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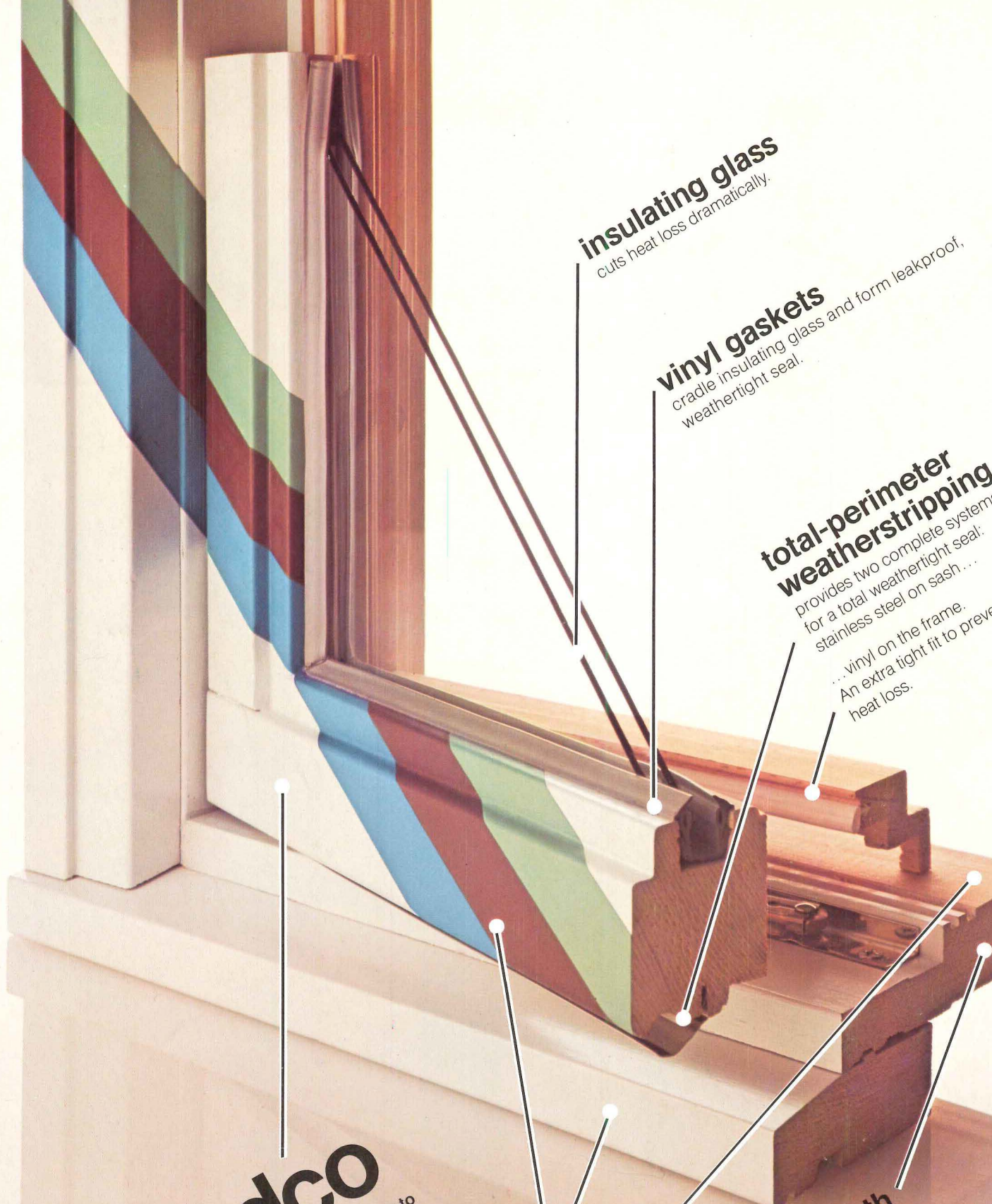
TWO LIBRARIES BY MITCHELL/GIURGOLA ARCHITECTS

SMALL BUILDINGS BY MARCEL BREUER AND ASSOCIATES

BUILDING TYPES STUDY: HOSPITALS

FULL CONTENTS ON PAGES 10 AND 11

# ARCHITECTURAL RECORD



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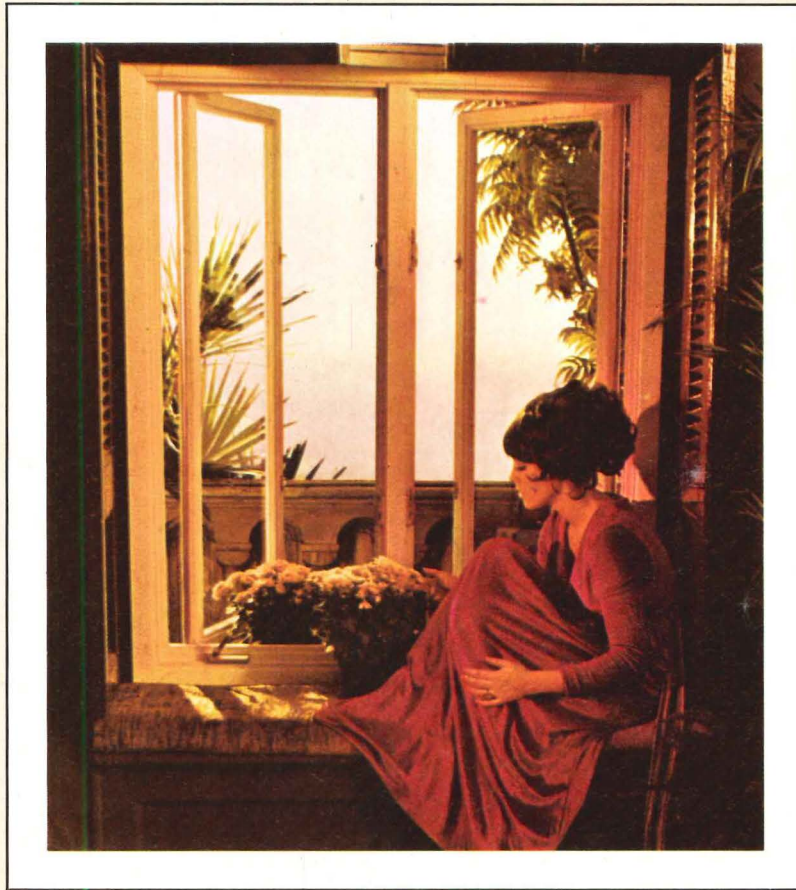
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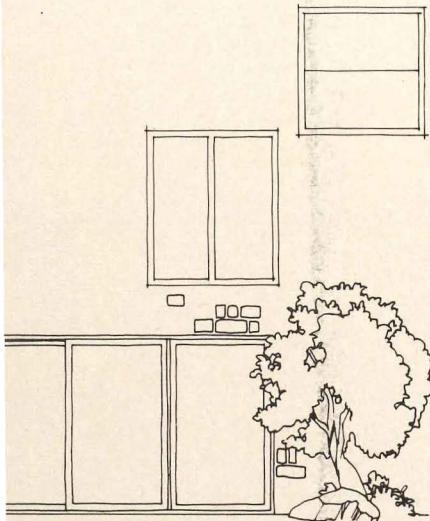
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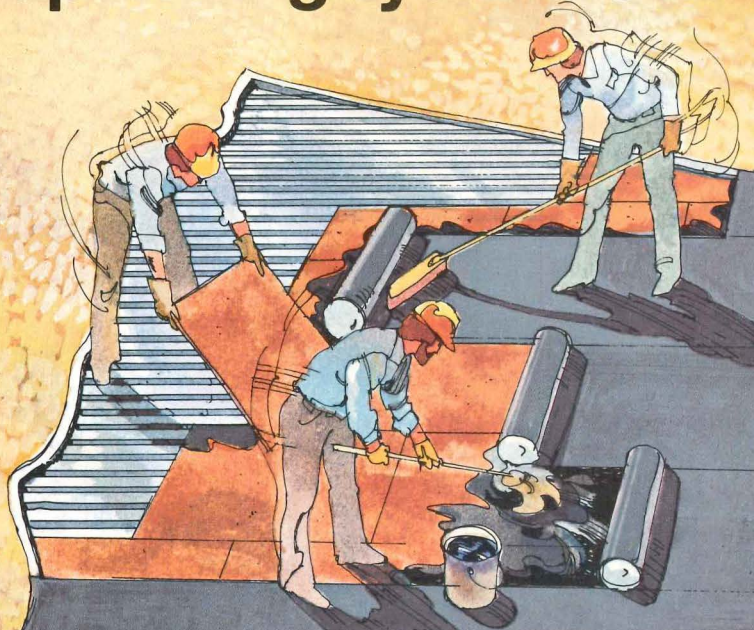
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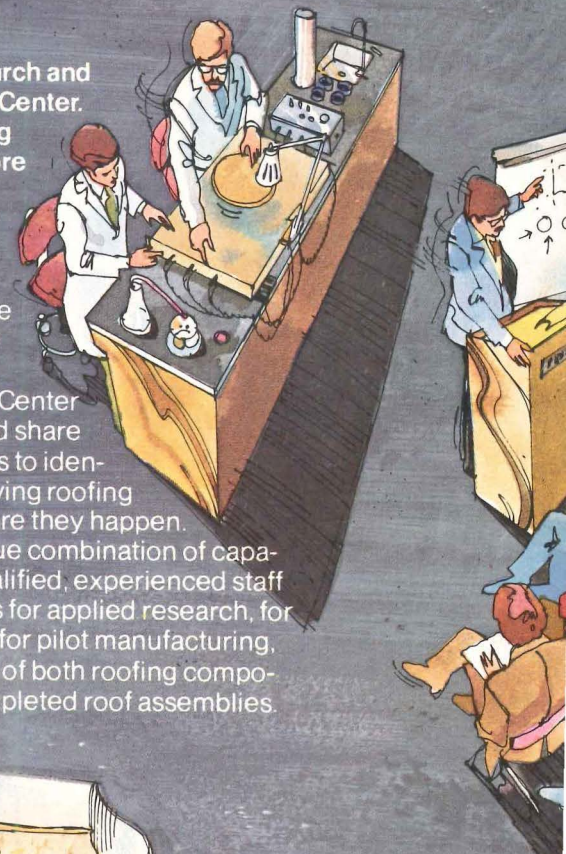


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## Letters to the editor

It was delightful to review the April 1977 Building Types Study 500, including your perceptive introduction. The series has been very important to the profession through the 40 years and 500 issues of its existence. It has been the major, ongoing feature of the architectural press, and the one which many of us had good reason to look forward to each month. A few years after my graduation from Carnegie Tech, I was fortunate to be included in the series. Our St. Charles, Illinois Civic Center was published in March 1941 (and is number 26 in the 500 article). Believe me, as a young architect, the thrill of being included in the BTS was tremendous. It was my first published project since the academic days, and inclusion in the Arts Beaux Bulletin! Many publications and honors have been received since, but none have been as important as the BTS of March 1941. My architectural education, and the approach to design has changed much since the time the St. Charles project was conceived and designed. However, the building was certainly representative of the period.

D. Coder Taylor, FAIA  
Coder Taylor Associates, Inc.  
Kenilworth, Illinois

Your article on Stockton State College (May 1977) was very well written. More often than not, one is disappointed, both substantively and stylistically in what others have said about us and what we tried to accomplish. Your story is a refreshing exception. I believe you accurately captured the essence of what we all had in mind for the physical environment.

Richard E. Bjork, president  
Stockton State College  
Pomona, New Jersey

I thought that the June issue of RECORD was excellent, and particularly admired the article on John Hancock Tower in Boston. It was a difficult assignment, beautifully handled.

Robert F. Gatje  
Marcel Breuer and Associates  
New York, New York

The extensive article by Moore and Oliver on the Building Types Studies (April 1977) is, in my view, most remarkable. Perhaps it is even the most important article you have ever published.

What is astonishing about this low-key, almost informal piece is the brilliant but simple clarity with which the authors see the fundamental prob-

lems of architectural esthetics: one might have thought a critic or esthetics professor might have been able to cut through all of the justifications of style that fail to relate to users, but here we have two practitioners doing the trick!

Bravo, and let's have more of this. Who knows, someday we may even find the schools teaching past styles, proportion and beauty!

The article "Two houses by Charles Moore," in the June issue was an interesting one. The photographs were very good. It's always a pleasure to see Chuck's work. But from what I know of that job, Richard Oliver didn't receive credit in the body of the text for his part in its design and management. Following the great-man formula of journalism and reducing a co-designer and project manager to "fellow architect" seems unfair. I know Dick chooses to work with Charles Moore rather than for him in order to maintain an independent identity and avoid the label of just another MLTW groupie. I hope you will set things right.

Jeffrey W. Limerick  
Yale University  
School of Architecture  
New Haven, Connecticut

*It is true that Richard Oliver played a larger role in the design and administration of the construction of this house than my article suggests and I regret not having acknowledged this in my text. My subject, however, was the architecture of Charles Moore as expressed in two houses. Moore is an artist and his houses are conscious works of art. I do not believe that to interpret his work in this strict context is following "the great-man formula of journalism."*

M.F.S.



## Erratum

In the June 1977 issue (page 99), we erroneously credited this picture to Thomas Brown. It is by John Ebstel.

## Calendar

### AUGUST

**15-19** Joint U.S.-Mideast Business Conference, sponsored by the joint Mideast-American Business Company; St. Francis Hotel, San Francisco, Calif. Contact: John J. Fogarty, Director of Marketing, Joint Mideast-American Business Co., 420 Lexington Ave., Suite 646, New York, N.Y. 10017.

**18-20** Stanford Conference on Design, sponsored by the Stanford Alumni Association; Bowman Alumni House. Contact: Ann Zieger, Bowman Alumni House, Stanford, Calif. 94305.

**19-21** First Annual National Solar Energy Convention and Exposition, "Solarcon," sponsored by Solarcon; Civic Center/Brooks Hall, San Francisco. Contact: Solarcon, P.O. Box 27231, San Francisco, Calif. 94127.

**27-31** Third Annual Meeting and Solar Product Exhibit, sponsored by the Solar Energy Industries Association; Fairmont Hotel, Dallas. Contact: SEIA Annual Meeting, 1001 Connecticut Ave., N.W., Ste. 632, Washington, D.C. 20036.

**29-31** "Solar Heating and Cooling: Practical Design and Economics," sponsored by the Center for Management and Technical Programs, University of Colorado, Division of Continuing Education. Contact: The Center for Management and Technical Programs, P.O. Box 3253, Boulder, Colo. 80307.

**30-31** The 1977 Annual IES Technical Conference and International Lighting Exposition, Waldorf-Astoria Hotel, New York City. Contact: Linda Madden, The Illuminating Engineering Society of North America, 212/644-7920.

### SEPTEMBER

**11-12** Conference on Solar Energy Applications for Buildings, sponsored by Interactive Resources, Inc.; the Oakland Museum, Calif. Contact: Kathy Mayer, Interactive Resources, Inc., 29 Washington Ave., Port Richmond, Calif. 94801.

**12-16** Plant Layout and Facilities Planning, The University of Kansas; instructed by Richard Muther & Associates. Contact: Richard E. Meyer, Director, The University of Kansas, Linwood Center, 9900 Mission Rd., Shawnee Mission, Kansas 66206.

**16-24** Solar Heating/Cooling Systems Seminar and tour of French solar installations, sponsored by the University of Colorado and Management Research Corp.; Le Grand Hotel, Paris. Contact: Richard J. Nachman, Management Research Corp., Sussex Bldg., 1430 Larimer St., Denver, Colo. 80202.

ARCHITECTURAL RECORD combined with AMERICAN ARCHITECTURE and ARCHITECT AND ENGINEER

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EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: 1221 Avenue of the Americas, New York, N.Y. 10020. Other Editorial Offices: 420 Street, San Francisco, Cal. 94111. PUBLICATION OFFICE: 1221 Avenue of the Americas, New York, New York. Second-class postage paid at New York, New York 10001 and at additional mailing offices.

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ASSOCIATED SERVICES/McGraw-Hill Information Systems Co.: Sweet's Files (General Building, Engineering, Industrial Construction and Residential Construction), Dodge Building Cost Services, Dodge Reports and Bulletins, Dodge/SCA film Systems, Dodge Management Control Service, Dodge Construction Dodge regional construction news (Chicago, Denver, Los Angeles, San Francisco).

THIS ISSUE is published in national separate editions. Additional page rate editions numbered or allow follows: Western Section 32-1 32-4. POSTMASTER: PLEASE SEND 3579 to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, N.J. 08520.





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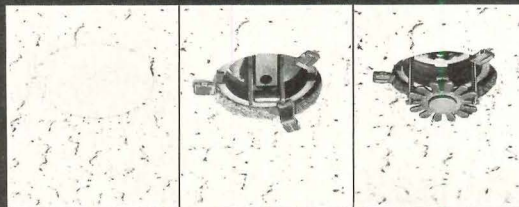
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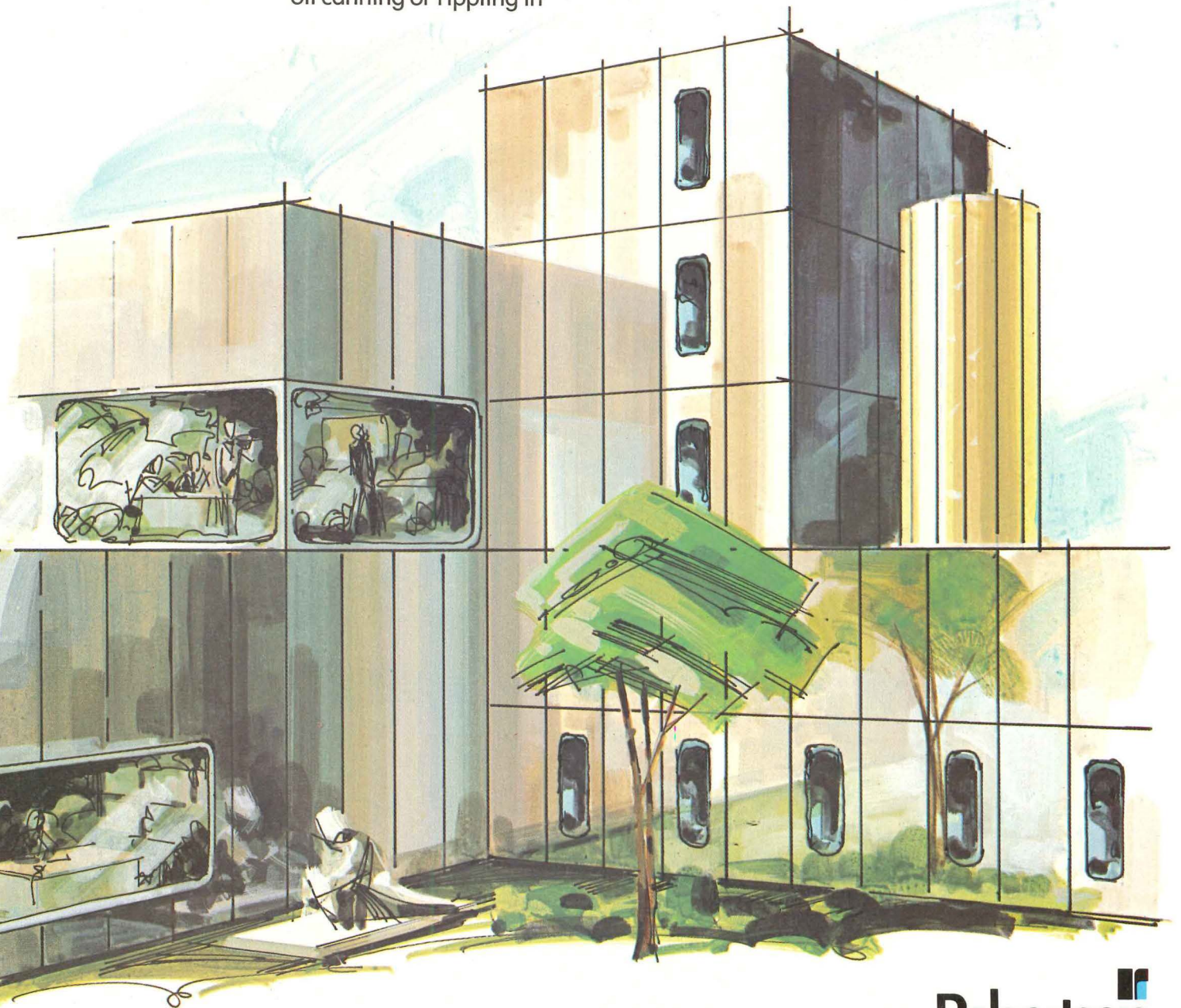
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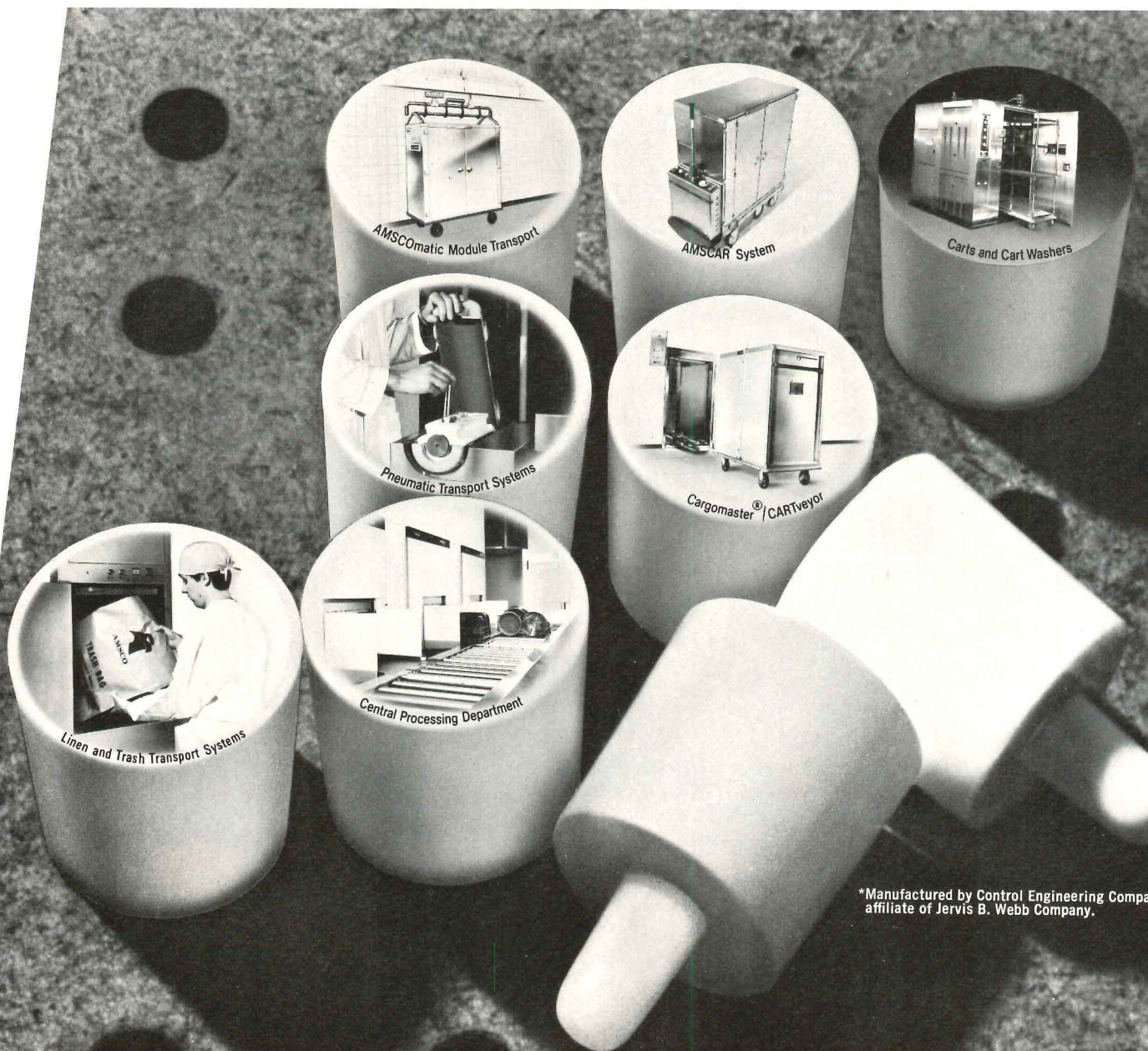
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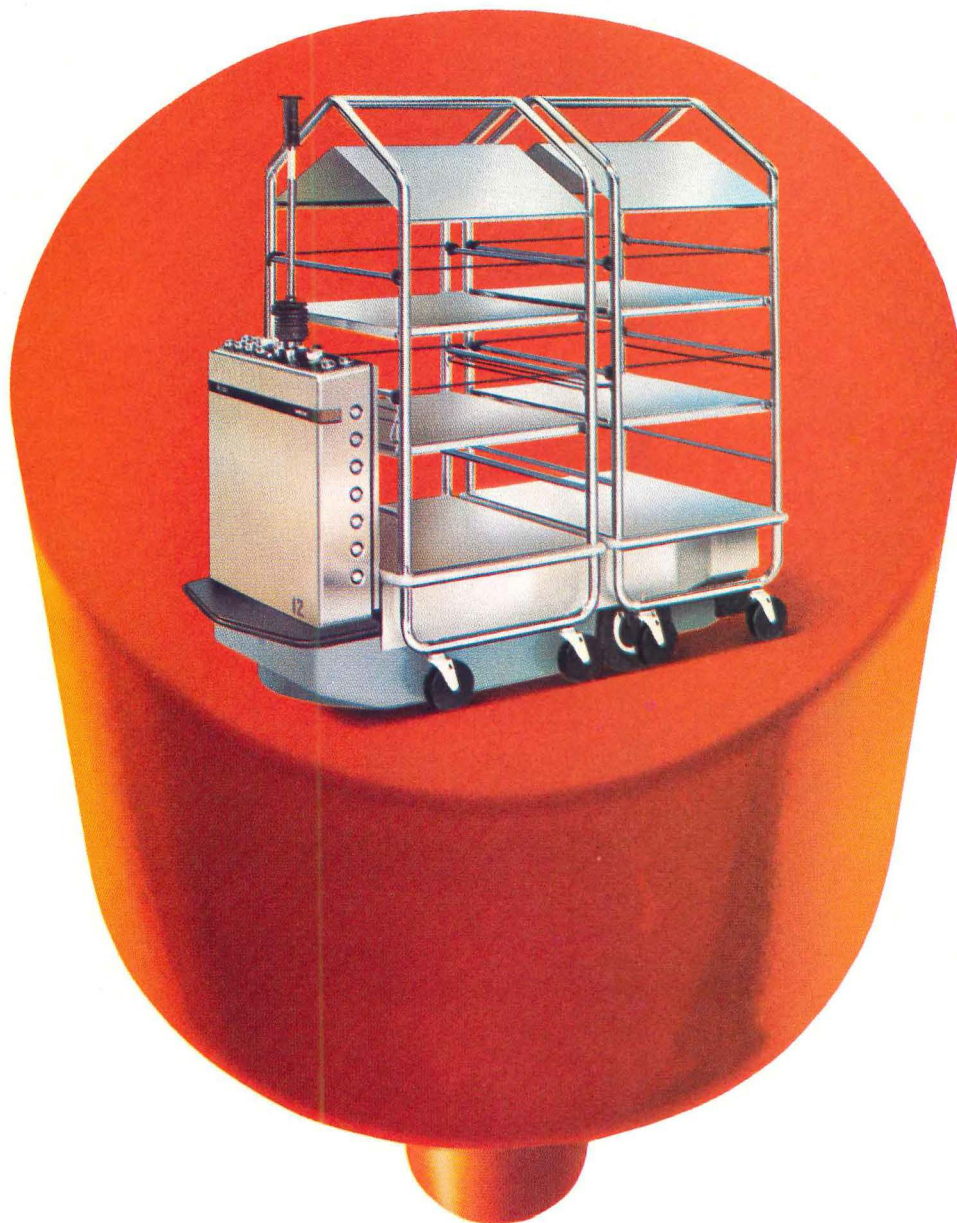
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# on the move





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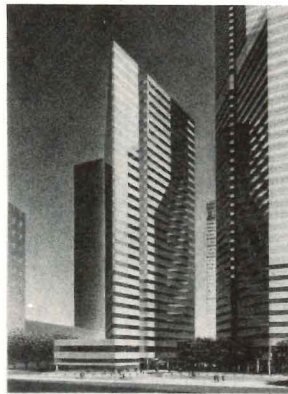
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FEATURES

**Recycling architectural masterpieces and other buildings not so great**

A portfolio of five remodeling and restoration projects by Hardy Holzman Pfeiffer Associates, followed by an article by the architects on how they do it.



