand why this dilemma has come about. Now let's be very clear about this, for we will find it is not only the architectural profession that must re-evaluate its thinking.

We are becoming aware that our architectural expressions are far too often the results of an industrial product designer, rather than the efforts of a socially conscious and creative architect; that mechanical services are skyrocketing and will continue to do so for some time; that far too often the design functions are dictated by other interests; that as leaders of the building industry we are losing our esteemed identity.

All these conditions have rocked our boat, so to speak; they have produced our disillusionment, and this is good, for to hold an illusion without foundation is unrealistic. It is within the very nature of this confusion and this complex society that the architect will find his profession growing to greater responsibility and not dying on the vine of despair.

The growth required of us will be disturbing to our present tendency to hold on to the status quo. Too many architects are failing to project their thinking into the new order of things.

In the past, and unfortunately still too much today, we have reflected a more exclusive approach in our attitudes toward the problems of human environment. Too many of us still see ourselves operating from a position of leadership with respect toward creating our physical environment. As long as our clients were private individuals or even corporations, we were more truly in command. But look at the mess we have created today. Because many of our activities have tended to be more exclusive, we continue to cling to this wish to project an image of ourselves as leaders. What we fail to understand is that, precisely because of this tendency, we may not in any real sense be ready for the vastly more complex problems of a larger client, the general public.

What we are hopefully witnessing today is a transition in human evolution from a lower order of an unintegrated society toward a higher and more integrated democratic society. In other words, a society that will express itself more than it did in the past, through a greater understanding for the need of human communication between individuals and groups.

We are moving away from the more exclusive past, where we acclaimed democracy, but too often failed to express it in our lives and the projects we erected.

Planning tomorrow will be governed more by ecological considerations. Because of this, we will find many more professional disciplines involved than has been the case in the past. For example, within a typical planning group we may

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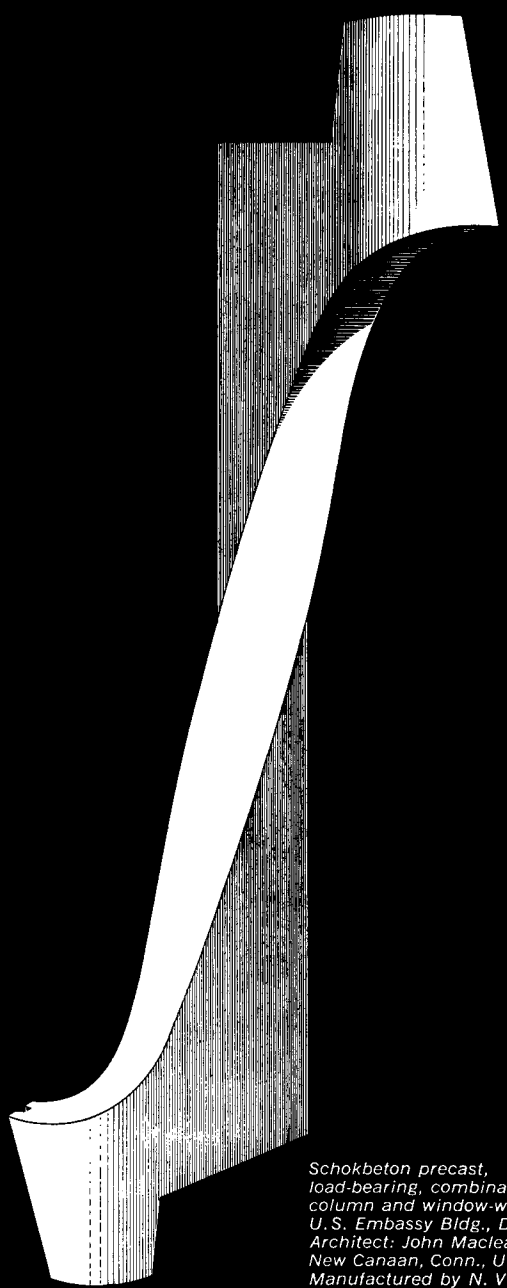

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find the sociologist, the lawyer, the psychiatrist, the real estate man and businessman, the banker, and, depending upon the nature of the task, many others who will join in common interest with the engineer, planners, architects, and landscape architects.

All these many professional disciplines will from time to time, as needs arise, form into planning groups. Because of the many interests that will be involved, these planning groups will become aware of the necessity for pluralism as a functional requirement for the group's healthy endeavors.

We will come to see that a higher level of human development is involved here in sustaining a pluralistic environment. Just what do we mean by pluralism? We mean the ability of a group of individuals to function where differences of opinion and beliefs can co-exist without impairing the group's growth or their planning abilities. In other words, it is the function of productive activity within the group while accepting difference of opinion and diversity of outlook.

For pluralism to function, however, there must exist some common ground of understanding in these planning groups that all members can agree to. It is my belief that this common ground should be based on democratic principles and the belief in the potentials for growth and dignity in man. This, it would seem to me, is an all-inclusive outlook that could be accepted by all mature individuals regardless of background or interest.