Norman McGrath

**Relating common solutions: two libraries by Mitchell/Giurgola**

A small public library for Tredyffrin Township in Pennsylvania and the large University of Washington law school/library in Seattle are very different buildings designed with mutual concerns and hence solutions: an uncommon regard for the manipulation of views and natural light, direct access to the main spaces and a sense of drama when the users are in them.

**IBM Santa Teresa Laboratory San Jose, California**

The first facility of its kind for IBM, this integrated complex was designed specifically for 2000 computer programmers and related staff. A combination of aluminum and reflective glass facade creates a handsome complex that is deliberately distinct from its surroundings.

**Three small buildings by Marcel Breuer and Associates**

Each of the three buildings—a house, a manufacturing plant and a building for a telephone company—was designed by Breuer in conjunction with one of his associates. Taken together, they hint at what we can expect from this distinguished firm in the years ahead.

**BUILDING TYPES STUDY 505**

**113 How the hospitals are**

Construction in the health facilities field is up just three per cent over 1976, but programmatic and design innovation are jumping on several levels of care as architects work out ways to make conceptual hay out of financial, legal, and environmental constraints.

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The physiognomy of reform in the design of large urban hospitals is clearly, cogently delineated in this thoughtfully composed Minneapolis facility.



Balthazar Korab

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Long a landmark of the Los Angeles medical community, this new center, near downtown, is itself a landmark of sophisticated programming and sensitive siting.

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**COMING IN MID-AUGUST**

The fourth annual issue of "Engineering for Architecture" featuring:

- 1) Thirty pages of case histories demonstrating effective collaboration between architect and engineer;
- 2) Solar Energy: What architects should consider as they embark on a solar job;
- 3) a report on RECORD's Round Table: Cost-effective Strategies for Saving Energy in Buildings;
- 4) Computer Graphics: an article on new developments at Cornell that enhance the approach for the design professional;
- 5) Wiring methods for lighting and power flexibility—a pictorial presentation of the latest techniques;
- 6) Review of a book by August Komendant on what it was like to work with Louis Kahn.

**NEXT MONTH IN RECORD**

**Building Types Study: High-density housing**

The ever-continuing search for more and better inner city housing has been strained in recent years by changing cultural factors beyond the need for redevelopment and low-income housing—statistically demonstrated in part by increased numbers of single persons and people moving back into the city after fleeing to the suburbs years ago. In September, the RECORD will show a wide range of architectural innovations in new and renovated structures that make living in high-density housing in a downtown area more appealing.



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## NCARB: tough talk on recertification, ethics and the testing of young architects

A few weeks after the AIA at its annual convention hotly debated issues of ethics and certification, the National Council of Architectural Registration Boards, meeting in San Diego, had some tough talk about the same issues. And as if those subjects weren't heavy enough fare for one meeting, the NCARB state board members also voted to reinstate the design examination for all candidates for registration (the abandonment of a design examination was a hot potato just a few years ago, and this move is a reversal).

While the AIA debates on the subject were more colorful, the NCARB debates are in many ways more critical to any architect—for example, if the AIA thinks you should undertake some continuing education and you don't want to bother, probably the worst thing that could happen is that you risk losing your license; if the NCARB member board decides you shall undertake some continuing education, you undertake it—or risk losing your license.

The NCARB is nothing if it is not cautious and careful in its deliberations and actions—it requires a fragile consensus of state legislatures which sometimes have conflicting ideas which are at any rate subject to the whims of differing state legislatures. Nevertheless, all 55 member boards of NCARB reached some agreements a month ago that affect every architect and architectural student in the country. Items:

The delegates approved a set of "hard-edged" guidelines of conduct to be used as guidelines by individual state registration boards. Two years ago, in the development of this new code (NCARB has never before promulgated such rules as an authority to the state registration boards) incorporates recommendations not just from architects—but from "many government, professional, and consumer-related authorities" were invited by NCARB to study a preliminary draft and submit their comments." A number of state boards have already indicated that they plan to adopt the new code—and NCARB hopes that, with only minor change, all states will adopt the proposed rules. As is appropriate, the NCARB code of conduct are mandatory and enforceable—since they deal with "the public health, safety, and welfare" and they are quite different in intent from the AIA code which, in large part (though it does include some mandatory guidelines of conduct) expresses "goals toward which all members of the AIA should aspire and

guidelines for professional performance and behavior."

■ The delegates also voted to reinstate the traditional "graphic design problem" as part of the licensing examination for all candidates for licensing. A few years ago, the NCARB recommended to its member boards that—at the same time they adopted the uniform Professional Examination (which is given nationwide, is machine-gradable, and intended primarily to test "the knowledge, skill and experience of the applicant in situations requiring the application of professional-level judgment")—they drop the requirement for a design examination—which almost by definition must be judged subjectively. The assumption that any graduate of an accredited architecture school was a competent designer (and therefore did not need to be tested in design) was not accepted by many of the state registration boards—and (importantly) was not accepted by California, New York, Illinois, and some other large states which, in themselves, license the majority of new architects. Thus—to re-establish the uniformity of examination for all candidates for registration—the NCARB delegates voted to reinstate the 10-hour design problem for all candidates, beginning in 1978. NCARB is recommending to its member boards that the examination be graded not by architects within the state but on a regional level—to avoid any criticism based on "protectionism" at the local level.

■ On the hot-potato subject of required continuing education as a condition of recertification, the NCARB is pushing hard (against considerable opposition within AIA) for a uniform system of continuing education and testing. Many NCARB member boards are clearly under considerable pressure from their state legislature, and so NCARB is now pressing actively for development of a nationally-uniform "Architect Development Verification Program"—in the "recognition that it is in the public interest for registered architects to demonstrate their continued professional competence from time to time." The vote on continued development of such a program was unanimous.

At the AIA Convention, in contrast, most of the speakers from the chapters (except those faced with imminent state action) were strongly against the concept of mandatory continuing education. The arguments expressed in various resolutions included "recognizing [recertification] as an exaggerated problem which

may be counter-productive to the best interests of the profession and society . . .", or that "criteria for recertification would [likely] be so basic and elementary that they would have little if any influence on the upgrading of the competence of the practicing professional . . ." or that "many architects believe that the improvement of initial educational and basic licensing standards is perhaps a more certain method of ensuring competence . . ." or that "mandatory recertification by state boards based on minimum standards and the lowest common denominator would be self-serving, misleading to the public, and of little meaningful value. . ." The resolution which finally passed at the AIA convention simply directs the AIA Board to "1) Develop and publish a policy espousing high-quality education, licensing standards and active practice as more dependable assurance of professional competency than mandatory recertification. . . . 2) Encourage broad membership participation in voluntary continuing education programs as the best means of developing specialized skills . . . and 3) encourage active participation by the membership and maintain a strong liaison with groups involved in education and licensing to assure professional guidance and leadership in the continuing development of professional practice standards."

From what one editor hears, so general an offer of "liaison with groups involved [i.e., most especially, NCARB]" ain't gonna be enough. NCARB is now studying a quite specific program of mandatory study of new developments in many areas affecting the public health and safety—for example, environmental issues, hvac, electric and plumbing, energy conservation, solar energy, building code changes, life-safety code changes, fire safety, OSHA. One present proposal within NCARB would require study of monographs in one or more of these areas and an examination as a condition of recertification. AIA, while it hasn't talked about it in public, does have an alternate system in draft form. Given the pressures coming down in this area, now would seem to be a splendid time for a detailed comparison of attitudes and techniques.

And in a broader context: with NCARB deeply into a number of areas that drastically affect the profession, right now would seem a good time for every chapter and every architect individually to make some effort to plug into what's happening up there at the State Capitol.

—W.W.

# Designing in daylight – with glazing

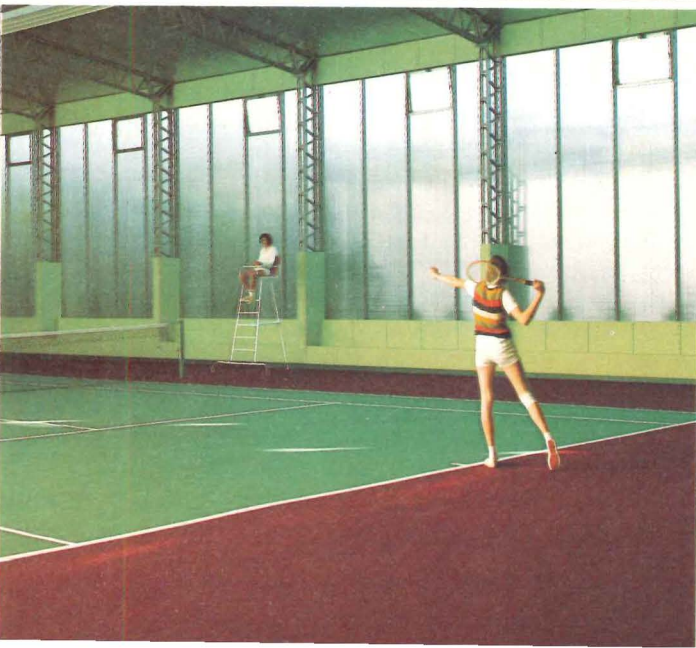
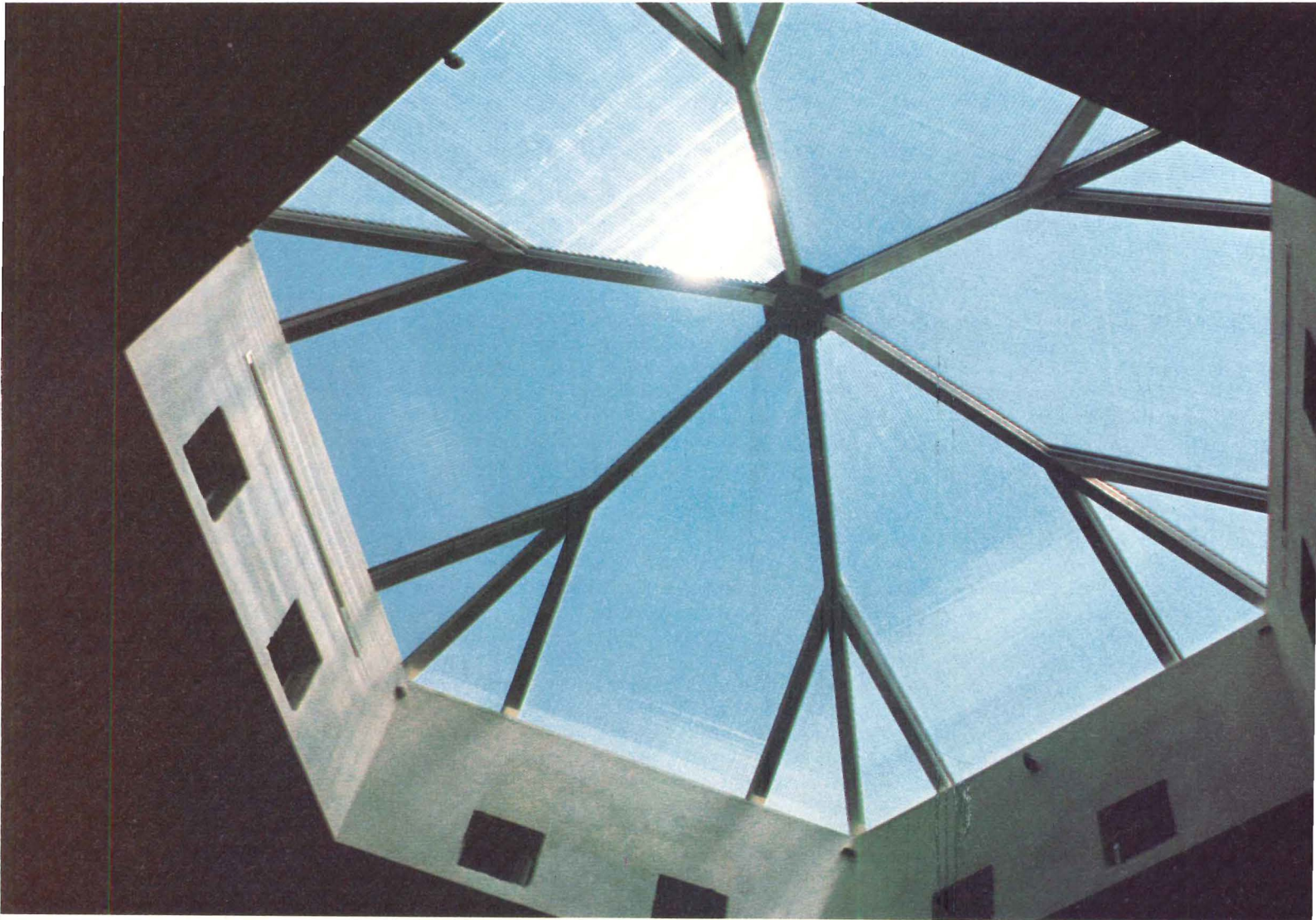
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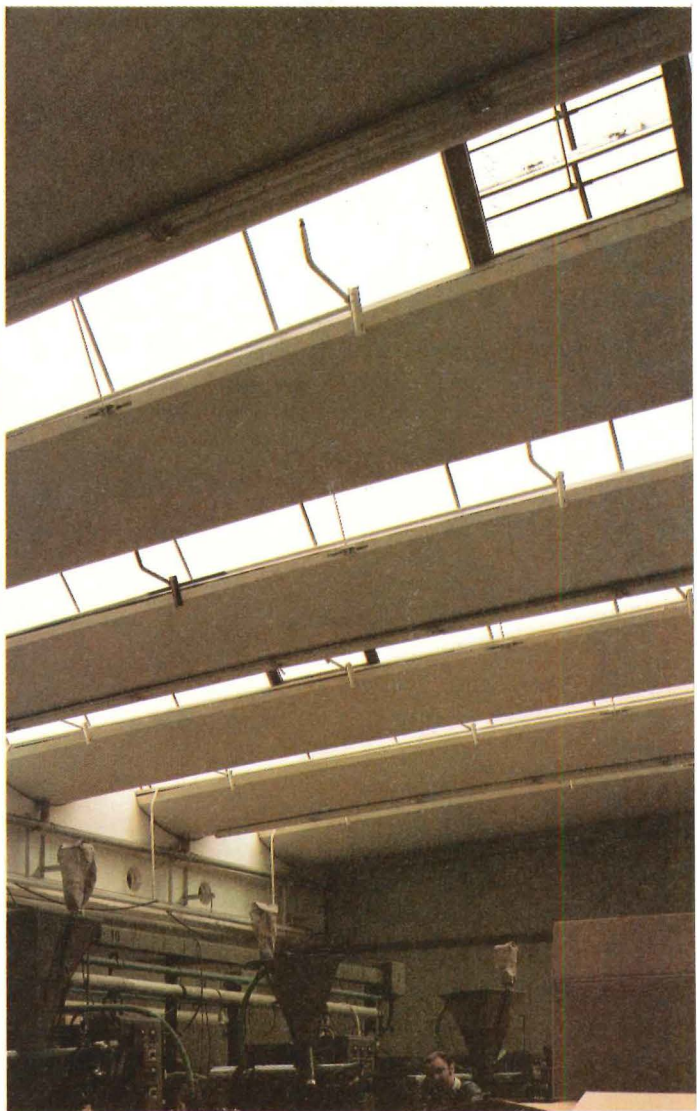
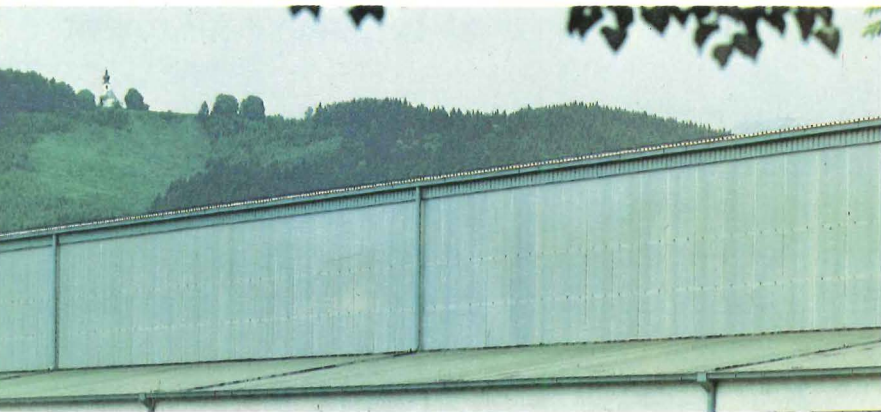
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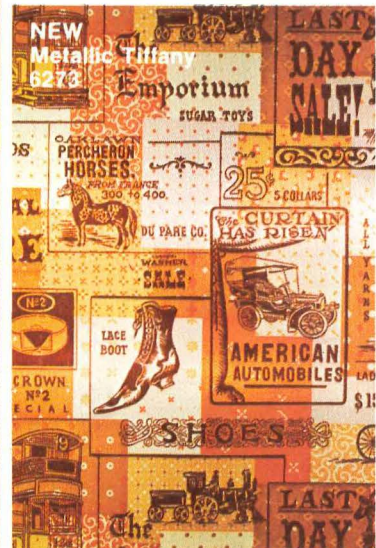
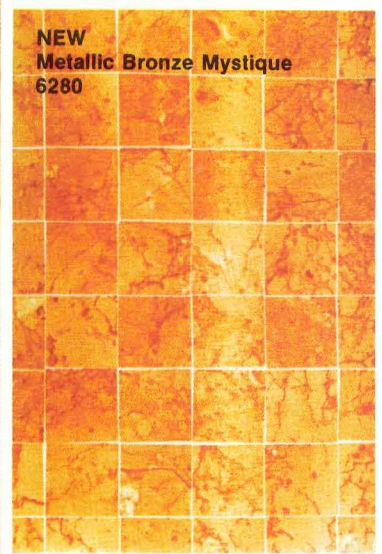
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As defined by the National Bureau of Standards, "The Thermal Shock Factor (TSF) is an indicator of the roof membrane's ability to withstand the normal temperature changes of its environment. Values of the coefficient of expansion, tensile strength, and load-strain modulus can be used to calculate the TSF."

The heart of our system is the unique, inorganic Perma Ply-R felt. It works two ways to give the system its strength.

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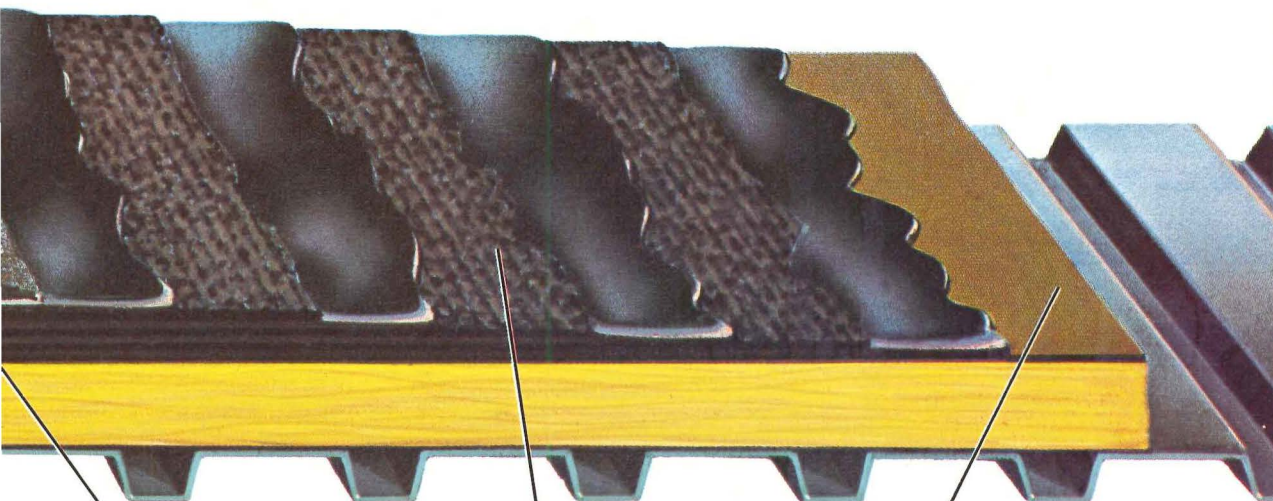
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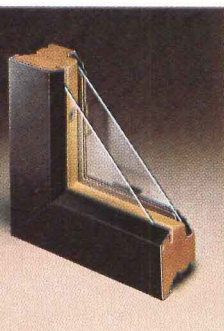
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# Only a Pella package could deliver it all

The contemporary bay window treatment of the Fairmont Condominium is not for looks alone. It is used to house the electric heating and air conditioning units for each apartment. These units are located directly below the windows in a cabinet that's flush with the inside wall. Pella clad panels and louvers below each window provide venting for the air conditioners.

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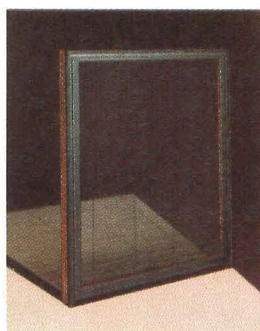
Pella offers an aluminum cladding in attractive colors outside — the natural warmth and beauty of wood inside. Aluminum exterior needs no painting — won't chip, crack, or peel.



Pella's Contemporary Double-Hung pivots as shown for easy washing of outside glass from inside. This makes extraordinary maintenance such as sash removal for reglazing easy and economical.



Pella's Double Glass Insulation System has a full 1 3/16" air space between panes—provides maximum insulation at lowest costs. Precision wood construction and snug weatherstripping make it truly Energy-Tight.



Pella's optional Slimshade® helps reduce both heat loss and unwanted solar heat gain. Also provides privacy and light control at the touch of a dial. Fits between the panes of the Double Glass Insulation System.



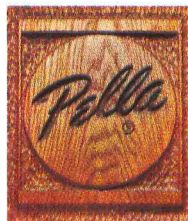
Pella's Sliding Patio Doors feature a self-closing screen — it automatically glides shut and latches itself. Doors may be specified in either all-wood, or wood with aluminum cladding in attractive colors.

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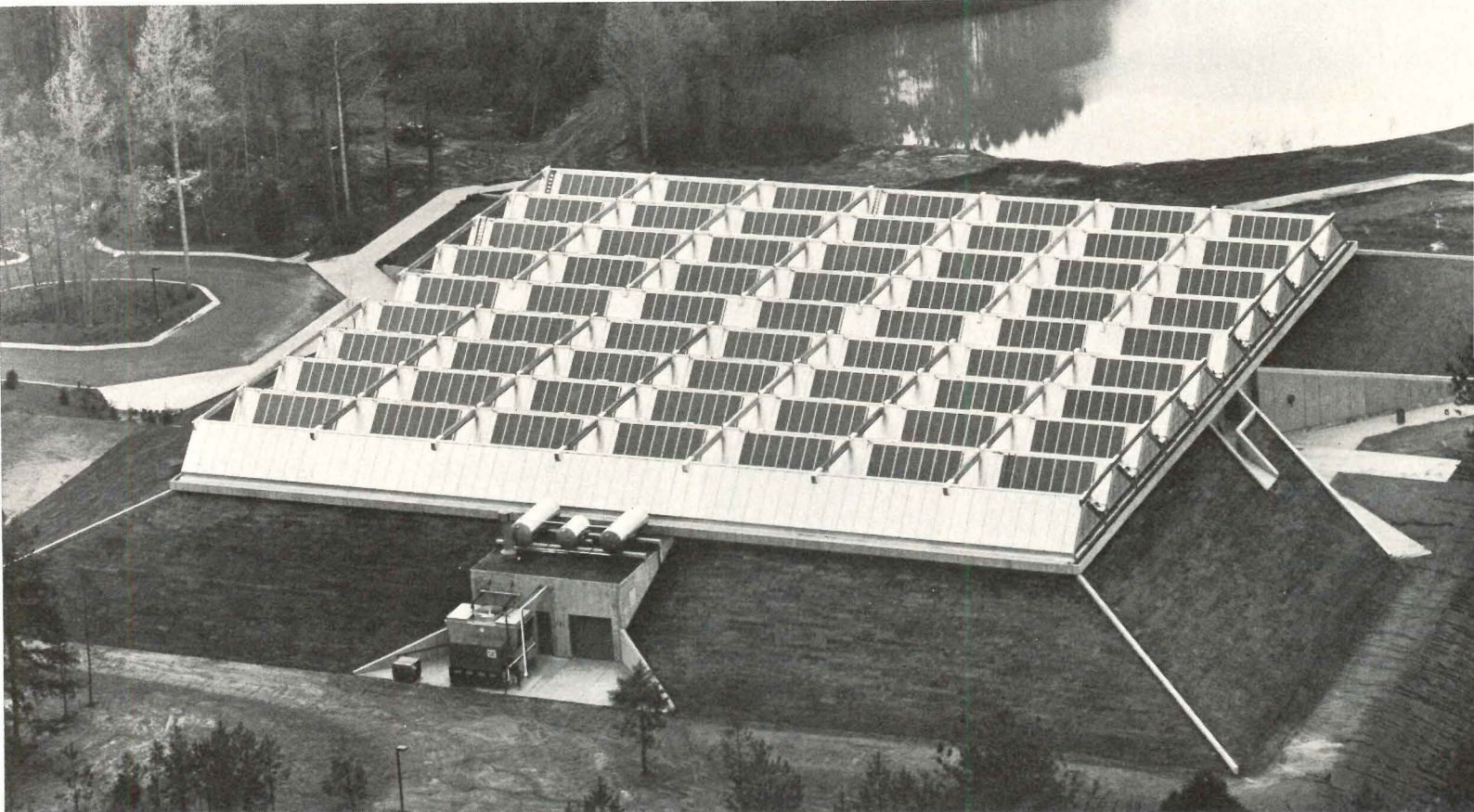
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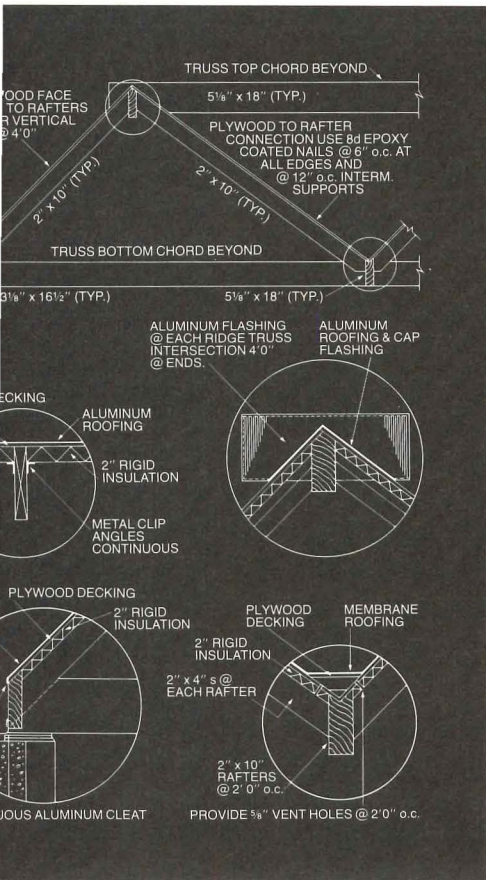
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## Plywood Design Series-2



Shenandoah Solar Recreation Center: Shenandoah Development, Inc., owner; Taylor and Collum Architects, Atlanta, Georgia.





## Solar design. The large economy size.

When architects Richard Taylor and Tom Collum designed the roof of this 9,000-square-foot community center as one giant solar collector, there was only one decking material that made sense at all.

Plywood. The roof is a folded plate system of plywood trusses and 1/2" CDX 32/16 APA trade-trademarked plywood attached to diagonal truss members and rafters at the same slope. The plywood is

sheathed with reflective aluminum, and collector panels are mounted on the south slopes.

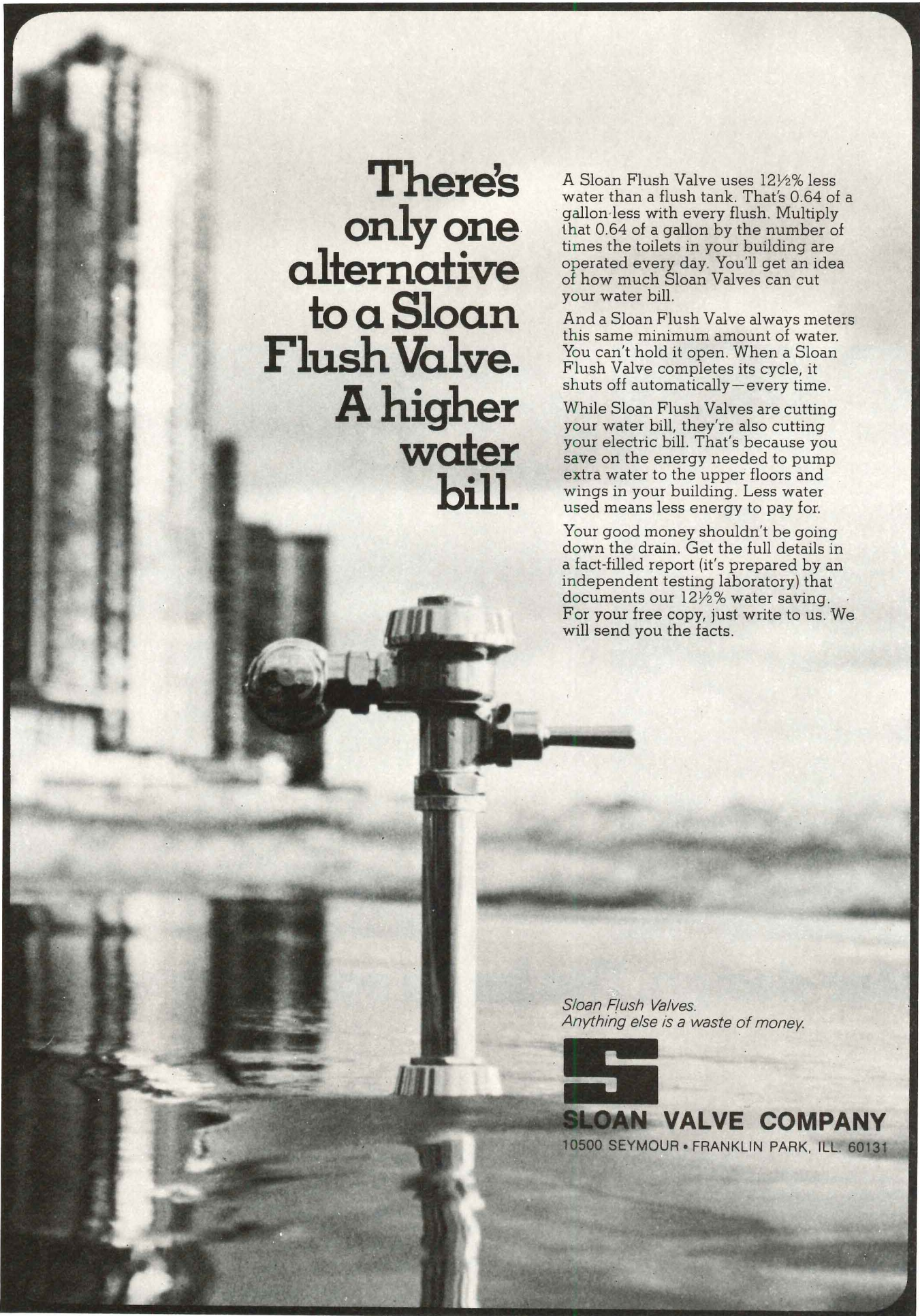
Besides being the most economical material, plywood provides extra stiffness, in-plane wind load resistance and out-of-plane dead and live load resistance.

The solar system produces 95 percent of the heat for the building, two-thirds of the cooling, and heats an outdoor swimming pool, too.

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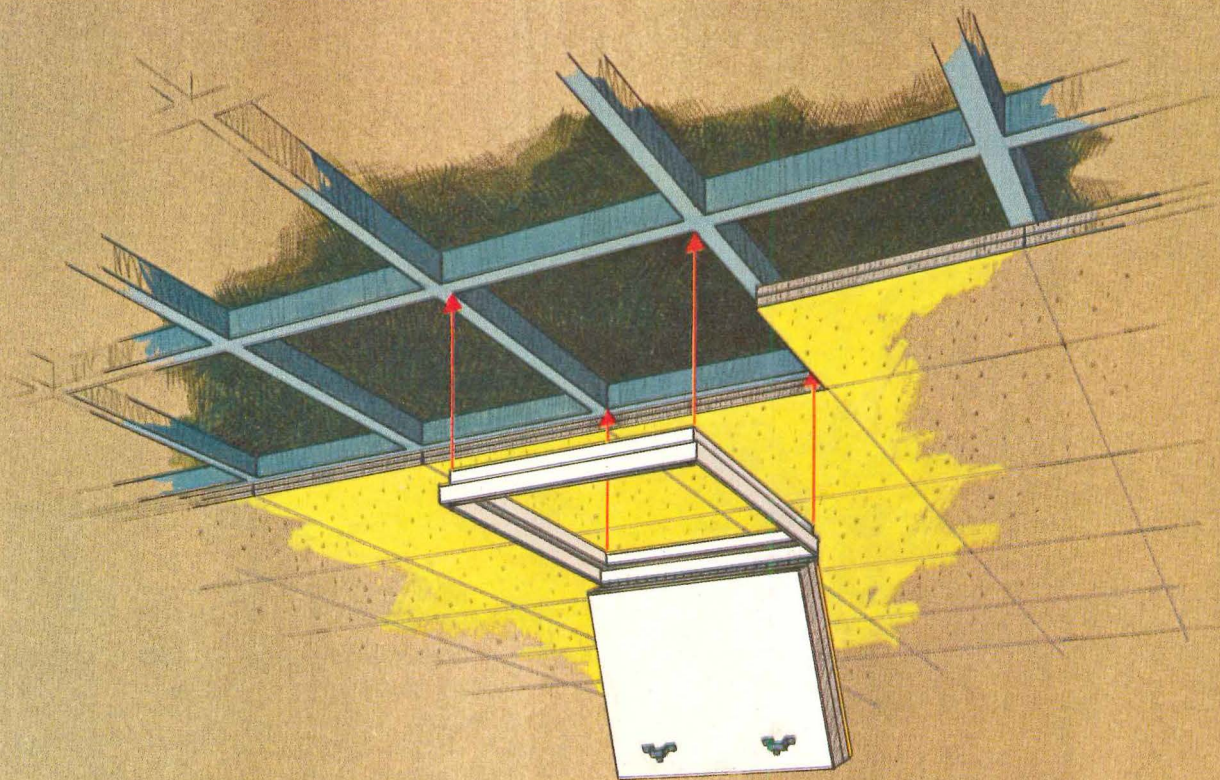
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The first automatically operating Heat and Smoke Vent available in economical steel construction in widths to span wide joist spacings...permitting installation without special supplemental framing. Furnished in lengths from 6' 0" thru 12' 0". Underwriters' Laboratories listed and Factory Mutual approved. Also available in aluminum.

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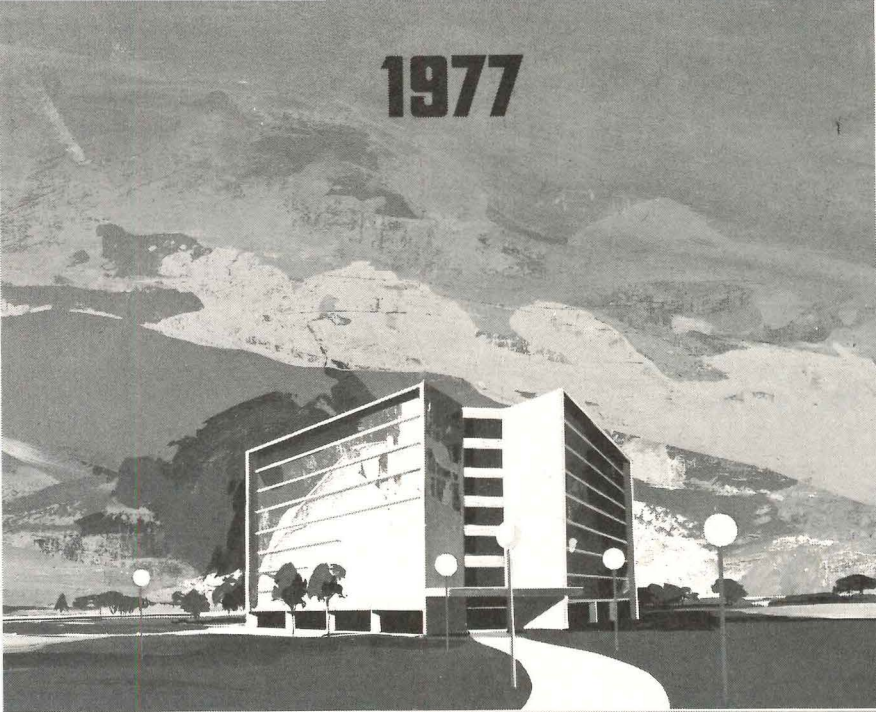
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Tampa Wholesale Company, Tampa, Florida,  
utilized these performance characteristics of  
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0.30 summer daytime  
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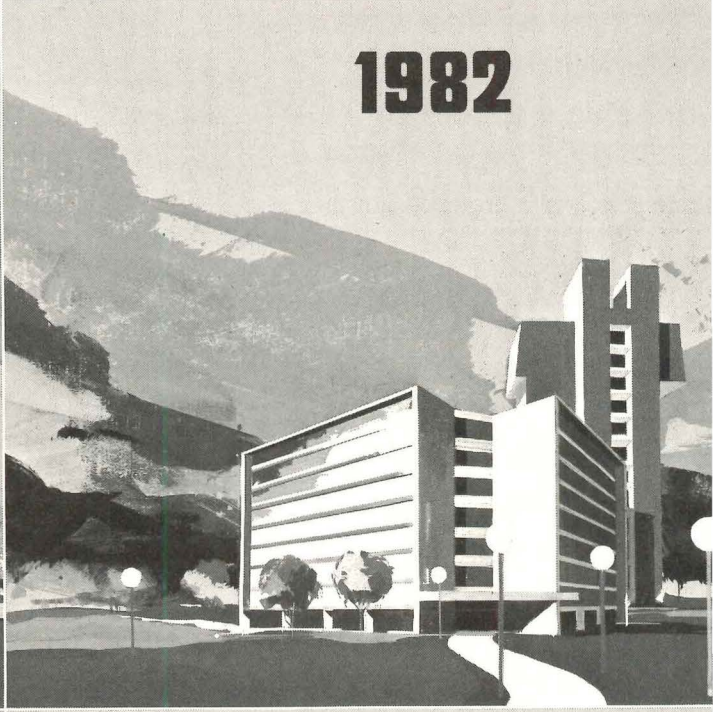
Owner and Architect:  
Tampa Wholesale Company, Tampa, Florida



**1977**



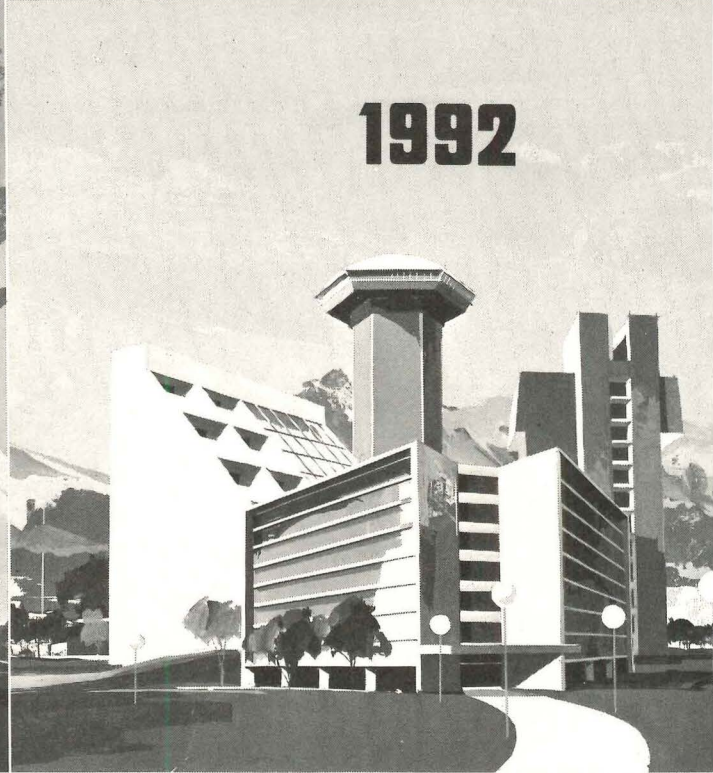
**1982**



**1987**



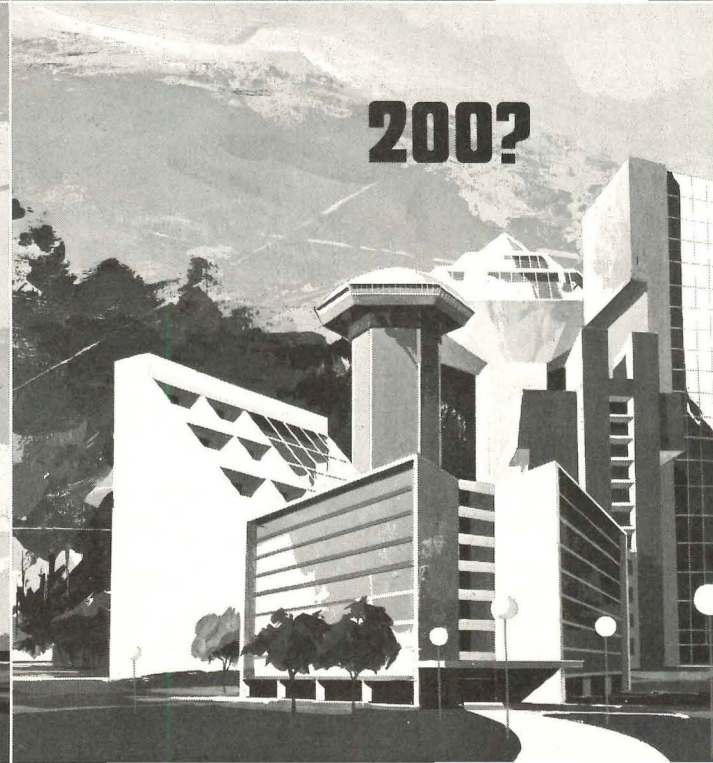
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**200?**





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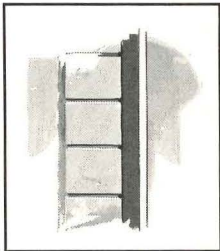
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For specific information regarding warranty details and conditions or for more information on how STYROFOAM brand insulation can help you, contact your local salesman or write: The Dow Chemical Company, STYROFOAM brand insulation, Midland, Michigan 48640.

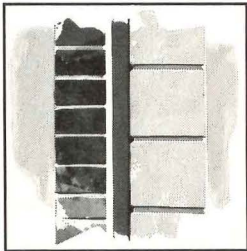
**STYROFOAM<sup>\*</sup>**  
BRAND INSULATION



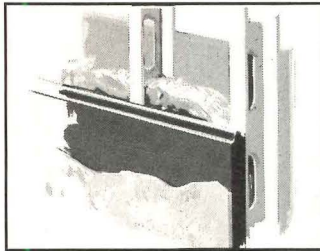
\*Trademark of The Dow Chemical Company



Apply to the inside of masonry walls with STYROFOAM brand mastic No. 11.



Insert between interior and exterior walls in cavity type construction.

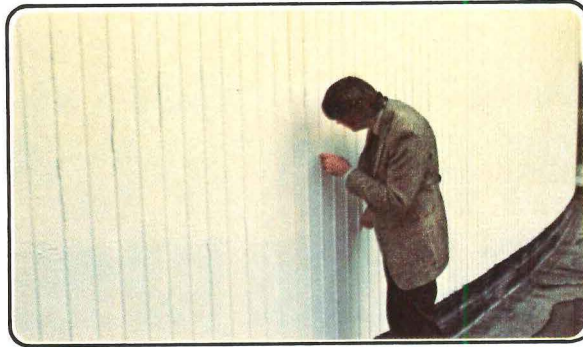


Apply to outside of studs just as you would apply conventional sheathing.

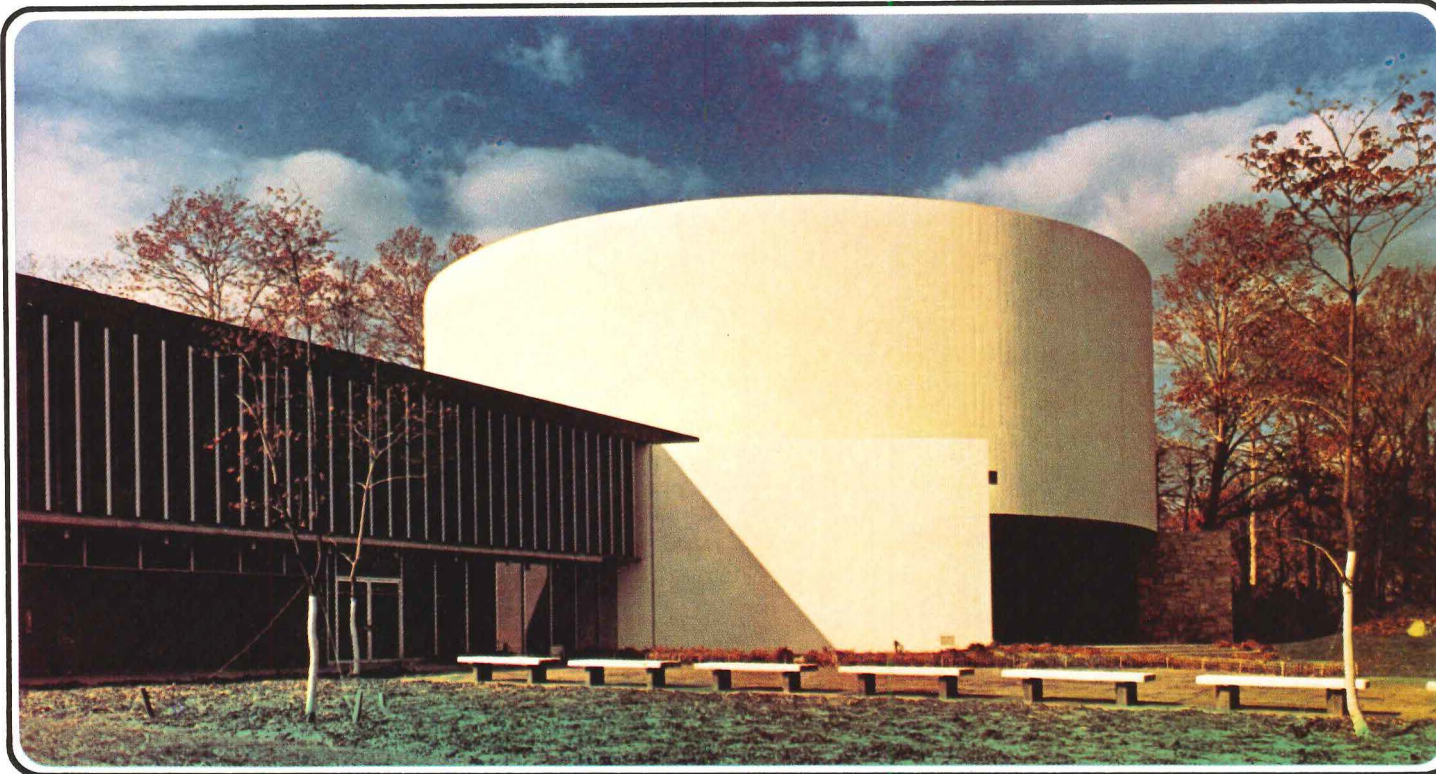
**WARNING:** STYROFOAM brand insulation is combustible and should be properly installed. For commercial construction a minimum of ½" gypsum board or equivalent thermal barrier interior finish should be used. See Dow literature available from your supplier or from Dow.