The architects who will help staff these planning groups will find there is no need to show superiority to gain mastery within the group. That he will, from time to time, find himself involved in sharp disagreements with other members, should be understood as one sign of genuine respect for the other person.

SIDNEY WRIGHT TOMAN
Chapel Hill, N.C.

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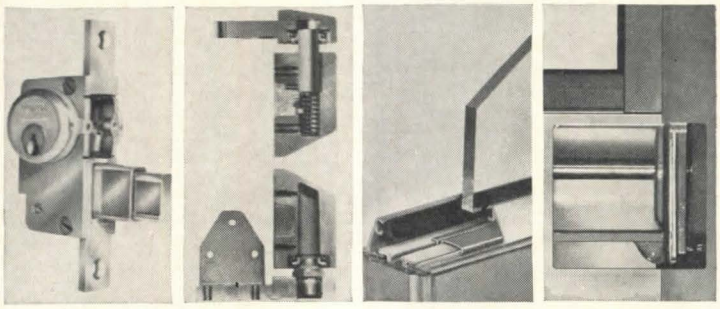

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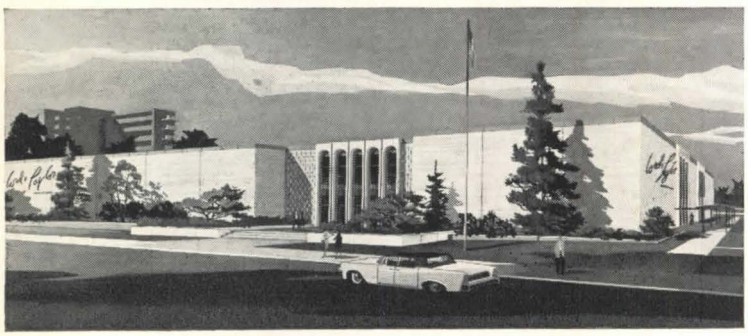

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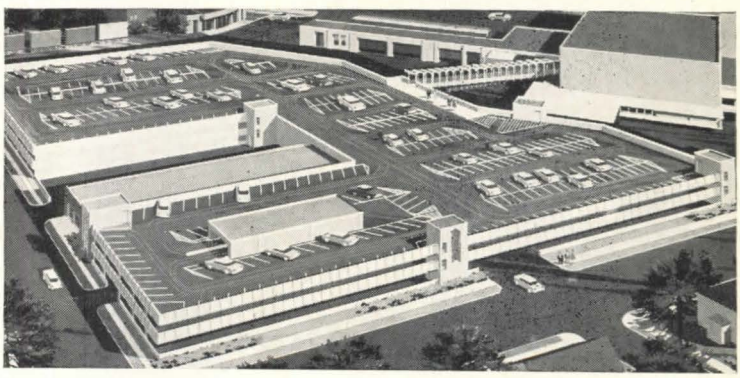

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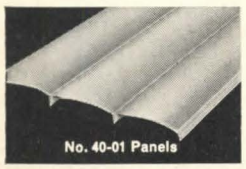

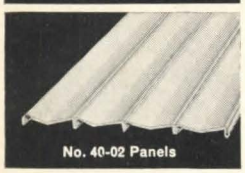

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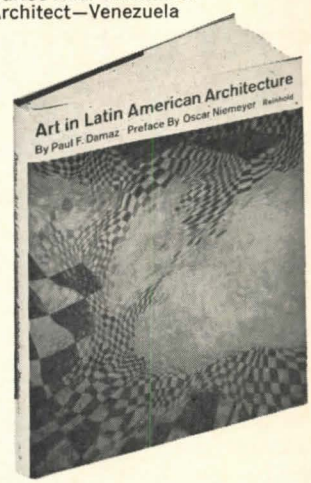

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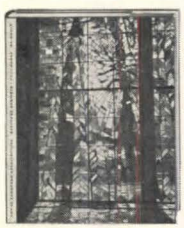
Preface by Le Corbusier



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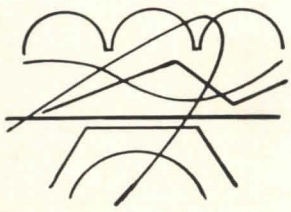

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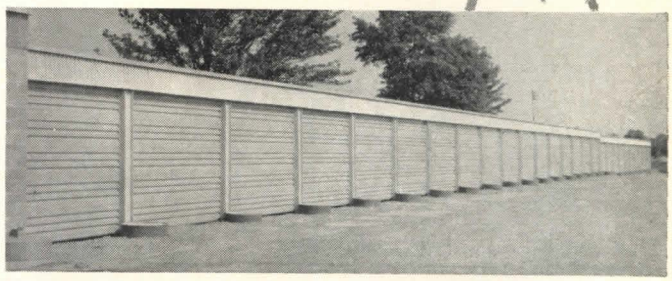

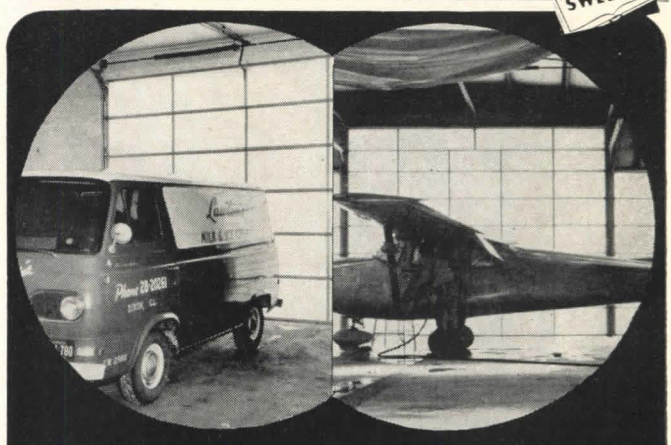

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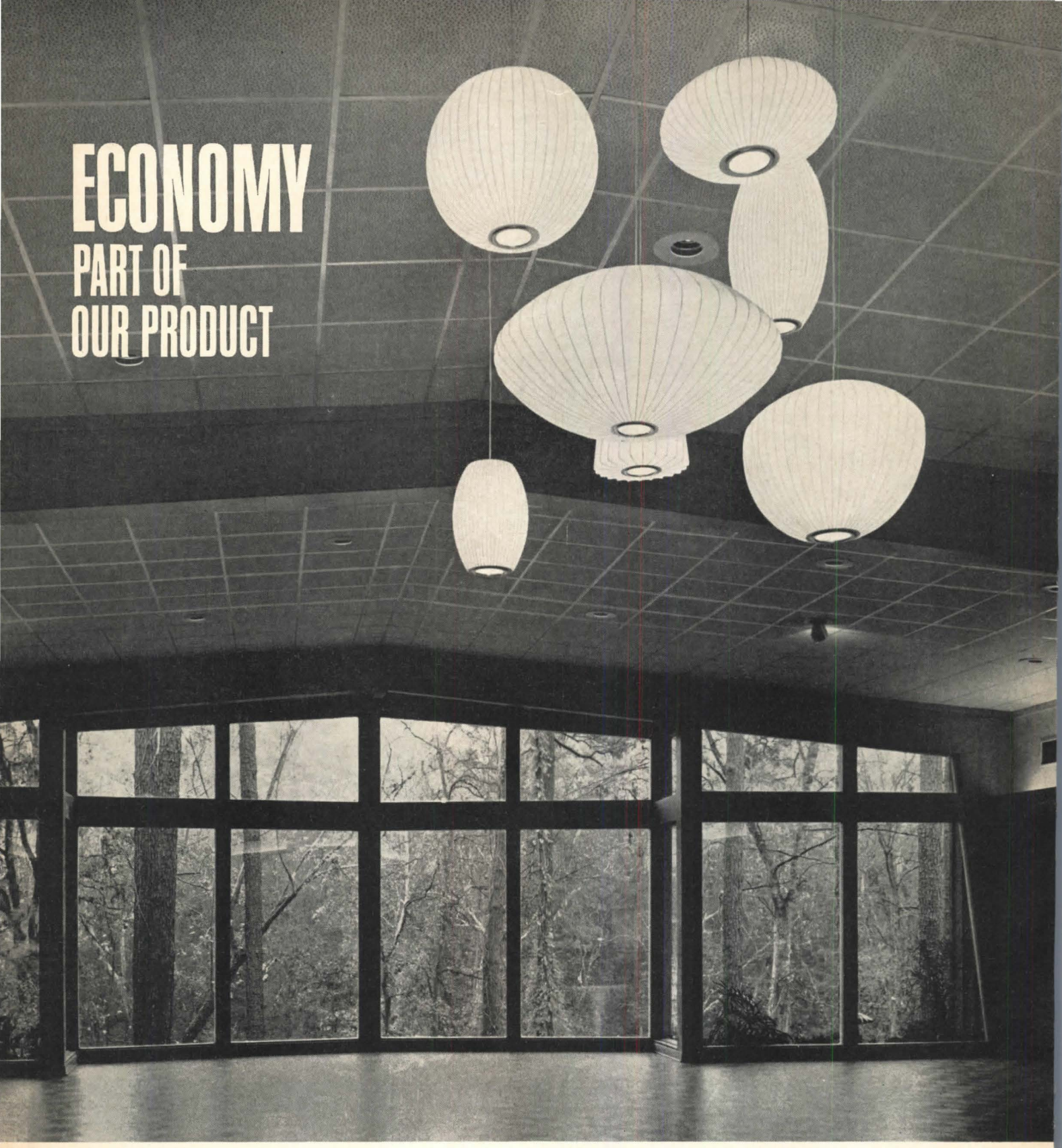

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