*For more data, circle 19 on inquiry card*

# 16 year old surface looks great!



# ...and still will 16 years from now



*Visitor's Center & Cyclorama Building, Gettysburg National Military Park, Pa.  
Arch: Richard J. Neutra & Robert E. Alexander, Thaddeus Longstreth Assoc. Painting Cont.: Ralph E. Jones, Inc. Harrisburg, Pa.*

## **SPEEDY, SPRAYED-ON WATERPROOF TEXTURED FINISH**

This Cyclorama Memorial at Gettysburg, Pennsylvania was built 16 years ago using poured concrete. The architect designed vertical flutings that were a very essential part of the design. The problem was the finishing and protecting of these unusual architectural details without losing any of the dramatic effect. An overall waterproof texture was achieved with a coating technique that at that time was revolutionary. THOROSEAL PLASTER MIX was applied using a plaster type spray gun. ACRYL 60 was added to the mixing water to provide positive adhesion and built in curing. After 16 years the building still has its "brand new" look.

THOROSEAL PLASTER MIX protects surfaces with a decorative, durable waterproof textured finish. It adds uniformity. Light or heavy textures can be achieved. It fills and seals holes, voids, form marks and honeycombs thus eliminating rubbing. It possesses high density and compressive strengths, great durability, hardness and is waterproof. Comes in dry form; just add water. This building is our testimonial! Write for cir. #7



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*For more data, circle 20 on inquiry card*

## NEWS REPORTS

## HUMAN SETTLEMENTS

## BUILDINGS IN THE NEWS

## REQUIRED READING

**A Supreme Court ruling allowing lawyers to advertise casts doubt on the legality of professional bans in this area.** In a 5-4 decision, the Court said that an Arizona prohibition violated the attorneys' constitutional right of free speech. Details on page 34; see also Legal Perspectives, page 63.

**Power plants pushed May's construction contracts up 64 per cent over last May for a record \$15.9 billion**, according to monthly figures issued by the F. W. Dodge Division of the McGraw-Hill Information Systems Company. Even after adjusting for the extraordinary nonbuilding construction figures, however, Dodge economist George A. Christie observed, "May contract data still showed a 25 per cent across-the-board improvement in general construction activity." Nonresidential building, up 11 per cent, showed special strength in commercial projects—stores, shopping centers, warehouses and office buildings—which were up 33 per cent. Residential building, totalling \$5.7 billion, reflected 40 per cent gains in both single-family and apartment buildings.

**Congress has voted \$1 million in start-up funds for the National Institute of Building Sciences.** Counting on this funding, NIBS has already named Gene C. Brewer a part-time consultant; he is expected to become president, the Institute's full-time chief staff officer. Details on page 35.

**The National Council of Architectural Registration Boards elected Paul H. Graven president** at its recent annual meeting. Mr. Graven heads the architectural firm Graven Associates of Madison, Wisconsin. Other new officers include president-designate Lorenzo D. Williams, of Williams/O'Brien, Minneapolis; second vice president John R. Ross, of Ross & Levin Associates, San Luis Obispo, California; and secretary Dwight M. Bonham, of Griffith and Bonham, Wichita. Mace Tungate, Jr., of Calhoun, Jackson, Tungate & Dill, Houston, continues as treasurer. For comment on actions taken by NCARB at the meeting, see editorial, page 13.

**A HUD task force has recommended the continuation of the Federal Housing Administration in its present form**, but has also called for FHA's aggressive and innovative participation in housing markets. Details on page 35.

**The White House may acquire solar heating, in keeping with President Carter's known interest in this technology.** (Readers may remember the solar-heated inaugural stand.) Under commission from ERDA, PRC Energy Analysis Company, mechanical engineers of McLean, Virginia, and the Ehrenkrantz Group, architects of New York City, have completed feasibility studies and preliminary design of a system to supply the mansion and its east and west wings with heating, cooling and domestic hot water. Considerations included the discreet placement of collectors, the modification of existing systems and the possible generation of security problems.

**The University of California in Berkeley has named Allan B. Jacobs chairman of City and Regional Planning.** Mr. Jacobs has been a professor in the Department since 1974, and earlier was director of San Francisco city planning.

**The National Bureau of Standards has issued a five-volume series, "Building to Resist the Effects of Wind."** Published by the NBS Center for Building Technology, the 3½-year study was undertaken to improve design criteria for low-rise buildings exposed to extreme winds, and had special reference to typhoon and hurricane areas. The series is available for \$7.70 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

**Three regional workshops on "Developing an Accessible Campus for the Handicapped" have been scheduled** by the National Center for a Barrier Free Environment and the Association of Physical Plant Administrators of Universities and Colleges. Focused on practical techniques for removing barriers, the meetings will take place September 21-23 in Washington, D.C., November 9-11 in Palo Alto, California, and December 7-9 in New Orleans. For information and applications: National Center for a Barrier Free Environment, 8401 Connecticut Avenue, Washington, D.C. 20015.

**Author Brent C. Brolin seeks examples of new buildings designed to fit sympathetically with existing neighbors** for inclusion in his projected book *In Context: A Primer for Designing to Fit In*. Architects of buildings filling this description are asked to communicate with Mr. Brolin at 25 Washington Square North, New York, New York 10011.

**The Concrete Reinforcing Steel Institute has issued a Call for Entries in its 1977 CRSI Design Awards Program**, designed to honor "creative achievement in cast-in-place concrete structures using conventional reinforcing bars." Open to registered architects and engineers, the program requires no entry forms, but does have a deadline of November 15. For information: Concrete Reinforcing Steel Institute, 180 North LaSalle Street, Chicago, Illinois 60601.

**The Livable Cities program offers matching grants of up to \$30,000 for research and planning** for community projects. The grants, available to nonprofit, tax-exempt organizations, are administered by the National Endowment for the Arts. Application deadlines are October 14 (for projects to begin March 1, 1978) and February 1, 1978 (for projects to begin June 1, 1978). For information and applications: Architecture + Environmental Arts Program, Mail Stop 503, National Endowment for the Arts, Washington, D.C. 20506.

## Supreme Court rules that attorneys may advertise, and speculation flourishes among the other professions

Architects and other professionals who have maintained ethical bans against advertising have been stirred to a flurry of speculation by the Supreme Court's ruling that state registration boards and professional societies cannot lawfully prevent professionals from advertising. Early guesswork on the decision's effect suggests that some architects, especially those in small firms, may begin to advertise their services—particularly for such routine work as single-family housing.

The American Institute of Architects, which reaffirmed its ethical code ban on advertising at its June convention in San Diego, is expected to reverse its position at a meeting of the organization's Board of Directors next month.

The case before the Supreme Court involved two lawyers in Arizona who were disciplined for violating a State Supreme Court rule governing the conduct of attorneys by placing a newspaper ad offering to perform certain routine legal services—such as uncontested divorces—at reasonable prices.

By a 5-4 vote, the U.S. Supreme Court said that the ban, which was suggested to the state court by the American Bar Association, was a violation of the attorneys' First Amendment right to free speech.

The Court did not specifically mention architects or other professionals, but most legal experts surmise that they are covered. A refusal by professional societies to lift ethical bans would almost certainly prompt legal action by the Justice Department, which has been badgering the groups to permit advertising.

AIA General Counsel Nancy Truscott says she has already sent Justice "two batches" of material on the Institute's advertising ban. Requests for such material often precede legal action by the Department.

The Institute's ban on advertising says that members "shall not purchase advertising in the public media to offer architectural services." It further says, "Members who advertise other services or products in the public media shall refer neither to the architectural profession nor their AIA membership."

The National Society of Professional Engineers has a similar ban, but its members can use "professional cards and listings in recognized and dignified publications." Milton Lunch, NSPE general counsel, expects a lifting of the advertising ban early in the fall.

Two other organizations of construction design professionals—the American Society of Civil Engineers and the American Consulting Engineers Council—have less rigid bars, mainly restricting advertising to that which is dignified and not self-laudatory.

Professional society representatives surveyed by ARCHITECTURAL RECORD expressed concern that the Supreme Court ruling will lead to further erosion of professional images. But they differed in their views on whether the decision will alter practices of architects and/or engineers. (See also "Legal Perspectives" page 63.)

"It [advertising] is not a very productive way to market your services," says Bruce Vogelsinger, executive director for operations and programs at ACEC. "I don't see how the ruling will have any impact on architects and

engineers in any manner," he said.

"I don't think anyone who is not now advertising will begin doing so," says Mr. Lunch at NSPE.

Mrs. Truscott was not so sure. She sees architects getting a wider foothold in the single-family housing business. This business, she says, is largely untapped because homeowners do not know how to find architects for this work.

The Supreme Court, in its ruling, made it very clear that the only question addressed was that of advertising for routine services in newspapers. Mrs. Truscott and Mr. Vogelsinger both point out that almost none of the work done by architects and engineers fits into a "routine" category. Nevertheless, Justice Lewis F. Powell, dissenting, said that the decision "will effect profound changes in the practice of law."

The majority opinion, written by Justice Harry A. Blackmun, did not dispute this, but it did argue that professionalism need not suffer just because lawyers are able to advertise their services. Justice Blackmun disagreed with the argument that "price advertising will bring about commercialization, which will undermine the attorney's sense of dignity and self-worth."

"At its core," Justice Blackmun said, "the argument presumes that attorneys must conceal from themselves and from their clients the real-life fact that lawyers earn their livelihood at the bar."

Additionally, he said, "It appears that the ban on advertising originated as a rule of etiquette and not as a rule of ethics."

Still, Justice Blackmun's opinion narrowly limits advertising by professionals. The court said it was not addressing the question of advertising on radio and television. Only newspaper advertising is mentioned. By extension, however, the ruling is expected to cover all print media.

The Court specifically said advertising by attorneys could be regulated. "Advertising that is false, deceptive or misleading of course is subject to strict restraint."

Moreover, it said "... advertising claims as to the quality of service... matter we do not address today—not susceptible to measurement or verification; accordingly, such claims will be so likely to be misleading as to warrant restriction."

At the same time, the Court did not foreclose the possibility of a warning disclaimer on professional advertising to "assure that the consumer is not misled." While holding that the advertising ban violates the First Amendment, the Court said it was not ill under the Sherman Antitrust Law because the so-called Parker Doctrine exempts a "state action" from antitrust prosecution. This rule may have implications for the NSPE, which is fighting a Justice Department attempt to force it to lift its ban on competitive bidding.

Some 16 states—including California, Texas and Tennessee—may be affected because they have licensing boards which have adopted the price bidding ban as state law. Even if NSPE loses its case, now pending before the Supreme Court, the ban may remain in effect in those states.—William Hickman, *World News, Washington.*

## "200 Years of American Architectural Drawing" opens at the Smithsonian's Copper-Hewitt in New York City

A distinguished and comprehensive exhibit documenting the history of American architectural drawing as an art form will soon tour the nation.

"200 Years of American Architectural Drawing" was organized by the Architectural League of New York and the American Federation of the Arts, which is sponsoring the exhibit's tour after its stand at the Cooper-Hewitt Museum, the Smithsonian Institution's Museum of Design in New York City.

Over 200 original drawings by more than 80 architects are arranged in six historical periods on display. The exhibit includes the work of such architects as Thomas Jefferson, William Strickland, Frank Furness, Marion Mahoney, Richard Neutra and Louis I. Kahn.

The exhibit was compiled by architectural historian Deborah Nevins, program director of the Architectural League, and David Gebhard, director of the University Art Galleries and professor of architectural history at the University of California at Santa Barbara. They are the authors of a book of the same title published simultaneously with the exhibit's opening.

After its closing in New York at the end of July, the exhibition will be

seen February 5 to March 19 at the Jacksonville Art Museum in Jacksonville, Florida, and April 15 to June 4 at the Art Institute of Chicago. AFA expects to schedule other showings.

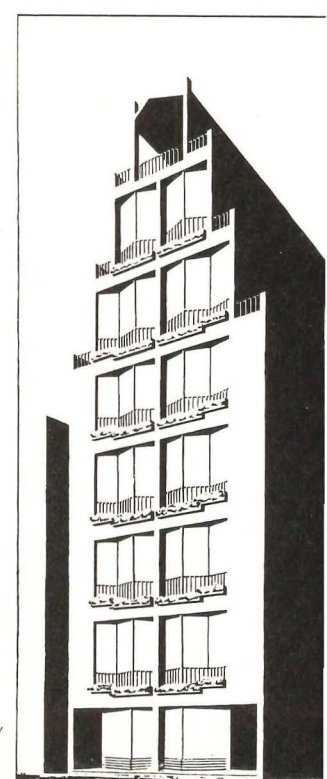
Grants from the National Founda-

tion for the Arts, the New York State Council on the Arts, the Graham Foundation for Advanced Studies on the Fine Arts, the Architectural League of New York and the Andrew W. Mellon Foundation financed the exhibit.

Among the drawings in the exhibit: the Bank of Louisville (1), James H. Dakin, 1834; studio apartments (2), by Francis Barry Byrne, 1926.—Deborah Higgins, *Architectural Record, New York City.*



1 Lent by New Orleans Public Library



2 Lent by Avery Library, Columbia University



## chairs win \$10,000 each in international competition

International Chair Design Competition has produced two first-place winners: Motomi Kawakami, a furniture designer in Tokyo, and architect Lance of San Antonio. Both men won \$10,000 awards. The competition was sponsored by the San Diego Chapter of the American Institute of Architects, and drawings and prototypes of the competition's nine finalists were exhibited at the San Diego Fine Arts Gallery during the recent AIA national convention.

Mr. Kawakami's winning design is for a folding, stackable chair with a molded plastic seat and a backrest with integral arms. The jury commented on the chair's "extremely sophisticated design and elegant appearance" and on its "ingenious" fold-mechanism. It also remarked that the chair is "comfortable for long periods of time."

Mr. Lance's saddle-leather sling chair (2), which has a tubular chrome frame, folds completely flat and can be stored in a closet. The jury said that the

lightweight chair is "extremely comfortable" and "would look great in anyone's living room," and further remarked on the "very well thought-out folding features."

The jury also awarded \$5,000 each to artist Darcy Bonner of Dallas for a "wearable walking chair" and designer Ralph Henninger of Scottsdale, Arizona, for a folding oak chair.

Each of the competition's nine finalists received \$1,500 to construct prototypes of their designs.

The exhibition of competition finalists will tour the country under the auspices of the San Diego Chapter AIA and the San Diego Fine Arts Gallery.

Jurors for the final judging were Cini Boeri of Italy and Warren Platner of the United States, both architects and furniture designers; Sherman Emery, editor of *Interior Design* magazine; and Mildred Friedman, coordinator of design at the Walker Art Center, Minneapolis, and editor of *Design Quarterly*.

## HUD gets tough with community block grant applications

Housing Secretary Patricia Harris is asking many cities across the country to spend more of their Community Development Block Grant funds for housing and other projects specifically benefiting low- and moderate-income families.

Los Angeles, Birmingham, Tampa, Boca Raton, Florida, St. Louis County, and Atlanta are among more than 40 communities that have their third-year applications for a total of this year's \$3.2 billion turned in. They were told to change their applications to conform more closely with the law and HUD regulations; otherwise they would have their grants cancelled or cut off entirely.

The law says that "maximum feasibility" must be given to projects benefiting the poor, but up to now HUD officials have routinely approved almost every application they receive. HUD's local offices and headquarters staff have been screening applications for fiscal 1977 grant money under the law's formula.

As a condition for approval of third-year funds, cities are being

asked to show how they have performed on the plans—particularly plans for subsidized housing for low-income families—that they included in their first- and second-year applications.

Atlanta, for example, received official warnings to get many of its planned projects underway or its grant—\$13.8 million next year—is in jeopardy.

In its application for \$48.6 million, Los Angeles had some 50 spending projects questioned by HUD. After negotiations and amendments, HUD held back approval of some \$5-million worth of projects until the city justifies them, or until it comes up with alternative projects that HUD officials will approve.

Birmingham was told that its application included too many city-wide projects, and too few projects directed to benefiting low-income neighborhoods.

Boca Raton was told to include low-income housing in its plans or face rejection of its application for \$408,000.—Donald Loomis, *World News*, Washington.

## Levittshahr will bring development housing to Tehran

American homebuilder William J. Levitt of Levitt Industries plans to turn a squatters' settlement in south Tehran, Iran, into a \$600-million community for 70,000 people. Although some squatters will be displaced, many will occupy the new facilities.

Mr. Levitt announced in June that he will build a housing complex of 14,100 condominium apartment units with schools, mosques, a shopping center and swimming pool in a pattern similar to the low-cost Levittown communities he has constructed in the United States and other countries. It will be known as Levittshahr, the Iranian equivalent of Levittown.

Apartments in the 6-, 9- and 12-unit buildings, similar to garden apartments, will cost from \$40,000 to \$50,000; but according to Levitt, they represent low- to middle-income housing for Iran, where the average middle-class houses cost \$160,000.

Tehran's squatters are working class people who must live in slums because of a housing shortage, Mr. Levitt said. Although their exact number is not known, many of these people, Mr. Levitt feels, will be able to afford the 25 per cent downpayment needed to buy a condominium.

Mr. Levitt reports that he did not buy the land for the project; it was furnished by the Iran Ministry of Housing. Ground leasing and mortgage financing will be available, but the houses will not be government subsidized. Occupants must work out agreements for buying the land from the Iranian government.

The 1-, 2- and 3-bedroom apartments measuring from 500 to 1,100 sq ft will be constructed of concrete; other building materials have not been chosen since the design is only preliminary. Mr. Levitt did say, however, that probably no more than 25 per cent

of the materials used will be imported and most laborers will be local. As much off-site production as possible will be utilized. International Construction Co., Ltd., chaired by Mr. Levitt, has been licensed to build in Iran for the project.

Levittshahr will occupy 800 acres, most of which is vacant land. The land will be cleared and temporary housing provided for the squatters until the first group of units is completed. Construction will begin in six months, with project completion by mid-1981.

Mr. Levitt said he is hoping to bring innovations to low-cost housing, such as air conditioning and modern kitchen facilities. Garages will not be furnished. Sewers, roads and utility stations will be constructed as needed.

Design plans also call for integration of Iranian housing styles with those of American design. Apartments will be constructed with access to flat roofs, for example, because it is customary for Iranians to sit or sleep on housetops on summer evenings.

Mr. Levitt indicated that the housing development may be the first of several in the Moslem country. He estimated that another 50,000 units may be constructed. "We do not intend to stop here," he said.

International Construction Co. thus begins a period of volume homebuilding abroad, especially in Third World or developing countries where housing in newer urban centers is scarce. Mr. Levitt said his company has given up construction in the United States for the foreseeable future because not enough land is available for large-scale projects and because of present constraints on the building industry. Levittshahr would cost twice as much to build in the United States, he said.—Deborah Higgins, *Architectural Record*, New York City.



# Galvanized rebar protects the health and beauty of this health center



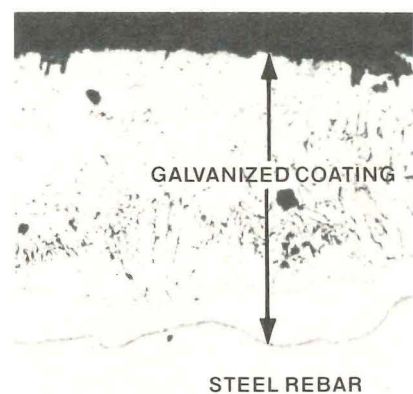
PHOTO BY LAWRENCE S.

The Kling Partnership of Philadelphia prescribed galvanized rebar as "preventive medicine" against subsurface rust when they designed the University of Connecticut Health Center in Farmington, Conn.

The precast concrete panels which make up the beautiful, buff-colored, curvilinear facade all have hot dip galvanized reinforcing steel beneath their surface. In addition, The Kling Partnership specified galvanizing for tie wire, inserts and reglets that were required for the fabrication, transportation and erection of the panels.

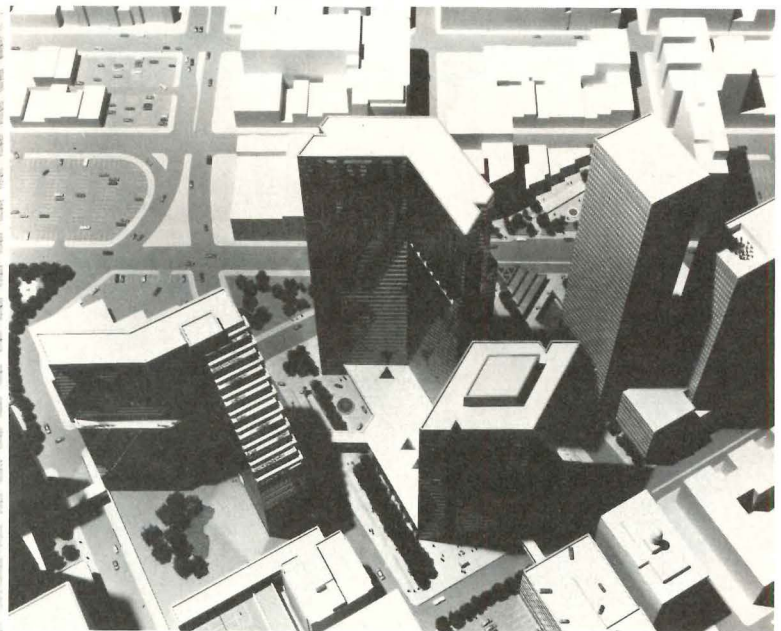
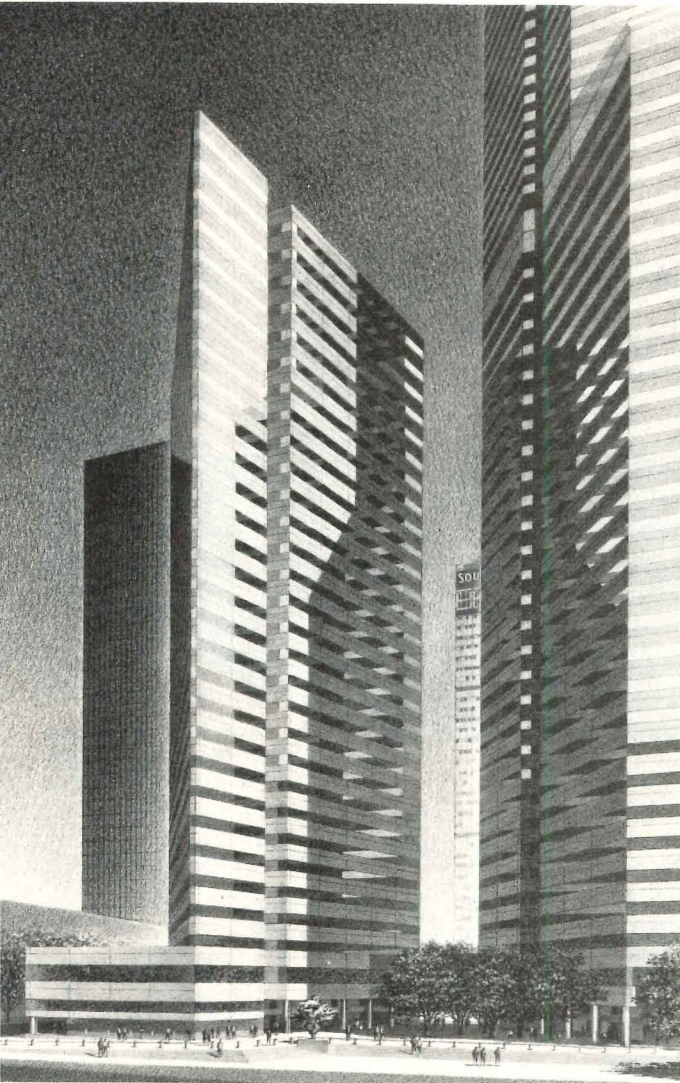
By specifying galvanized steel, the architect has provided this building with the best proven protection against concrete cracking, spalling and staining caused by subsurface rust expansion. Proof of galvanizing's long-lasting protection is shown in the photo-micrograph of a rebar sample taken from the deck of the Longbird Bridge in Bermuda. After 22 years in this salty, moist environment, more than one-half of the zinc coating still remains to protect the steel against corrosion. **No other rebar protection has been time-proven like this.**

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Three angular towers mark Pei's design for Dallas Centre

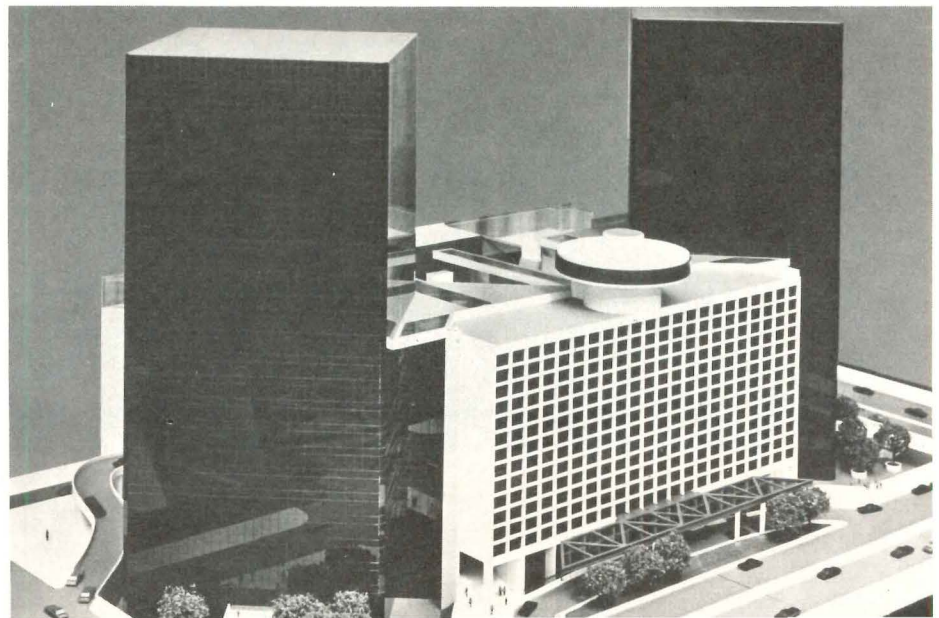
The more or less four-square geometry of the downtown Dallas business district will be fractured by the two-block Dallas Centre complex, designed by I. M. Pei and Partners, with Henry N. Cobb as partner in charge of design. One Dallas Centre, a 30-story rhomboid office tower, and Two Dallas Centre, a 51-story chevron with a 500-room hotel atop 30 floors of offices, will stand on a two-story base containing a shopping gallery. A pedestrian bridge will join

these with Three Dallas Centre, a 400-unit luxury apartment building across the street; this building is also a chevron, with a terraced wing overlooking a private garden and recreation areas. The curtain wall wrapping all three buildings will alternate strips of gray-colored aluminum and silver reflective glass. Developers of the \$200-million complex are Carrozza Investments, Ltd., in partnership with a subsidiary of Republic National Bank.

**'Executive haven' combines offices, hotel**

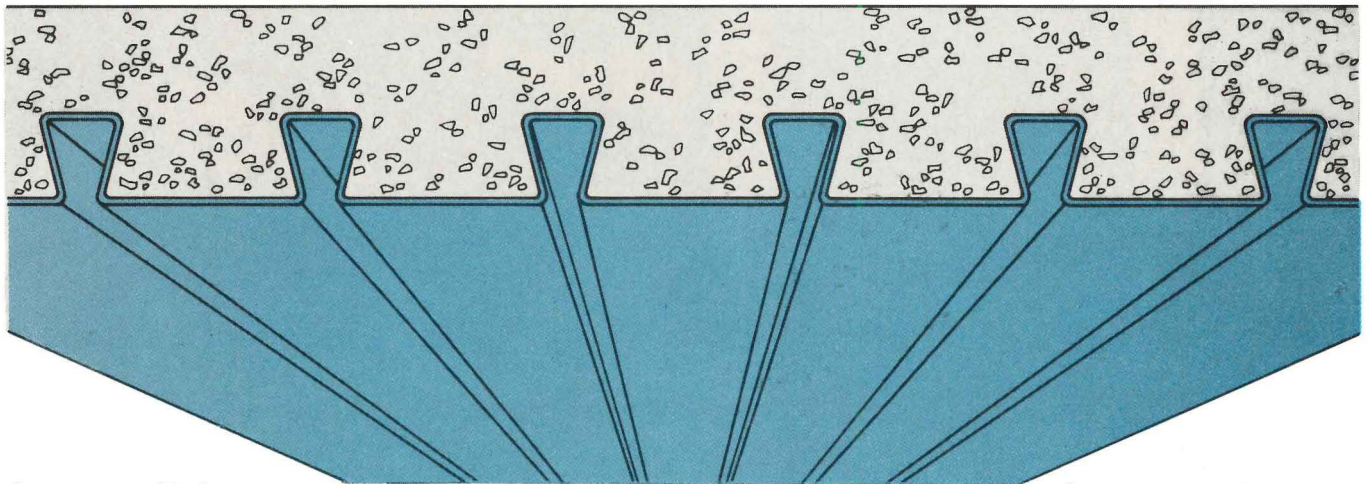
of the Americas, in- its developers as "the al business environ- will combine business rtainment facilities in n Dallas. Designed by s/engineers Harwood and Partners of Dallas, llion-sq-ft multi-use will join two 25-story wers with a 15-story n hotel. A 15-story en- rium will serve these s and a retail-enter- center, as well as a r parking garage. The atrium will be a

landscaped ice arena. The dark office towers, of bronzed-colored solar glass, will flank the lighter colored hotel, of cast-in-place concrete. A revolving cocktail lounge will surmount the hotel, which will be operated by Trust Houses Forte, Ltd., of London. Toddie Lee Wynne, of American Liberty Oil Company, and Clyde C. Jackson, of Plaza of the Americas, Inc., are directing development. Construction of the \$100-million 5.5-acre project is expected to start this autumn, with completion in late 1979.



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Pabst Brewing Company Warehouse, Milwaukee, Wisconsin

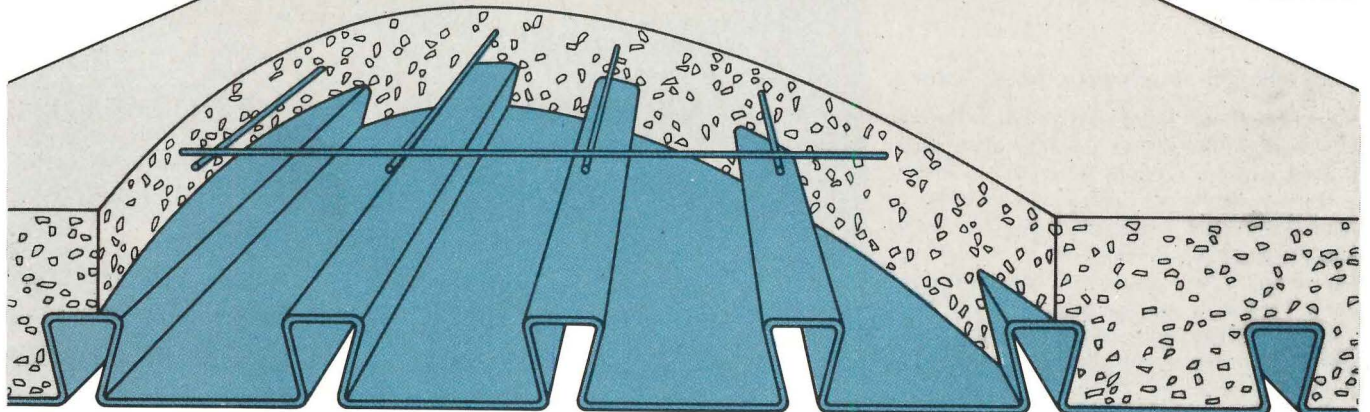
Architect and Structural Engineer: Charles W. Yoder and Associates

Contractor: Hunzinger Construction Company

Structural Steel Fabricator: Wisconsin Bridge and Iron Company.

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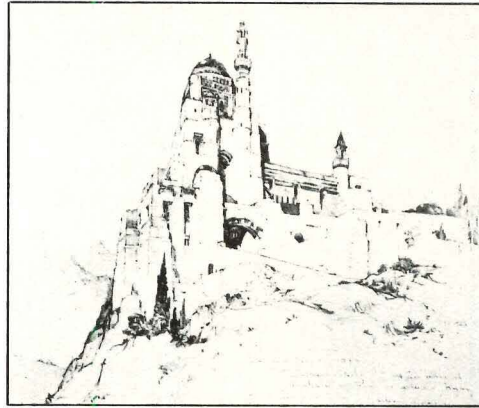
ernism that did not  
ude nostalgia

RAM GROSVENOR GOODHUE—ARCHITECT  
MASTER OF MANY ARTS, edited by Charles  
Whitaker; Da Capo Press, New York, 1976,  
ations, \$35.00.

owed by Richard B. Oliver

ne far side of the International Style, in the  
quarter of this century, Bertram Grosvenor  
Goodhue stands out as an architect of intrigu-  
but enigmatic proportions, who was  
possible for the design of at least half a  
n great American buildings. Was he the  
brilliant gasp of a worn-out historicizing  
architectural tradition, or was he the precursor  
of a kind of modernism only now starting to be  
understood? Goodhue's death, in 1924, oc-  
curred just before the International Style really  
took root on American soil, and the over-  
whelming critical interest in the *avant garde*  
movements of the past fifty years has pre-  
vented any evaluation of someone like Good-  
hue. His achievements have been shrouded by  
overly aggressively singular views of the Modern  
Movement. And yet Goodhue has not been  
forgotten by his admirers. Paul Cret had Goodhue's  
name inscribed on his architecture building at  
the University of Texas along with the names  
of three other architectural heroes: Vitruvius,  
Michelangelo, and Palladio. Goodhue has  
been a personal hero of mine. Indeed, my  
childhood was full of Sunday afternoon out-  
ings to Balboa Park, in San Diego, where I  
would wander through the grounds and build-  
ings Goodhue had designed for the 1915 Pan-  
ama-California Exposition. To a young child  
I was soon convinced of his future profession,  
and the buildings in San Diego were extraor-  
dinarily influential.

I mention the latter only to suggest the  
personal pleasure I have in noting the republi-  
cation of *Bertram Grosvenor Goodhue: Archi-  
tecture and Master of Many Arts*, by the Da Capo  
Press. The original volume was published in  
1924, by the American Institute of Architects  
as a memorial volume shortly after  
Goodhue's apparently untimely and somewhat  
serious death. The new volume reprints the  
original in the same size and format, with two  
changes. The four-color reproductions of  
Goodhue's watercolors are now reproduced in  
black and white, and the new volume includes  
a short introduction by Paul Goldberger, an ar-  
chitecture critic for *The New York Times*. The  
volume consists of several short essays by



Sketch of an imaginary site by Bertram Goodhue

friends and collaborators of Goodhue. The  
writing is unfortunately characterized by a per-  
vasive sentimentality, and little critical dis-  
tance. Nevertheless, there is a good deal of in-  
sight into Goodhue, especially through the use  
of lengthy quotations from his own writings.  
Without doubt, the most enjoyable and reveal-  
ing part of the book is the collection of draw-  
ings, sketches, plans and photographs of  
Goodhue's work. The visual evidence is a rich  
feast indeed! The major drawback to the pre-  
sentation of the visual material is that none of  
it is dated. The only clue to dates are the cred-  
its for the various drawings, which attribute the  
work before 1914 to the two partnerships in-  
volving Ralph Adams Cram, and after 1914 to  
Goodhue's own office.

The republication of this volume is an im-  
portant publishing event, because it makes  
available to the public one of the few sources  
of information about Goodhue. The original  
volume has long been out of print, and copies  
can be obtained from obscure, out-of-the-way  
second-hand bookstores only with the greatest  
of difficulty. Little else is written about the  
man. There is a collection of his "*voyages ima-  
ginaires*," or drawings of imaginary places, en-  
titled *The Villa Fosca*. There is a commemora-  
tive volume on the 1915 Panama-California  
Exposition in San Diego, including essays by  
Clarence Stein, and Goodhue himself, where  
he writes that he was intending to create a  
"city-in-miniature wherein everything that met  
the eye and ear of the visitor were meant to  
recall to mind the glamor and mystery and po-  
etry of the old Spanish days." Occasionally his  
name has appeared in articles, usually cast in  
the role of the charming but somewhat  
naughty eclectic, admired and yet suspect for  
designing "Gothic" churches. One page was  
devoted to Goodhue in *The Architecture of  
Choice: Eclecticism in America, 1880, 1930*,  
by Walter C. Kidney. Recently, Gerald Allen  
wrote an article re-evaluating St. Thomas

Church, in New York City (*RECORD*, April,  
1974, and reprinted in his book *Dimensions*).  
Beyond that, there is very little. But surely,  
Goodhue will soon be the subject of a serious  
critical evaluation, because this does seem to  
be the moment of his rediscovery among archi-  
tects and architectural historians.

Why does his work seem so especially in-  
teresting now? Bertram Goodhue was an archi-  
tect who used a traditional architectural lan-  
guage to create buildings that are astonishingly  
modern in feeling and composition. His work  
displayed an eagerness to develop a "modern"  
architecture without losing the intrinsic sym-  
bolism, drama, and nostalgia of historical  
forms and eclectic styles. Toward the end of  
his career, he moved rapidly from the  
"Gothic" St. Thomas Church, and the "Byzan-  
tine" St. Bartholomew's Church (both in New  
York City), through a "Spanish" period in  
southern California, to a culminating Modern-  
ist period with the Los Angeles Public Library,  
and the State Capitol at Lincoln, Nebraska.

Despite the labels, Goodhue's work  
seems to have transcended the limitations of  
"style," by being grounded in the particu-  
larities of site and context, the possibilities of  
structure, and most importantly, the power of  
dramatic space and surprising scale. Drawings,  
especially those of the house for Frederick Pe-  
terson and the sketch for Eugene Weston (above)  
emphasize the verticality of a house or chapel  
sitting atop a steep rocky promontory. His de-  
signs seem calculated to have an air of roman-  
tic flamboyance and power.

Goodhue's work shows a great sensitivity  
not only the physical site and its surroundings,  
but to a sense of the region. St. Thomas Church  
responds both to the grid system of Manhattan,  
and to the connections between "Gothic"  
forms and religious power; the San Diego Fair  
responds to the mesa upon which it is built,  
and also to the dual regional fantasies of south-  
ern California (nostalgia for the "old Spanish  
days," and the desire for a Garden of Eden  
landscape); the Nebraska State Capitol re-  
sponds to the vastness of the Great Plains with  
a great domed tower.

What does the book tell us about Good-  
hue? That he was a "romantic archeologist";  
that he had a facile imagination which "tended  
to the borderland of fantasy"; that he could  
draw easily and well and spent his schooldays  
drawing dream cities; that he preferred "freer  
styles" (those without rigid and codified rules  
of composition) to the classic tradition; that  
Lethaby's *Architecture, Mysticism, and Myth*  
was number one on his recommended reading  
list. The book concludes with a lengthy quote

more Required Reading on page 43

Richard B. Oliver is Curator of Architecture and Design at  
Cooper-Hewitt Museum in New York and a partner in  
architectural firm of Meltzer-Oliver-Solomon.

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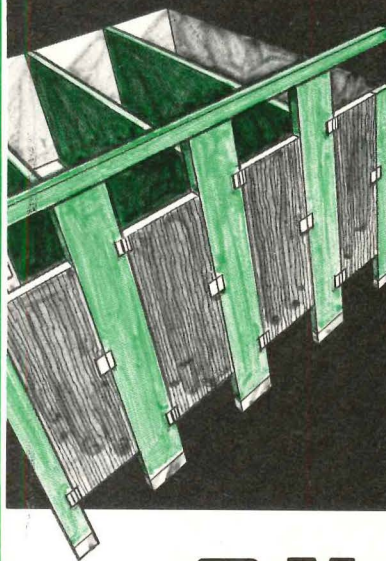
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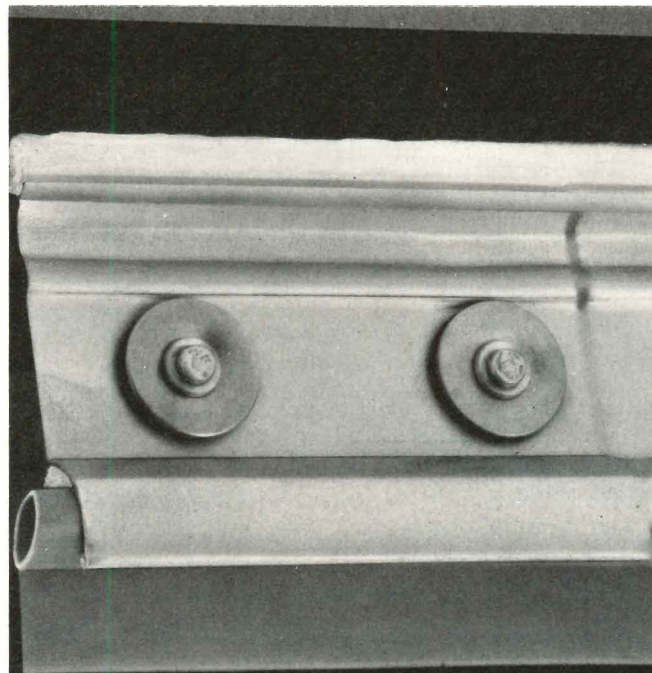


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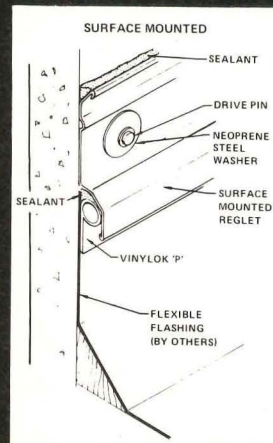
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**REQUIRED READING** *continued from page 41*

from *The Villa Fosca*, the last part of which I want to include here because it offers clues to Goodhue's work: "Suddenly I received my answer, for from the shores far below us, in the clear manly baritone of some sailor, came the opening notes of 'de Provenza al mar al suol,' well remembered yet unworn, and therein seemed to lurk the expression of all that Italy has been, is or may yet be, all the pathos and glamor of a forever vanished past."

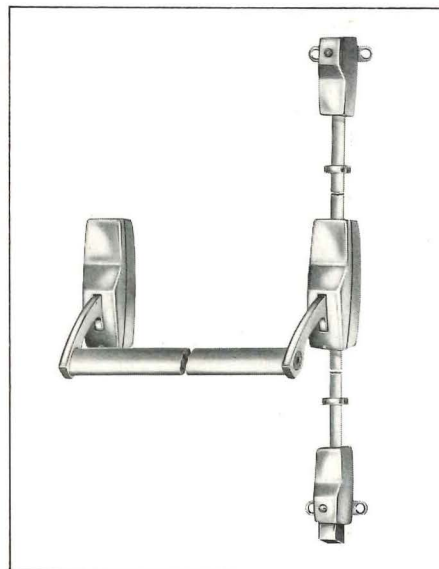
Goodhue is usually called an eclectic architect, and yet he professed no interest in copying the past ("nothing that apes the past is genuine Art"). How was he able to design buildings so clearly redolent of the past, and yet so modern? I think the key is in his drawings, especially those of imaginary places, which seem to have been such a useful tool in the design of buildings. Indeed, the watercolor of "A Dream City of the East," or the sketch entitled "Xanadu," seem almost prototypes for the composition of masses in the San Diego work. Now those drawings are nostalgic (one is even entitled "A Persian Nostalgance"), and they are the children of reverie. Yet they constitute a strong testing ground for his formal ideas. That is, the "*voyages imaginaires*" constitute the sort of world Goodhue admired and desired to connect with, and his work, I think, must be viewed as moving in that direction. All the simplification of detail and forms that characterize the progression of his work seems to have been worked out in sketches of imaginary places first. It was a cunning way of having connections to an ideal past without being trapped by a "dry-as-dust precedent." In short, Goodhue made a creative force out of nostalgia. What he was connecting with was not the correctness of history, but the "glamor of a forever vanished past," the nostalgia for bygone and more likely fictitious environments. Goodhue was simply not interested in severing connections with the past, even a made-up past, in order to connect with the present.

It may be this relationship between his work and his *voyages imaginaires* which causes his work in southern California to seem, in retrospect, his finest, in part because of the freedom to maneuver within the traditions of southern California's own crazy made-up past. Indeed, his work in San Diego and Los Angeles had a lot to do with giving architectural definition to the southern California Dream.

In the final judgment, Goodhue may come to be seen as belonging to a group of architects that includes Borromini, Sir John Soane, Richardson, George Washington Smith, and a few others, architects who were exploring quite new, even revolutionary, ideas of form, space, decoration, and symbolism, all within the context of clearly understood and respected traditions. Which is very likely why Goodhue seems so interesting to those of us who are trying to expand the traditions of modernism, and exploring new avenues of formal expression. In the first quarter of this century, Goodhue developed a kind of modernism that did not exclude a sense of nostalgia (or of tradition). The trace of that development is thrilling to consider, and thanks to the Da Capo Press, it will be easier for more people to do so.

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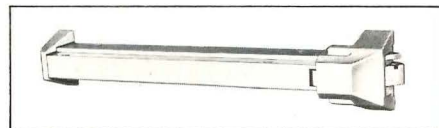
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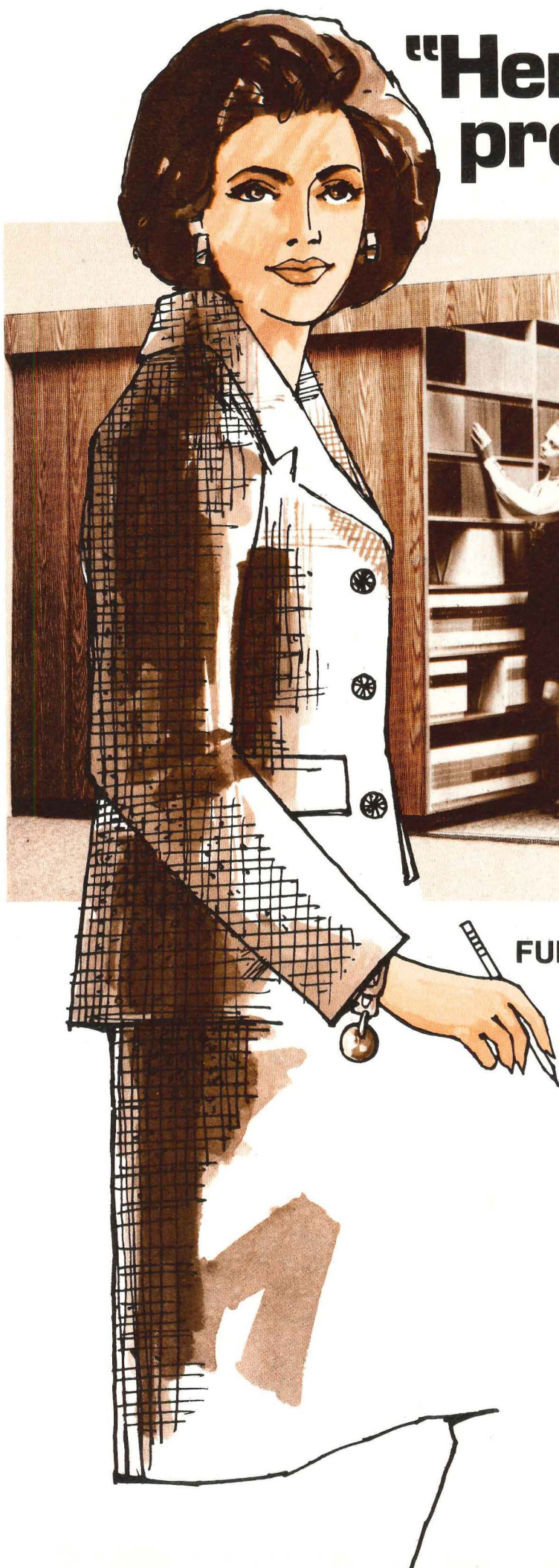


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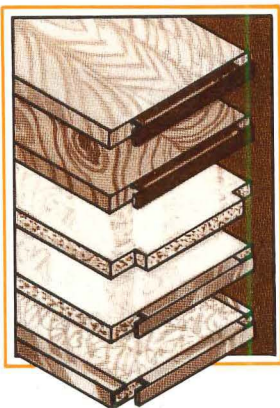
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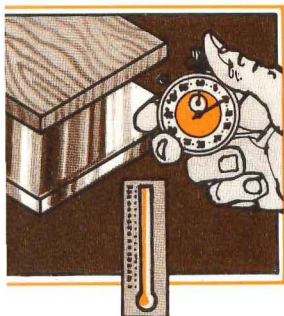
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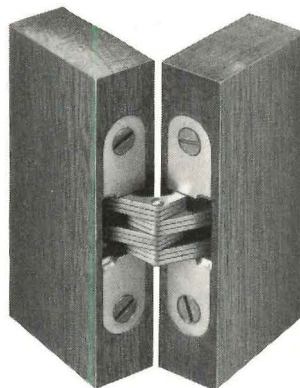
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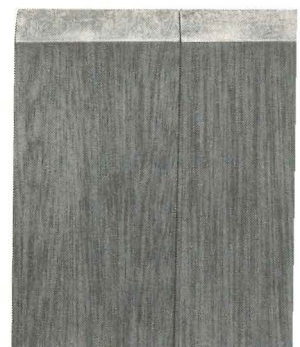
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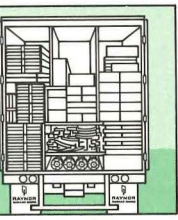
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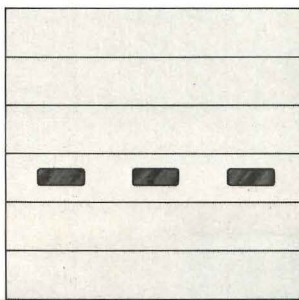
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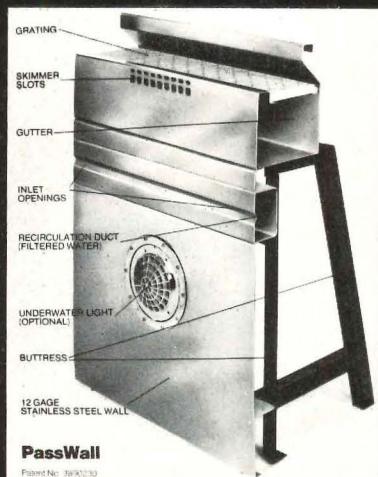
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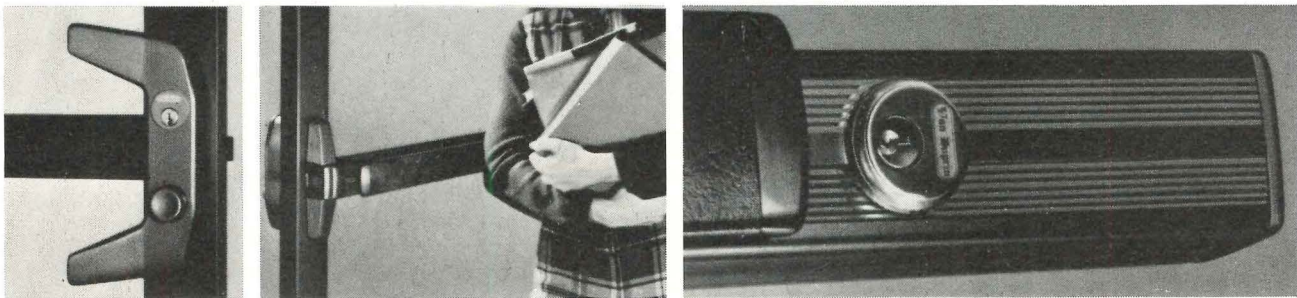
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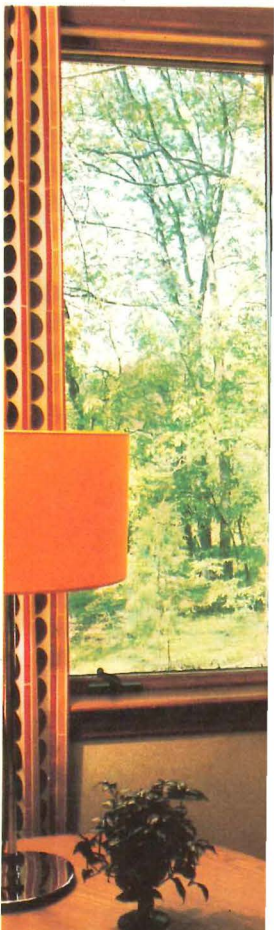
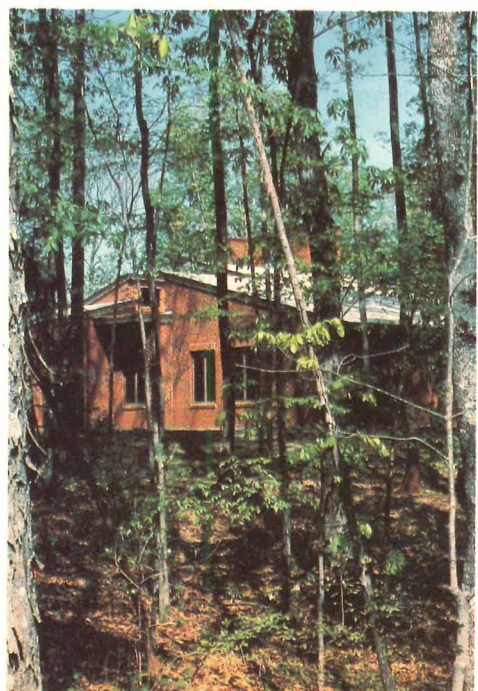
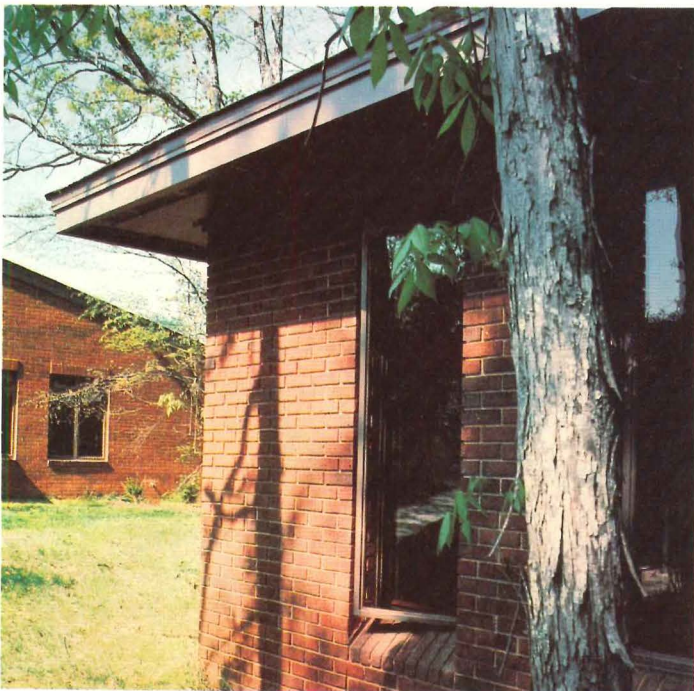
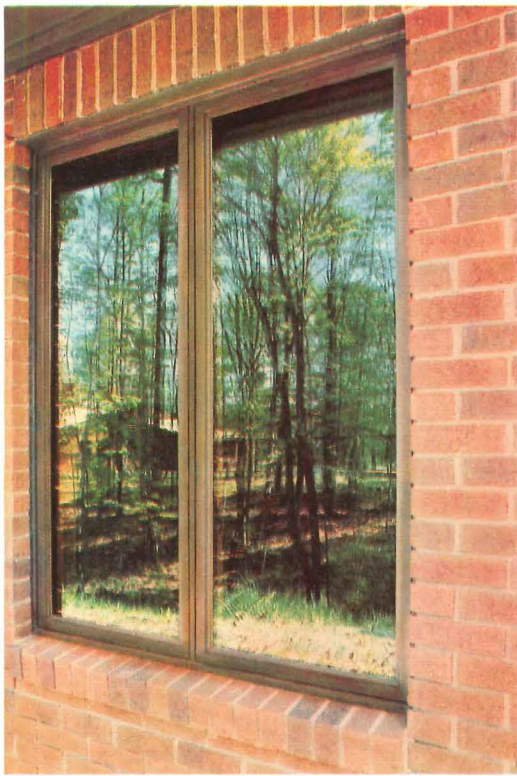
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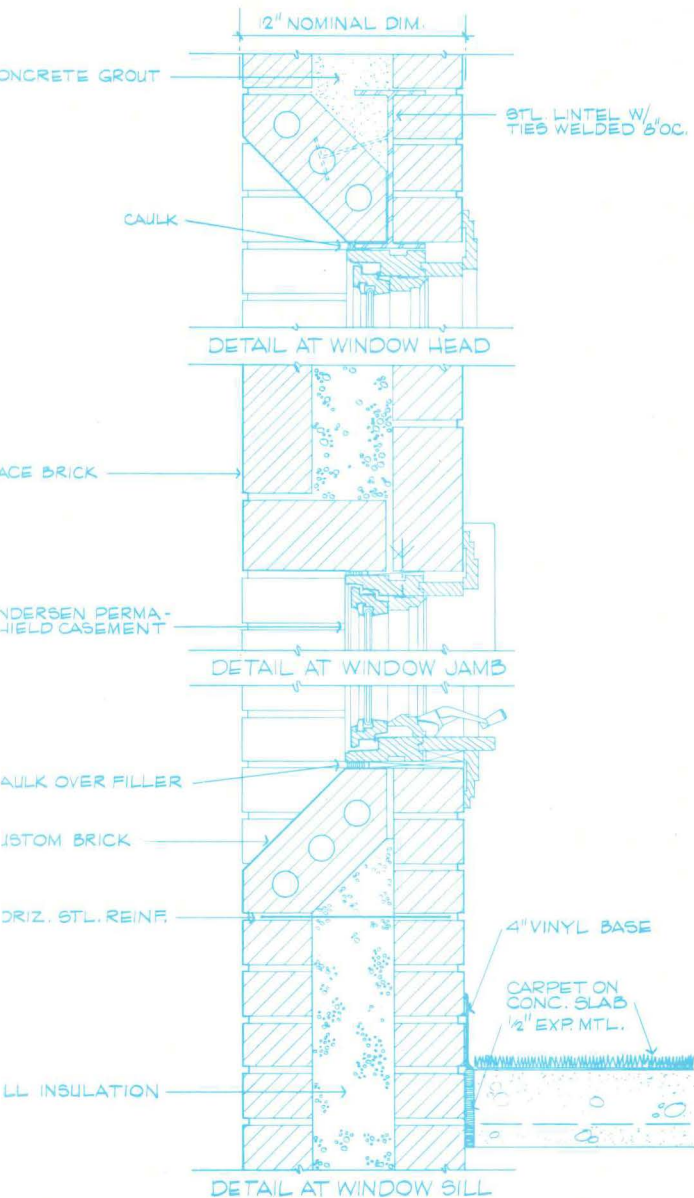
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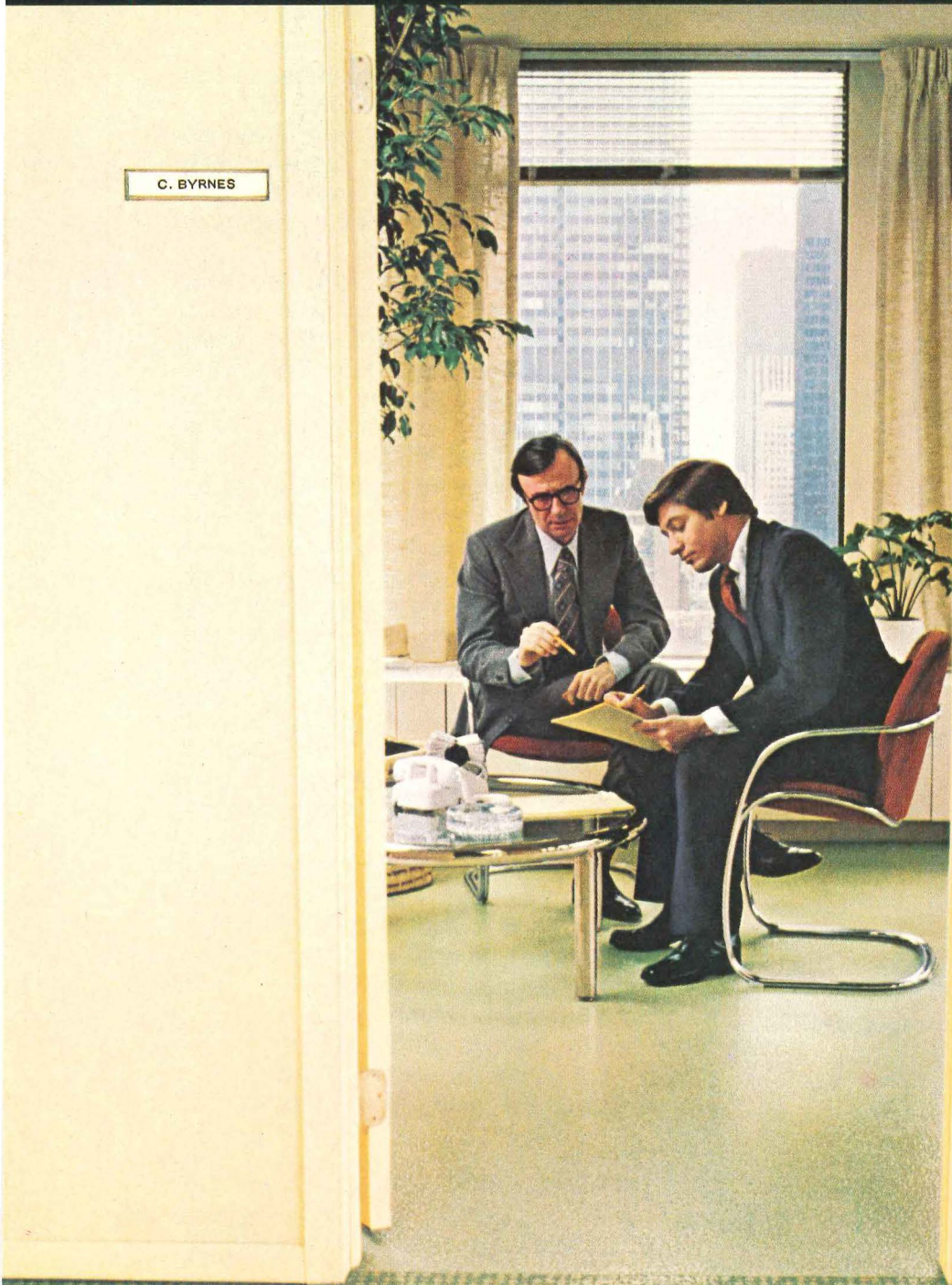
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 ICE MANAGEMENT

# The 1977 Dodge/Sweet's Construction Outlook: Second Update More gains in architectural work are expected

ing up on the halfway point of 1977, construction activity was comfortably ahead of its pace—by 24 per cent in dollar terms, and by 22 per cent in square footage of new buildings. Since our February Update anticipated a 15 per cent gain in contract value for 1977, members of RECORD will be glad to know that—even though that lofty 24 per cent gain will probably not hold up 'til year-end—things are turning out much better than what seemed six months ago to be a pretty bullish forecast.

Construction activity was about as erratic as it can get in the opening quarters of 1977. The first quarter was a slow one, and the unusually cold winter deserves some of the blame for that. But after three months' confinement in the narrow range of 203 to 207, the Dodge Index broke loose in the second quarter. April's leap to 250 was a record that stood for only a month, to be topped by May's astonishing 317. (The Index base is: 1967 = 100.)

A lot of the difference between the first and second quarter results involved that most erratic of all construction types: electric power plants. During the past two years of energy awareness, construction of nuclear generating facilities has been coming on strong, and it is expected that between \$15 and \$20 billion of new power plants will be started in 1977.

But when these huge projects bunch up—as they did in April and May—their overwhelming presence obscures what is happening in the rest of the construction market. Setting electric utilities aside clears up matters in two ways: first, it eliminates most of the volatility in the data. Second, and more important, it establishes that even without these huge projects, all other construction in the first half of 1977 scored a solid 20-plus per cent improvement over the same months of 1976.

### Outlook for the remainder of 1977

Most of that early 1977 strength was concentrated in housing. After two and a half years of recovery and expansion, residential building was still the construction industry's hottest market. But with the housing cycle nearing its top edge (where it could stabilize for a while), nonresidential building is now moving up to fill any slack that might develop. In 1977's first quarter, contracting for nonresidential buildings was up 7 per cent. That margin increased to 11 per cent in the second quarter. For the design professions, this trade-off—nonresidential building gaining as housing stabilizes—is the most significant aspect of the construction outlook for the second half of 1977.

### Residential building

Housing is the part of our 1977 construction outlook that is most in need of updating—to catch up with what has already happened in the early months of the year. Two adjustments to the earlier forecast of 1.8 million units (on the Commerce Department's basis) must be

National estimates 1977		Second Update July 1977		
Construction Contract Value		1976	1977	Per Cent
(Billions of dollars)		Actual	Forecast	Change
<b>Nonresidential Buildings</b>	Office Buildings	\$ 4,122	\$ 4,800	+16
	Stores & Other Commercial	6,315	8,000	+27
	Manufacturing	4,058	4,300	+ 6
	<b>Total Commercial &amp; Manufacturing</b>	\$ 14,495	\$ 17,100	+18
	Educational	\$ 4,980	\$ 5,050	+ 1
	Hospital & Health	4,590	5,100	+11
	Other Nonresidential Buildings	5,980	6,550	+10
	<b>Total Institutional &amp; Other</b>	\$ 15,550	\$ 16,700	+ 7
	<b>Total Nonresidential</b>	\$ 30,045	\$ 33,800	+12
<b>Residential Buildings</b>	1- & 2-Family Homes	\$ 35,958	\$ 45,700	+27
	Apartments	6,550	9,500	+45
	<b>Total Housekeeping</b>	\$ 42,508	\$ 55,200	+30
	<b>Total Nonhousekeeping</b>	\$ 1,142	\$ 1,300	+14
	<b>Total Residential</b>	\$ 43,650	\$ 56,500	+29
<b>Nonbuilding Construction</b>	Highways & Bridges	\$ 7,884	\$ 9,500	+20
	Utilities	15,610	17,000	+ 9
	Sewer & Water	6,159	7,400	+20
	Other Nonbuilding Construction	3,810	3,300	-13
	<b>Total Nonbuilding</b>	\$ 33,463	\$ 37,200	+11
<b>Total Construction</b>		\$107,158	\$127,500	+19
<b>Dodge Index (1967 = 100)</b>		194	231	

Floor Area of New Buildings		1976	1977	Per Cent
(Billions of square feet)		Actual	Forecast	Change
<b>Nonresidential Buildings</b>	Office Buildings	108	125	+16
	Stores & Other Commercial	343	410	+20
	Manufacturing	151	170	+13
	<b>Total Commercial &amp; Manufacturing</b>	602	705	+17
	Educational	120	115	- 4
	Hospital & Health	74	75	+ 1
	Other Nonresidential Buildings	173	177	+ 2
	<b>Total Institutional &amp; Other</b>	367	367	-
	<b>Total Nonresidential</b>	969	1,072	+11
<b>Residential Buildings</b>	1- & 2-Family Homes	1,505	1,795	+19
	Apartments	307	425	+38
	<b>Total Housekeeping</b>	1,812	2,220	+23
	<b>Total Nonhousekeeping</b>	34	35	+ 3
	<b>Total Residential</b>	1,846	2,255	+22
<b>Total Buildings</b>		2,815	3,327	+18

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le. One is to raise the total by another 000 units (to 1,850,000), and the other is alter the mix in favor of one-family homes. On the lower F. W. Dodge basis, our revised 1977 housing forecast is 1,750,000 units, consisting of 1,275,000 one- and two-family units and 475,000 apartment units.

The second quarter of 1977, when the annual rate of housing starts averaged 1.9 million units, might have been the peak of the current housing cycle, but no significant reaction in residential building is anticipated in the foreseeable future. It is likely, though, that the second half of 1977 will show some easing of one-family building, offset by further expansion of multi-family starts, suggesting a good opportunity for architects.

*Update: We've raised the year's estimate of housing starts by 50,000 units, but dollar volume and square footage need proportionately larger boosts due to the heavier-than-expected share of one-family homes in the total. Contract value is now forecast at \$56.5 billion; square footage at 2,255 million.*

### Nonresidential building

It's about time to see some acceleration in the recovery of the nonresidential building market. The oft-cited reasons for its meager progress up to now—the unusually large volume of excess industrial capacity carried over from the 1975 recession, and the depressing effect of declining school enrollments on educational building—will be less potent deterrents in the second half of 1977.

Commercial and industrial building, which collapsed between mid-1974 and mid-1975, has so far made it back about 25 per cent of the way to pre-recession volume. Not surprisingly, most of that recovery has been concentrated in retail building, which has been pulled up by the 1976-77 housing expansion. The depressed office building market also perked up in the first half of 1977.

At mid-1977, square footage of industrial building was ahead by 8 per cent. With 82 per cent of industrial capacity now in use, and—depending on which survey you read—plans for capital spending in 1977 up either a solid

12 per cent of a hefty 18 per cent, the second half of the year should bring an acceleration in the rate of contracting for manufacturing buildings. However, some communities may be using public works grants as a substitute for—and not an increment to—local financing for building projects.

Institutional and other nonresidential building aren't exactly booming in 1977, but "rounds" one and two of Local Public Works Act of 1976 allocations are now shoring up two categories that had been sagging: schools and public administration buildings.

*Update: Nonresidential building activity has been tracking well through the first half of 1977. Our latest estimates—\$33 billion and 1,070 million square feet—are virtually unchanged since February's. Commercial building now looks a bit stronger, institutional a bit weaker, than earlier expectations.*

### Nonbuilding construction

Highway and sewer/water construction—types of projects that can be started with a minimum of delay—are where public works programs are usually most effective, and current experience bears this out. In the first half of 1977, highway work, at \$9.5 billion (seasonally adjusted annual rate) was up 30 per cent, and sewer/water projects, at \$7.3 billion, were 20 per cent ahead of their comparable 1976 levels. These high rates of contracting are expected to hold for the duration of the stimulus program.

Power plant construction by the electric utilities totaled almost \$9 billion in the first half of 1977. The earlier estimate for the full year 1977—a total of \$16.5 billion—still looks reasonable in the context of longer-term projections of electrical energy requirements, and the fact that the first half of the year brought forth roughly one half the full year's expected total is reason enough not to change it much. It is well to bear in mind, however, that nuclear power plants have a long gestation and a difficult, unpredictable birth.

*Update: Nonbuilding construction (like nonresidential building) is coming along about as expected. Contract value for the year will be up 11 per cent to \$37.2 billion, largely on the strength of special public works funds involving highways and sewer systems.*

## Regional estimates 1977

Second Update  
July 1977

### Construction Contract Value

(millions of dollars)

	Northeast			Midwest		
	1976 Actual	1977 Forecast	Per Cent Change	1976 Actual	1977 Forecast	Per Cent Change
<b>Nonresidential Buildings</b>						
Commercial & Manufacturing	\$ 2,213	\$ 2,800	+27	\$ 3,848	\$ 4,500	+17
Other	3,564	3,600	+ 1	4,025	4,400	+ 9
<b>Total</b>	<b>\$ 5,777</b>	<b>\$ 6,400</b>	<b>+11</b>	<b>\$ 7,873</b>	<b>\$ 8,900</b>	<b>+13</b>
<b>Residential Buildings</b>						
1- & 2-Family Homes	\$ 4,911	\$ 5,900	+20	\$ 8,465	\$11,100	+31
Apartments	1,345	1,900	+41	1,678	2,300	+37
Nonhousekeeping	168	200	+19	291	300	+ 3
<b>Total</b>	<b>\$ 6,424</b>	<b>\$ 8,000</b>	<b>+25</b>	<b>\$10,434</b>	<b>\$13,700</b>	<b>+31</b>
<b>Nonbuilding Construction</b>						
Highways & Bridges	\$ 1,392	\$ 1,800	+29	\$ 2,206	\$ 2,600	+18
Other	5,091	6,400	+26	6,447	6,800	+ 5
<b>Total</b>	<b>\$ 6,483</b>	<b>\$ 8,200</b>	<b>+26</b>	<b>\$ 8,653</b>	<b>\$ 9,400</b>	<b>+ 9</b>
<b>Total Construction</b>	<b>\$18,684</b>	<b>\$22,600</b>	<b>+21</b>	<b>\$26,960</b>	<b>\$32,000</b>	<b>+19</b>

### Construction Contract Value

(millions of dollars)

	South			West		
	1976 Actual	1977 Forecast	Per Cent Change	1976 Actual	1977 Forecast	Per Cent Change
<b>Nonresidential Buildings</b>						
Commercial & Manufacturing	\$ 5,213	\$ 5,800	+11	\$ 3,221	\$ 4,000	+24
Other	4,903	5,300	+ 8	3,058	3,400	+11
<b>Total</b>	<b>\$10,116</b>	<b>\$11,100</b>	<b>+10</b>	<b>\$ 6,279</b>	<b>\$ 7,400</b>	<b>+18</b>
<b>Residential Buildings</b>						
1- & 2-Family Homes	\$12,706	\$16,400	+29	\$ 9,876	\$12,300	+25
Apartments	1,464	2,300	+57	2,063	3,000	+45
Nonhousekeeping	316	400	+27	367	400	+ 9
<b>Total</b>	<b>\$14,486</b>	<b>\$19,100</b>	<b>+32</b>	<b>\$12,306</b>	<b>\$15,700</b>	<b>+28</b>
<b>Nonbuilding Construction</b>						
Highways & Bridges	\$ 3,022	\$ 3,500	+16	\$ 1,264	\$ 1,600	+27
Other	7,628	9,500	+25	6,413	5,000	-22
<b>Total</b>	<b>\$10,650</b>	<b>\$13,000</b>	<b>+22</b>	<b>\$ 7,677</b>	<b>\$ 6,600</b>	<b>-14</b>
<b>Total Construction</b>	<b>\$35,252</b>	<b>\$43,200</b>	<b>+23</b>	<b>\$26,262</b>	<b>\$29,700</b>	<b>+13</b>

### Total construction

An upward-adjusted estimate at midyear brings the 1977 Dodge/Sweet's Outlook for total construction contract value to \$127.5 billion, a gain of 19 per cent over the 1976 amount.

In two years of recovery, the annual value of total construction activity will have advanced 38 per cent from 1975's recession low. In 1976, the first recovery year, a very large part of the 16 per cent advance was concentrated in home building, but this year as the normal lead-lag patterns of residential and nonresidential building unfold, we're getting a better balance of housing and commercial building.

George A. Christie  
Vice president and chief economist  
McGraw-Hill Information Systems Company

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# consultant profile: the medical equipment planner

Planning for expansion or renovation, today's hospital administrators can expect to spend approximately 10 per cent of their construction budget on fixed or built-in equipment, and an additional 15 per cent for major movable equipment. Although many hospital clients rely on architects to plan, design and specify the built-in equipment, the 15 per cent investment in movable equipment constitutes an enormous planning task not easily assigned. Most architectural firms—even those heavily involved in hospital work—do not offer complete equipment planning services, and hospital purchasing departments are not usually staffed sufficiently to program equipment needs, research all the available products and coordinate bidding operation, delivery and installation. Moving in to provide a service where one is clearly needed is independent medical equipment planning consultant.

Medical equipment is strictly organized by the Department of Health, Education & Welfare\* into three groups, each related to separate capital budgets and depreciation schedules. Group I equipment, usually included in the hospital's construction budget, is fixed equipment such as cabinetry, surgical lights, soap dispensers, etc. Group II equipment, purchased from the capital equipment budget, is movable equipment such as operating tables and X-ray machines. Group III equipment, such items as surgical instruments, needles and syringes (disposables), comes from the hospital's operating budget (and is about 20 per cent of the Group II budget).

Hospitals commonly obtain equipment planning from any of five sources: 1) the hospital's own materials management or purchasing staff; 2) the architect's staff or consultant; 3) an independently hired equipment planning consultant; 4) a turn-key supplier such as Hospital Building & Equipment Corporation; or 5) equipment manufacturers and dealers. Of these choices, the architect and independent equipment planning consultants are preferred by larger institutions, according to Harvey S. Cook, principal design manager (health care facilities) at ISD Incorporated, the New York-headquartered space planning and design firm. Responsible for one of the nation's best corporate interiors, ISD Incorporated has been offering medical equipment planning to architects and hospital administrators for three years. Generally, space planning is not part of the service, which focuses primarily on the 18-to-36-month-long management function needed to program and supply several million dollars worth of Group II and Group III equipment in any given project.

Recent HEW publications of help to hospital equipment planners are: "General Standards of Construction and Equipment for Hospital and Medical Facilities," DHEW publication number (HSM) 74-4000; and "Hospital Equipment Planning Guide," publication number 930-D-4. Both for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The ISD approach to medical equipment planning, according to Mr. Cook, relies on a thorough knowledge of all the equipment available. Often an architect or the hospital purchasing staff will be familiar with several manufacturers of particular equipment, but numerous other manufacturers will also be able to meet the requirements. This, of course, greatly enhances competition among the suppliers—to the economic advantage of the hospital—but at the same time, it poses problems of evaluation. Besides promoting competition among suppliers, the professional equipment planner, says Mr. Cook, must set up the criteria for comparing similar—but not usually identical—pieces of equipment. He must then recommend the selection of equipment; fit it to architectural conditions and budget; prepare specifications and bid documents; arrange the award of contracts; schedule delivery; observe installation; manage the shake-down tests and instruction sessions for hospital personnel; and close out the contracts. This is the responsibility of the professional equipment planner, involving a great deal of management skill throughout what is typically a two-year period.

### Programming the equipment needs

How this process is conducted by ISD Incorporated is illustrated specifically in a current project—the expansion and renovation of the Norwalk (Connecticut) Hospital, designed by Caudill Rowlett Scott. The illustrations refer to just one department in this project, but the same procedures would be applied to all departments.

After familiarizing themselves with the architectural and budget requirements of the project, ISD staff members begin their programming effort by meeting with individual hospital department heads and their key staff members to determine equipment-related procedures. Passed out at these meetings is an "Equipment Checklist" (part of which is shown in Figure 1) listing generically almost

every type of known hospital equipment. This list itemizes all room-by-room equipment requirements for the department (in this case, ambulatory surgery), and serves to remind the personnel of what is currently in use. This list, and more interviews, generates the "Equipment Planning Schedule," a formal identification of the equipment requirements for the new department. At this point, ISD personnel conduct an inventory of existing equipment (Figure 2), listing every item, its condition and

		PROJECT NO. DEPT. PAGE <b>1 of 3</b>	
EQUIPMENT CHECKLIST			
ANESTHESIA APPARATUS	CHAIRS	CURTAIN CURTAINS	FREEST.
AMBUCARDS, SURGICAL	LINEN	CURETAGE UNITS	BONE BANK
ASPIRATORS	MATERIALS HANDLING	CYSTOSCOPES	EYE BANK
AUDIOMETERS	INDICATION		REACTOR
AUTOCLAVES	ORTHOPEDIC DRESSING		FURNITURE
	SURVEY		CATERING & DINING
BARS, PARALLEL	UTILITY	DEFIBRILLATORS	CLASSROOM
BASSINETS		CHAIRS	EXAMINATION
BATHS	CAUTION SETS	CABINETS	FOOD SERVICE
BIOTHERAPY	DERMATOLOGICAL	MOBILE UNITS	GENETIC
PARAFFIN	GYNAECOLOGICAL	DIATHRAM	LABORATORY
BRACK	GENITURILES	BACKWAVE	LIBRARY
SIZE	BLOOD SEPARATION	SHORT WAVE	LOUNGE
NEWS	DIFFERENTIAL	HYPERTHERM	HOSPITAL
FOLDING	ULTRA	DRILLS, TRAINING	PATIENT ROOM
ORONAL	CHAIRS	DRAINAGE SYSTEMS,	HOSPITAL
ORTHOPEDIC	CHAIRS	FEEDAL	TREATMENT
PATIENT	BLOOD COLLECTING	URINARY	WAITING AREAS
RECOVERY	COMMODE	URINARY	
BICYCLES, STATIONARY	DENTAL	DRILLS	
BLOOD BANK SYSTEMS	EXAMINATION		GAS ANALYSIS
CABINETS	PERSON TRACTION	ELECTROSURGICAL UNITS	GAS HANDLING
BEDSIDE	HYDROTHERAPY	ELECTROCARDIOGRAPHS	GAS REGULATING
BIOLOGICAL	NEUROLOGICAL	TELESCOPES	GAUGES, PRESSURE
FIRST AID	OPHTHALMOLOGICAL	EEG UNITS	GENETICS
FOOD STORAGE	PODIATRY	EEG UNITS	LOW VOLTAGE
HOT TACK	RECOVERY	EMERGENCY EQUIPMENT	ULTRASONIC
INSTRUMENT	TREATMENT	EMERGENCY EQUIPMENT	GERIATRIC EQUIPMENT
TREATMENT	WHEELS	EXERCISE EQUIPMENT,	GERIATRIC LAMPS
BAROTIC	CHAIRS	BIKE	GLOVE BOX
X-RAY FILING	RECOMPRESSION	BIKE	GRIPPING EQUIPMENT
	ENVIRONMENTAL	EXTENSION LADDER	GRINDERS
	HYPERTHERM	INCUBATOR WHEELS	GRIPPING EQUIPMENT
	CRANING SYSTEMS	STAKE UNITS	GYMNASIUM EQUIPMENT
CAGES, ANIMAL	ANATOMICAL	TELEVISIONS	
CANNISTER SETS	GRAPHIC/HEALTH	WALKERS	
CARDIAC EQUIPMENT	RECORDING	EYE EQUIPMENT	HAMMERS
CARDIAC ARREST VEHICLES	CLAMP	FIBER OPTIC SYSTEMS	LINEN, SOILED/CLEAN
DEFIBRILLATOR	COLD PACK UNITS	FILES	WASTE
HEART MONITOR	COMPOSITE TESTERS	PRESCRIPTION	TREATERS
HEART RATE METER	CONVEYOR SYSTEMS	FILES	REAR EXCHANGERS
MONITOR	COOLERS	FLUOROSCOPES	REHEATING EQUIPMENT
PACEMAKER	LABORATORY EQUIPMENT	FOOD SERVING UNITS	REHEATING EQUIPMENT
PHYSICAL SERVICE	COUNTERS	LABORATORY	REHEATING EQUIPMENT
CRASH	LABORATORY	LABORATORY	REHEATING EQUIPMENT
DRUGS - IN	FOOD SERVICE	LABORATORY	REHEATING EQUIPMENT
HOUSEKEEPING	LABORATORY	LABORATORY	REHEATING EQUIPMENT
LABORATORY	LABORATORY	LABORATORY	REHEATING EQUIPMENT

Figure 1



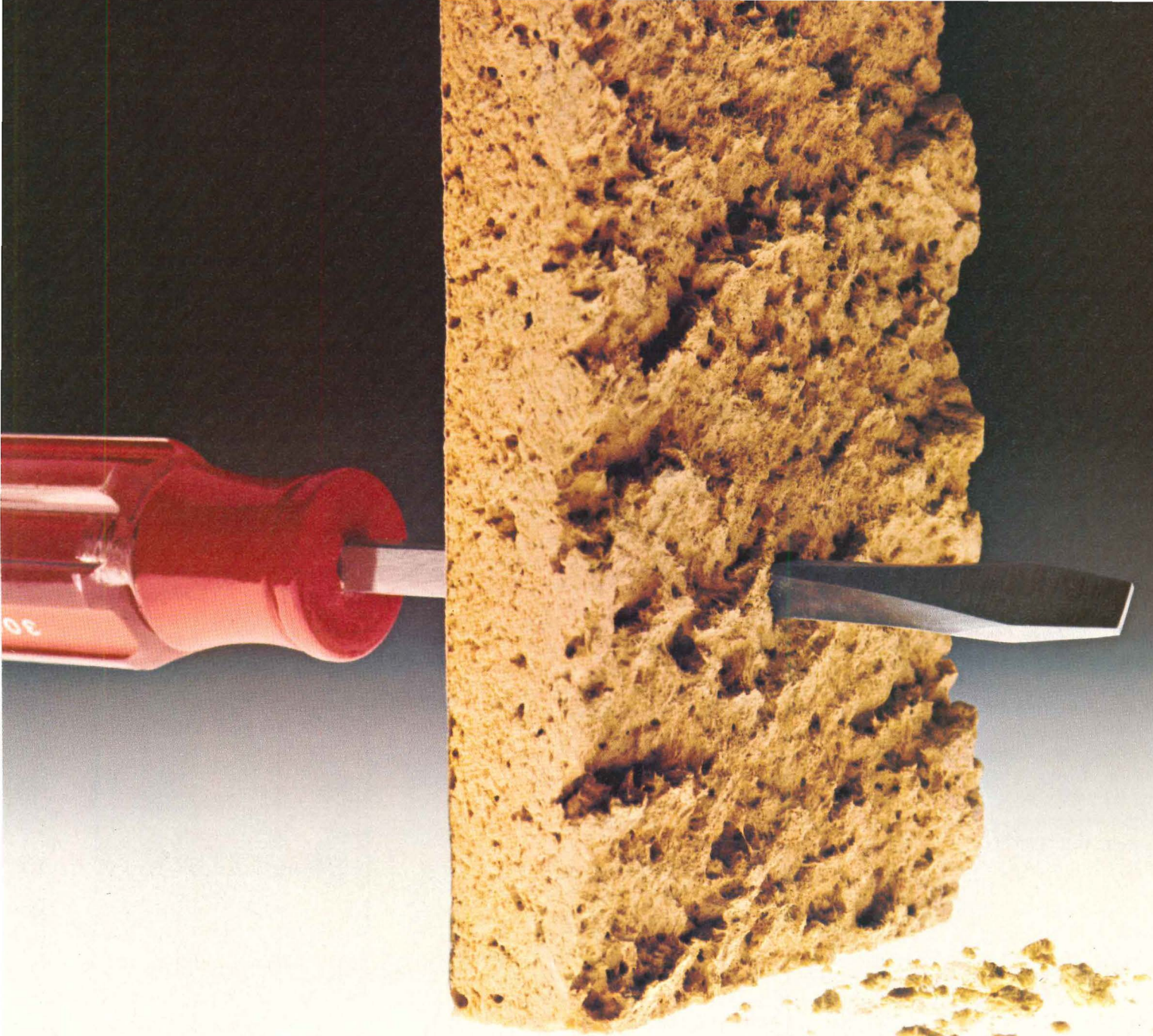
		<b>NORWALK HOSPITAL</b> NORWALK, CONNECTICUT 06856 <b>EQUIPMENT INVENTORY</b>			
	ITEM	CODE			
	CABINET, SUPPLY	CBS			
	MANUFACTURER	Blckcmn			
	CATALOG NO.	7950-55			
	SIZE	W	D	H	
TOP	36"	16"	78"		
BASE					
CASTERS/WHEELS	Conductive (4)				
COLOR/MATERIAL	Stainless steel				
UTILITIES REQUIRED	None				
QUANTITY	DEPT./ROOM	CONDITION			REMARKS
3	ACC - 110	X			
1	GM - 392		X		New casters required
1	AS - 247	X			
2	PM - 144-5	X		X	Doors missing; unit purchased in 1961.

Figure 2



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use potential. (Because of the variety of equipment, names alone do not suffice for identification. Therefore, a snapshot of an item is always attached to its inventory list.)

With the identification of—and agreement on—equipment requirements for new hospital departments, comes the need to objectively evaluate a complete roster of competing products. Often, department personnel have brand preferences for certain types of equipment; while equipment planners consider these preferences—and some of their own—they encourage the client to evaluate all qualified manufacturers. According to Mr. Cook, all equipment used by a hospital can be competitively evaluated. ISD recommends that hospitals particularly evaluate items that are used throughout and usually purchased in lots of some number; beds and wheelchairs are examples.

To facilitate a fair and objective comparison, equipment planners set up criteria lists (including price) for each type of equipment, so that all manufacturers are competing on the same set of requirements. A case in point is seen in Figure 3, an analysis of the Norwalk Hospital X-ray equipment. (Actual figures are shown, although the names of the competing manufacturers have been omitted.) In this case, Maker A—with the lowest bid—was selected, but an examination of the cost table will show just how many intervenors can affect the final costs of otherwise comparable equipment.

After compiling the equipment requirements for all departments, ISD identifies what can be standardized. Mr. Cook feels that standardizing diagnostic instruments, for example, is an efficient practice for hospitals, in that hospital personnel can be shifted from department to department, and still be familiar with the equipment. Standardizing also permits quantity ordering, which usually provides cost savings benefits.

**Automatic design and design development**

In the conclusion of equipment presentations and reviews with the client and architects, ISD prepares preliminary layouts (Figure 4) showing equipment locations and sizes. The goal is to ensure that equipment requirements correspond to space and functional requirements established by the architect. At the same time, drawings in the utility requirements and preliminary color schedules, to complement the interior program.

Submitted with the layout for each room is an equipment "Cost Estimate" (partly shown in Figure 5). ISD equipment planners use this list in estimating, to establish a margin of safety for cost. Many manufacturers and suppliers offer discounts, so estimates based on published prices will likely represent cost ceilings.

**Contract document phase**

After the client's approval of the above work, the equipment planner prepares the contract documents, consisting of: specifications for each new item approved by the client; plans and/or schedules showing the exact location of new and replacement equipment; and forms of proposals, instructions to bidders and general conditions as required. The approved documents are provided to the client to obtain competi-

NORWALK HOSPITAL ANALYSIS OF X-RAY EQUIPMENT QUOTATIONS February 7, 1977				
ROOM	MAKER A	MAKER B	MAKER C	MAKER D
Radiology Department:				
(1) Auto Chest R-346	111,153.00	118,155.00	91,655.00	88,145.00
(2) Tomography R-347	128,357.00	119,835.00	107,538.00	109,855.00
(3) Radio/Fluoro R-344	208,186.00	180,935.00	199,900.00	195,600.00
(4) IVP/Mammogram R-355	125,244.00	107,895.00	113,321.00	102,100.00
(5) IVP/General R-357	91,367.00	98,250.00	97,686.00	85,000.00
(6) IVP/General R-358	75,000.00	98,250.00	81,821.00	85,000.00
(7) Spec. Proc. R-364	351,385.00	451,356.00	311,973.00	357,700.00
(9) Radio/Fluoro R-340	208,186.00	180,935.00	199,900.00	195,600.00
(10) Back-up Special Procedure R-341	327,428.00	354,840.00	369,500.00	333,000.00
(11) Radio/Fluoro R-354	208,186.00	180,935.00	199,900.00	195,600.00
<b>RADIOLOGY:</b>	<b>1,834,492.00</b>	<b>1,891,386.00</b>	<b>1,773,494.00</b>	<b>1,747,600.00</b>
Emergency Department:				
(1) Chest Room E-326	84,232.00	82,310.00	75,762.00	75,000.00
(2) E-319	92,433.00	95,280.00	81,821.00	73,150.00
<b>EMERGENCY:</b>	<b>176,665.00</b>	<b>177,590.00</b>	<b>157,583.00</b>	<b>148,150.00</b>
Health Testing:				
(1) Chest Room T-325	79,235.00	74,165.00	83,155.00	69,000.00
<b>TOTAL EQUIPMENT PACKAGE:</b>	<b>2,090,392.00</b>	<b>2,143,141.00</b>	<b>2,014,232.00</b>	<b>1,964,750.00</b>
Discounts (-)	269,400.00	163,141.00	-----	150,000.00
<b>Shipping Charges</b>	<b>1,820,992.00</b>	<b>1,980,000.00</b>	<b>2,014,232.00</b>	<b>1,814,750.00</b>
Installation by Hospital, estimated	25,000.00	-----	40,000.00	-----
Extra Electrical by Hospital	-----	-----	-----	15,000.00
<b>Service Technician (-)</b>	<b>1,845,992.00</b>	<b>1,965,000.00</b>	<b>2,054,232.00</b>	<b>1,839,750.00</b>
Extras in Proposal (-)	24,600.00	-----	50,000.00	-----
<b>NET COST TO NORWALK HOSPITAL</b>	<b>1,870,592.00</b>	<b>1,965,000.00</b>	<b>2,104,232.00</b>	<b>1,839,750.00</b>

Figure 3

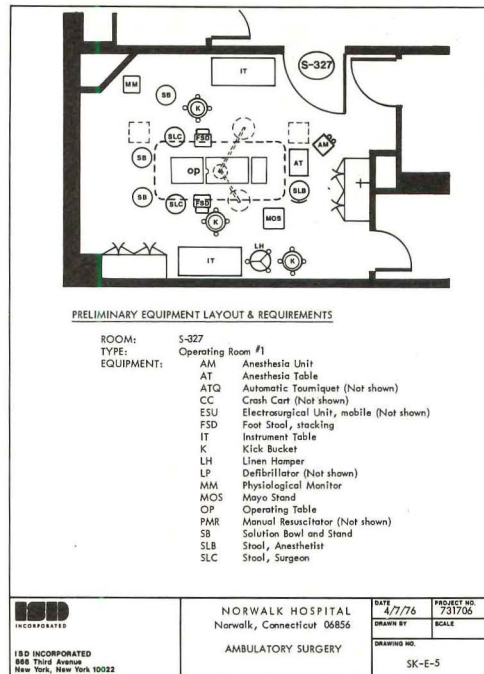


Figure 4

CODE	ITEM	QUANTITY	DESCRIPTION	UNIT COST	TOTAL COST
OP	1.	1	OPERATING TABLE - model 2080-L surgical table; all electric; 2" thick, conductive pad; radiolucent (image intensification) capabilities; 2 armboards; 2-3 pads for armboards; anesthesia winged screen; 3 restraint straps.  MFR: American Sterilizer Co. (AMSCO) Plainview, N.Y.  Catalog: (1) BE-55-721 7,640.00 (2) BF-14-100 80.00 (3) BF-14-400 25.00 (1) BF-07-500 130.00 (3) BF-08-800 50.00	7,640.00	7,640.00
SLB	2.	1	REVOLVING STOOL - anesthetist stool with back; stainless steel; 15" dia. seat; locking conductive casters.  MFR: Blickman Health Industries, Inc. Fair Lawn, N.J.  Catalog: 7742-55-C 171.50	171.50	171.50
SLC	3.	1	REVOLVING STOOL - surgeon stool; stainless steel; 15" dia. seat; locking conductive casters.  MFR: Blickman Health Industries, Inc. Fair Lawn, N.J.  Catalog: 7745-55-C 113.50	113.50	113.50
XSLC	4.	1	REVOLVING STOOL -		EX

Figure 5

tive bids or negotiated proposals, and ISD assists in the awarding of contracts.

Besides listing all accessories and pertinent data in the specifications for each item, specifications include precise delivery instructions to bidders. Equipment is to be packed and tagged in such a way as to direct every item to the precise point of use or installation. This is especially useful if equipment is to be shipped, but temporarily placed in storage.

The lead time on most medical equipment is 90 days, with the longest item being radiology equipment, which might require up to six months for delivery. However, ISD recommends bidding equipment as early as possible, and warehousing it until the time of need because frequent price changes are commonplace. Most manufacturers and dealers will not guarantee the bid price on equipment to be delivered two years hence.

Mr. Cook cautions that sometimes the product specified is obsolete by the time it is installed, model changes being nearly as frequent as price changes. This is particularly true of radiology equipment. To minimize this risk, ISD inserts a clause in bid documents requiring manufacturers to deliver their latest model. In other words, if a manufacturer's successful bid is based on a product that is subsequently changed, or eliminated from the line, the newest item must be delivered to the hospital. Price changes must be noted well in advance.

**Contract administration**

This portion of the equipment planner's work concentrates on obtaining conformance and compliance with contract documents and entails: review of samples and shop drawings of modified inventory items; shop observation of in-production items; periodic observation at the project site; installation scheduling; preparation of installation punchlists; in-service education reviews of new equipment; and preparation of Certificates of Payment.

Of considerable importance is the equipment planner's ability to manage detail throughout the equipment planning process. But this function is especially critical at delivery and installation time. In the case of X-ray equipment, important questions arise. How is it to be delivered? Who is going to install it. What are the union jurisdictions? Does delivery mean to the hospital loading dock, and if so, how does the hospital get it to the installation location? If left to chance, these are expensive questions.

Shake-down tests can be as simple as turning on a switch, but—as in the case of radiology equipment—testing can take several months, and it is up to the consultant to prepare the test criteria. In the case of sophisticated equipment, ISD provides the client with standards that must be met by the vendor to assure that the equipment meets performance specifications. The data gathered during tests is evaluated by ISD personnel and sent to the hospital if approved. When punch list items are corrected or completed, ISD prepares and issues Certificates of Payment, concluding a two-year process. ISD's compensation for this service is based solely on time charges—not a percentage of the contracts.

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## Supreme Court rulings during the 1976-77 term: Some good news, some bad news (and some maybe's)

Arthur T. Kornblut, Esq.

The 1976-77 term of the U. S. Supreme Court has drawn to a close. While no case decided during the term directly involved an architect, issues in a number of cases were of significant interest to design professionals and the construction industry. So it is timely to review some recent decisions and presently pending cases involving antitrust matters, labor relations, occupational safety and health, and advertising restrictions. Briefly . . .

### Advertising: a ban on ethical grounds violates the First Amendment

In all the cases going before the Supreme Court during the past year, the one involving the censure of two lawyers for violating a bar association's advertising restrictions (*Bates and Teen v. State Bar of Arizona*) probably attracted the greatest interest among architects.

The Supreme Court ruling in the *Arizona Bar* case was against a blanket ban on advertising.

The significance of the *Arizona Bar* case to both lawyers and architects, as well as other design professionals, is most uncertain. However, the decision is significant, if for no other reason than the Court's clear statement (if a 5 to 4 decision can be called clear) that an ethical prohibition against advertising without regard to the specific evils sought to be prevented violates the First Amendment. (The censured attorneys also claimed the prohibition violated the Sherman Antitrust Act. The Court rejected this argument because the prohibition was promulgated and enforced by the Arizona Supreme Court and thus was exempt from the antitrust laws as "state action.")

The very narrow holding in this case must be recognized. The majority opinion limited the decision to the issue of whether the advertising by licensed attorneys of "routine" legal services, including prices for those routine services, could be prohibited by the state bar association. In holding that the advertisement which generated this action was protected by the First Amendment, the Court did not rule on advertising by other professions, did not rule on advertising by professionals that contained statements about the "quality of services," did not define "routine" legal services, and did not rule on the permissibility of other than newspaper advertisements. In fact, if any generalizations can be drawn from this case, it seems to be that the majority believed the bar both collectively and individually has an obligation to inform the public about the availability of legal services, including price information for routine services.

It is difficult to guess how the Court would have reacted had the case involved the censure of an architect by a state registration board or a contractor. In this case, five members of a panel of

judges, all of whom are lawyers, decided that certain legal services can be characterized as routine and thus are amenable to being advertised in the printed media. Even so, the dissenting justices felt it necessary to comment on the undefinability of routine legal services.

But, what would they say about advertising "routine" architectural services? Whether or not the Court will have an opportunity to be confronted with that issue depends in large part on any future steps taken by AIA to further evaluate its ethical prohibition against advertising in light of the *Arizona State Bar* case and potential action by the Justice Department on antitrust grounds. (Unlike the *Arizona Bar*, the AIA's advertising ban, promulgated by a private organization, does not enjoy the "state action" exemption from the Sherman Act. However, a registration board's ban might be considered exempt if it could survive the First Amendment problem.)

### On collective bargaining: unions cannot tamper with the designer's specifications

Dating back over a few years, a number of cases have gone before the National Labor Relations Board and the courts involving the right of a union to refuse to work on or install prefabricated systems, products and equipment that violated a collective bargaining agreement and, in effect, reduced the need for on-site labor. In many instances, the issue became one of whether the union's collective bargaining agreement with the contractor took precedence over the project design and specifications, or vice versa.

In a decision handed down on February 22, 1977, the Supreme Court appears to have put the matter to rest for the time being—and in a way favorable to the design professions. The Court ruled 6-3 that a union's refusal to install prefabricated climate control units constituted an illegal secondary boycott in violation of the National Labor Relations Act. (*NLRB v. Enterprise Association*) The union in this case had a collective bargaining agreement with an hvac subcontractor on a retirement home project, but it had no agreement with the general contractor and engineer who prepared the specifications. The inability of the immediate

employer (the subcontractor) to change the specifications to call for something compatible with the collective bargaining agreement made the union's refusal to install the prefabricated units an unfair labor practice.

For architects, this ruling means that project designs and specifications can be prepared in light of the needs of the client and the project, without having the collective bargaining agreements of potential contractors and subcontractors be a controlling factor.

### On OSHA: employer's right to jury trial is not violated by agency penalties

In a major test of the constitutionality of the penalty provisions of the Occupational Safety and Health Act, the Supreme Court on March 23 found 8-0 that the Seventh Amendment is not violated even though a jury trial is unavailable to an employer cited for an OSHA violation. (*Atlas Roofing Co., Inc. v. OSHRC.*) The Seventh Amendment provides that in "suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved . . ."

The Court noted the Seventh Amendment was never intended to establish the jury as the exclusive mechanism for factfinding in civil cases. It held that when Congress creates new statutory "public rights" (in this instance, the right of each employee to a safe and healthful working environment), it can assign their adjudication to an administrative agency with which a jury trial would be incompatible.

### On antitrust and professional ethics: no decision on Court review of NSPE

During the past year, the National Society of Professional Engineers again was rebuffed by a lower Federal court in its attempt to show that its ethical prohibition against competitive bidding was within the "rule of reason" exception to the antitrust laws. Following a unanimous ruling on March 14 by the D. C. Circuit Court of Appeals that the ethical standard in question constituted a *per se* antitrust violation, NSPE sought to have the decision reviewed by the Supreme Court. It remains to be seen whether review will be granted.

---

Mr. Kornblut is a registered architect and practicing attorney in Washington, D.C.

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**Residential tower  
\$526,300  
under budget...**

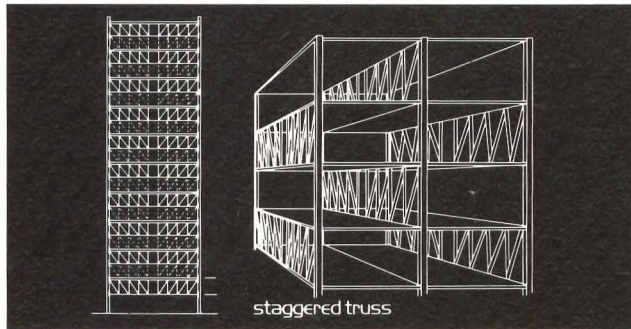






er view during construction shows large, column-free Typical bays measure 53 ft 6 in. by 22 ft. Bethlehem ed 700 tons of structural steel for the project.

# thanks to a staggered truss steel framing system.



In the staggered truss system, story-high steel trusses, arranged in a staggered pattern, span transversely between exterior columns.

m Park Tower, Worcester, is a 16-level, 195-unit residential building for the elderly. 53,900 sq ft structure is being constructed at \$24.84 per sq ft. In 1973, a plan for a similar building on the same site was \$100,000 over budget. For that reason, a conventional concrete framing system was considered. What key factor made the big difference? Speed of construction: trusses erected in 32 days using staggered truss steel framing system.

**Story-high trusses** Developed in 1965, the system consists of story-high steel trusses spanning transversely between exterior columns of the building and spaced 22 ft apart and arranged in a staggered pattern.

The big advantage the system offers in high-rise apartments or hotel projects is the large clear spaces for complete layout flexibility—in this instance—unobstructed spaces 22 x 54 ft. Clearances are defined only by trusses and serve as walls between adjoining living units.

er Housing Authority, Worcester, Mass.  
 ctors: H&A Associates, Architects, Inc., Worcester, Mass.  
**Principal Engineer:** Weaver/Associates, Inc., Worcester, Mass.  
**Manufacturer:** Bethlehem Steel Corporation, Middletown, Va.  
**General Contractor:** Weaver Contracting Co., Inc., Worcester, Mass.

The reinforced concrete floor system, supported on steel open-web joists, acts as a diaphragm, transferring lateral loads in the short direction to the truss chords. Lateral loads are resisted by truss diagonals and are transferred into direct loads to the columns.

Columns, therefore, receive no bending moments in the transverse direction. This allows the designer to orient the columns so that the strong axis is available to help resist bending due to longitudinal wind forces.

The trusses, 54 ft long and 10 ft high, are fabricated in the shop and shipped to the construction site ready for installation.

There's another factor favoring the use of the staggered truss framing system with open-web joist floor-ceiling assemblies: open spaces above the ceilings simplify installation of the mechanical and utilities systems.

### Freedom of interior plan

The interior of the first level of the tower is column free and contains no trusses. The entire first floor, therefore, could be one large room, if it did not have to be divided into support areas for the tenants.


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But tough new building codes are beginning to change all that. Connecticut, Maryland, Massachusetts, New Jersey, Virginia and scores of cities and towns have adopted new building codes and ordinances which make automatic sprinklers mandatory for high-rise buildings. Many other states and municipalities have adopted codes which strongly encourage sprinkler installation in high-rise buildings.

Whether you're a building owner

or developer, an architect or specifying engineer, you should be aware of this growing trend toward stricter fire protection regulations. Learning all you can about sprinklering properly *now* could save you money in the future when you come face to face with one of these tough new codes.

Save you money? That's right. Permissive clauses in building codes vary from area to area, but sprinklering your next high-rise will make it safer and could save you money in many or all of the following ways:

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*requirements can be eliminated. Smokeproof entrance closures to exit stairs can be eliminated if stairways are pressurized.*

The average high-rise can be sprinklered for approximately \$1 a square foot. Why not investigate the construction cost savings involved in your next high-rise? The results may surprise you.

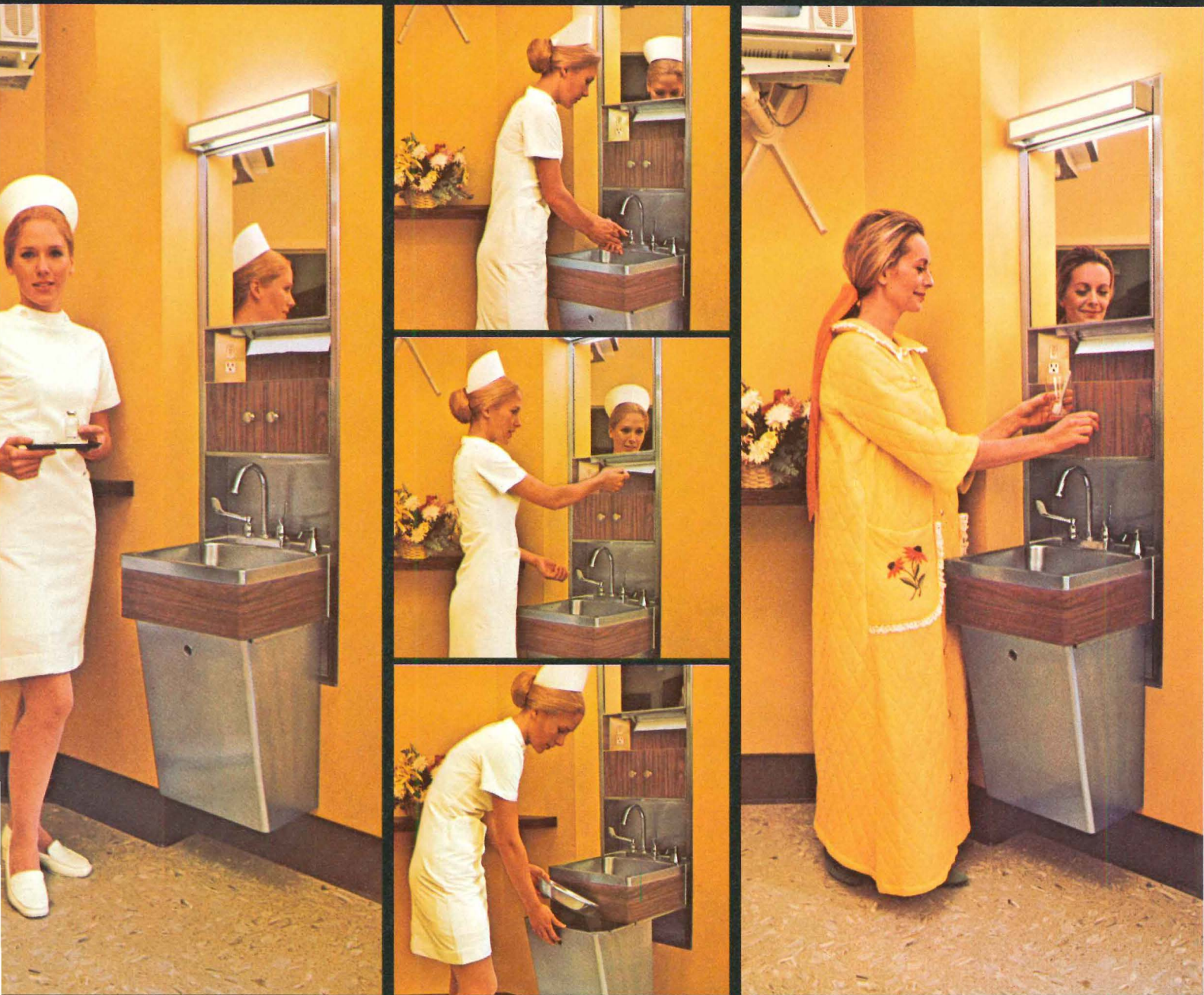
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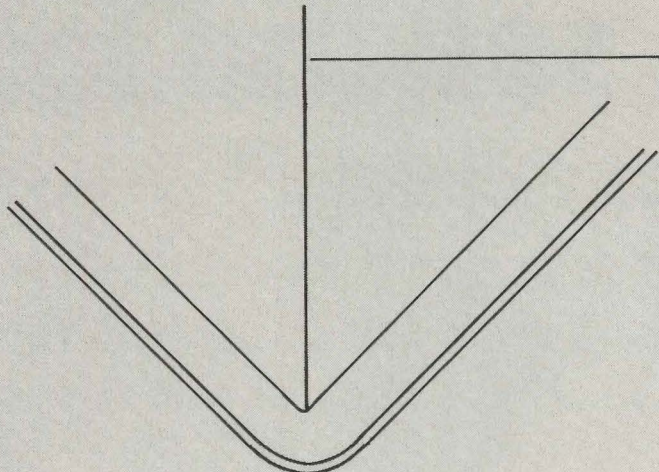
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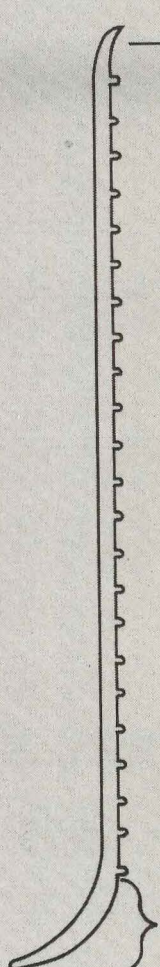


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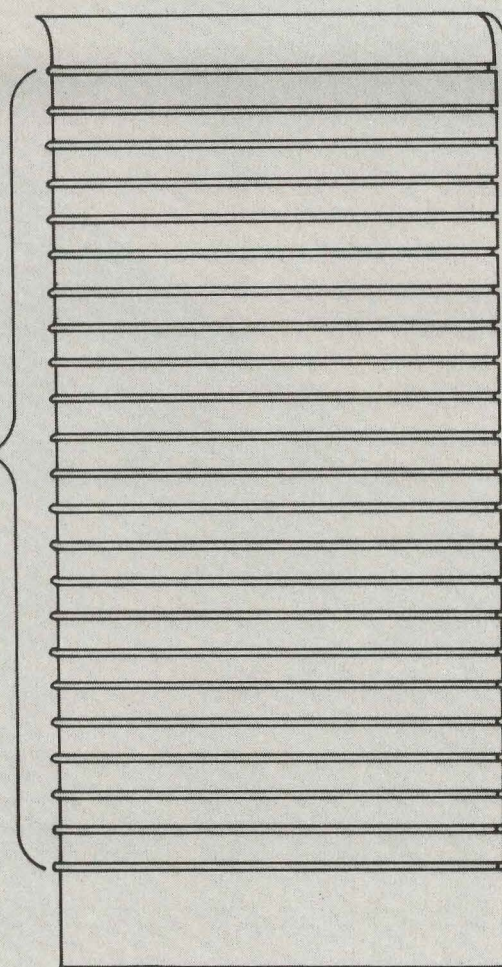


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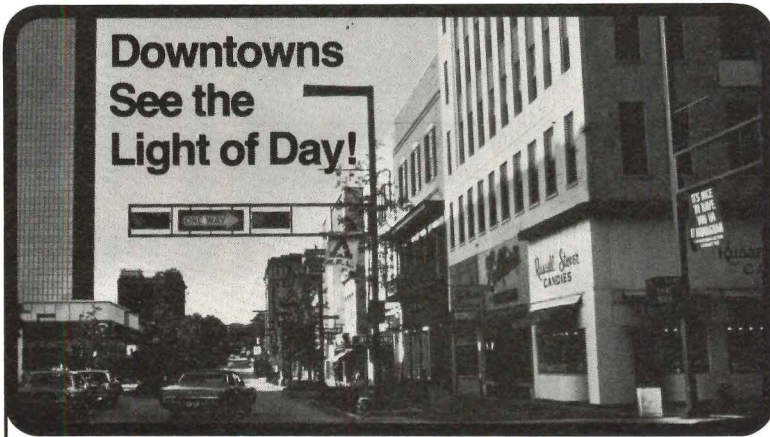
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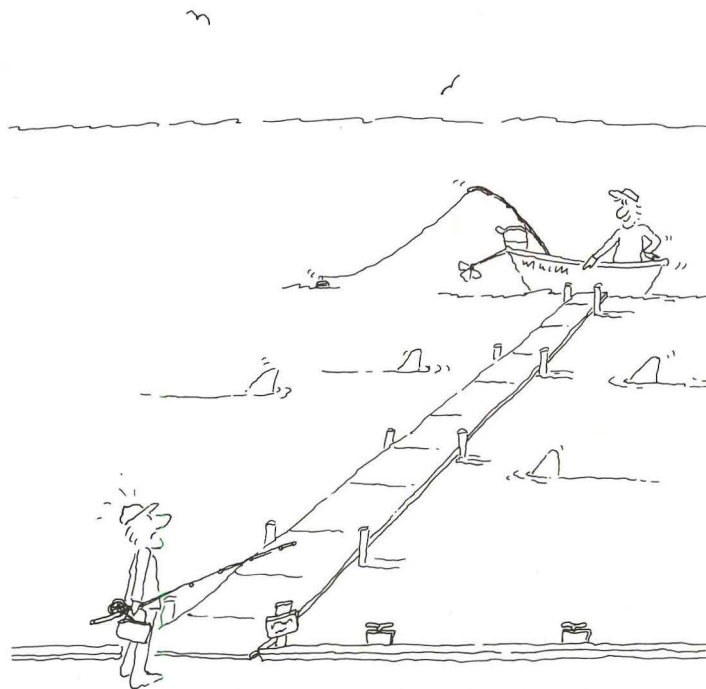
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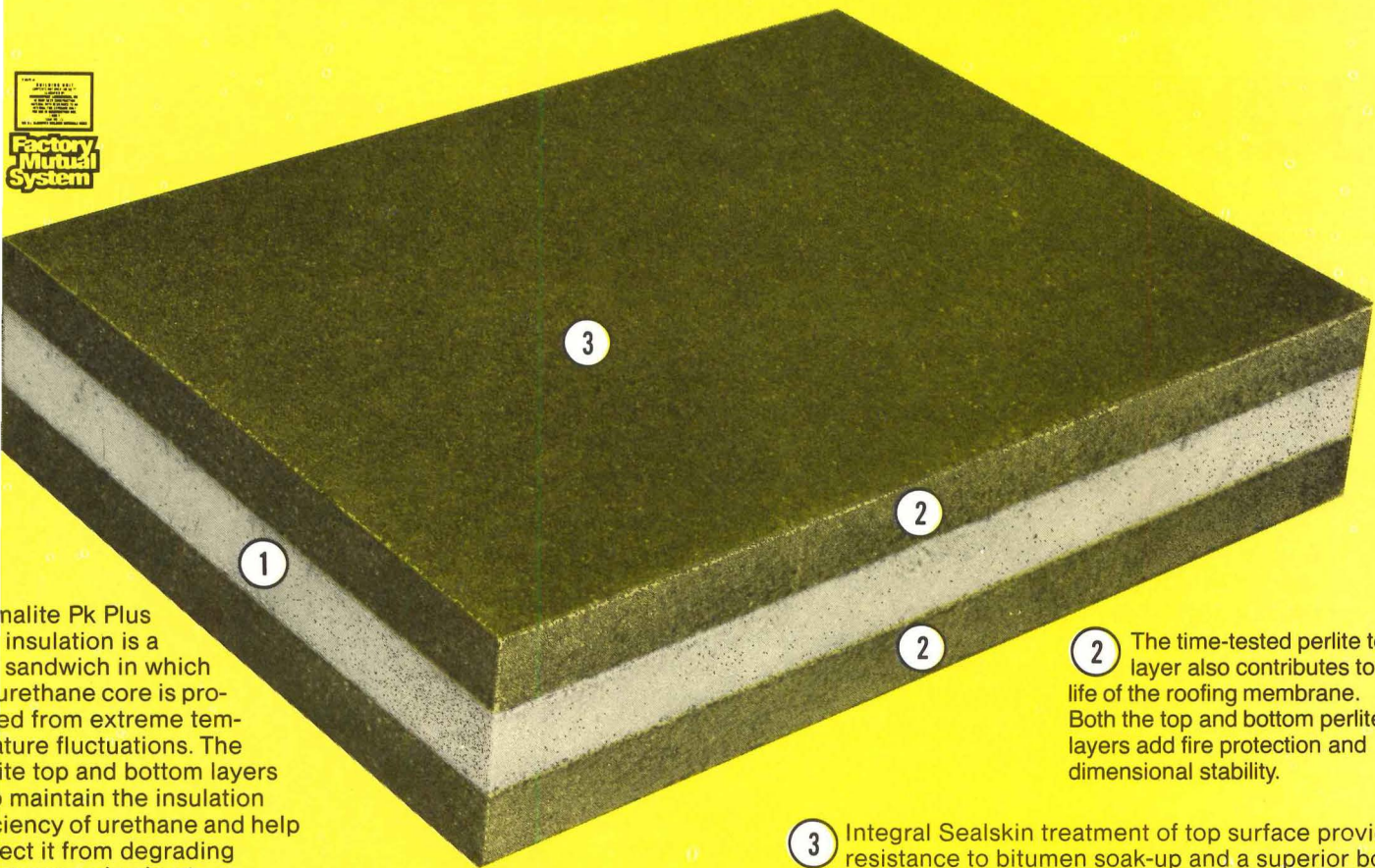
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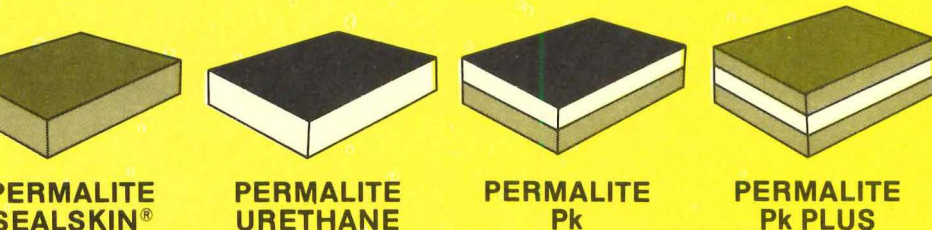
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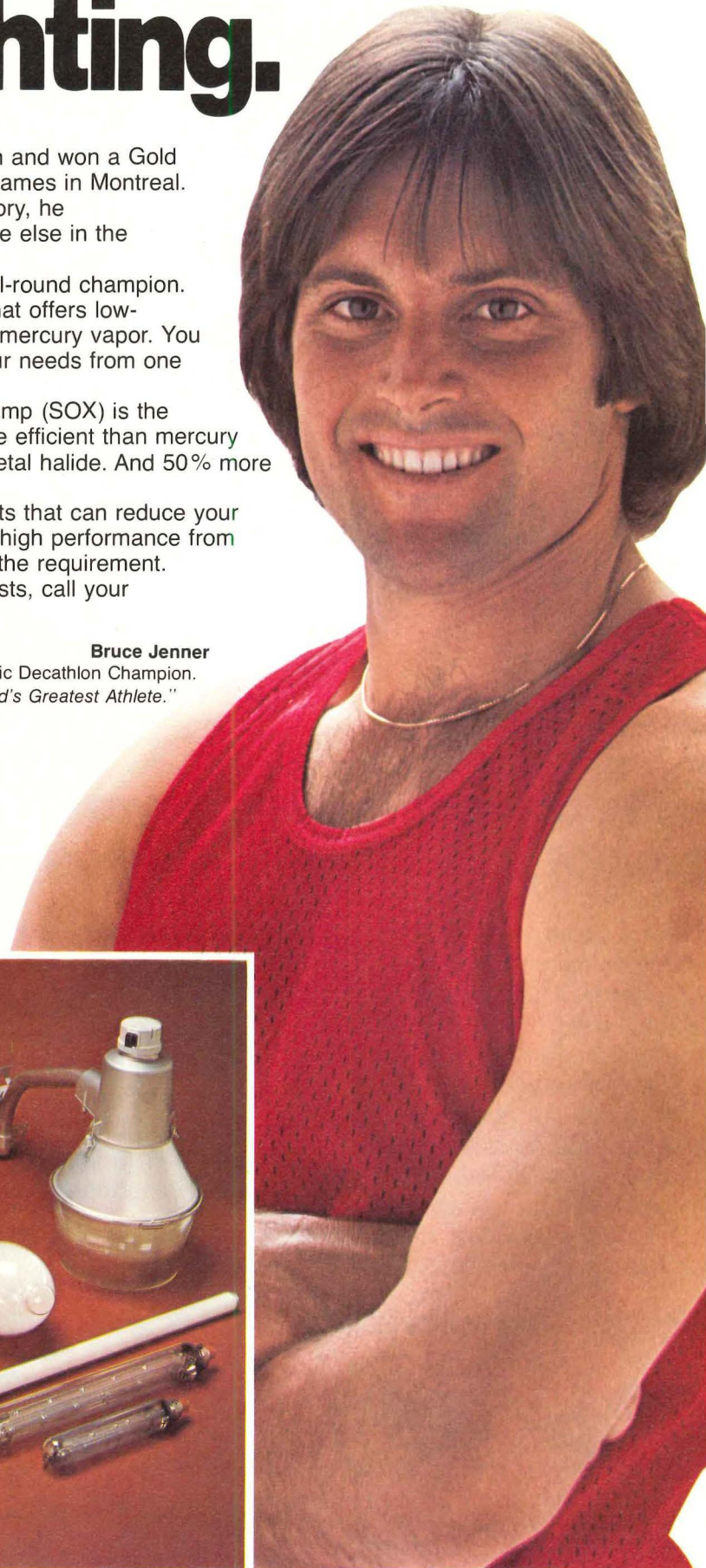
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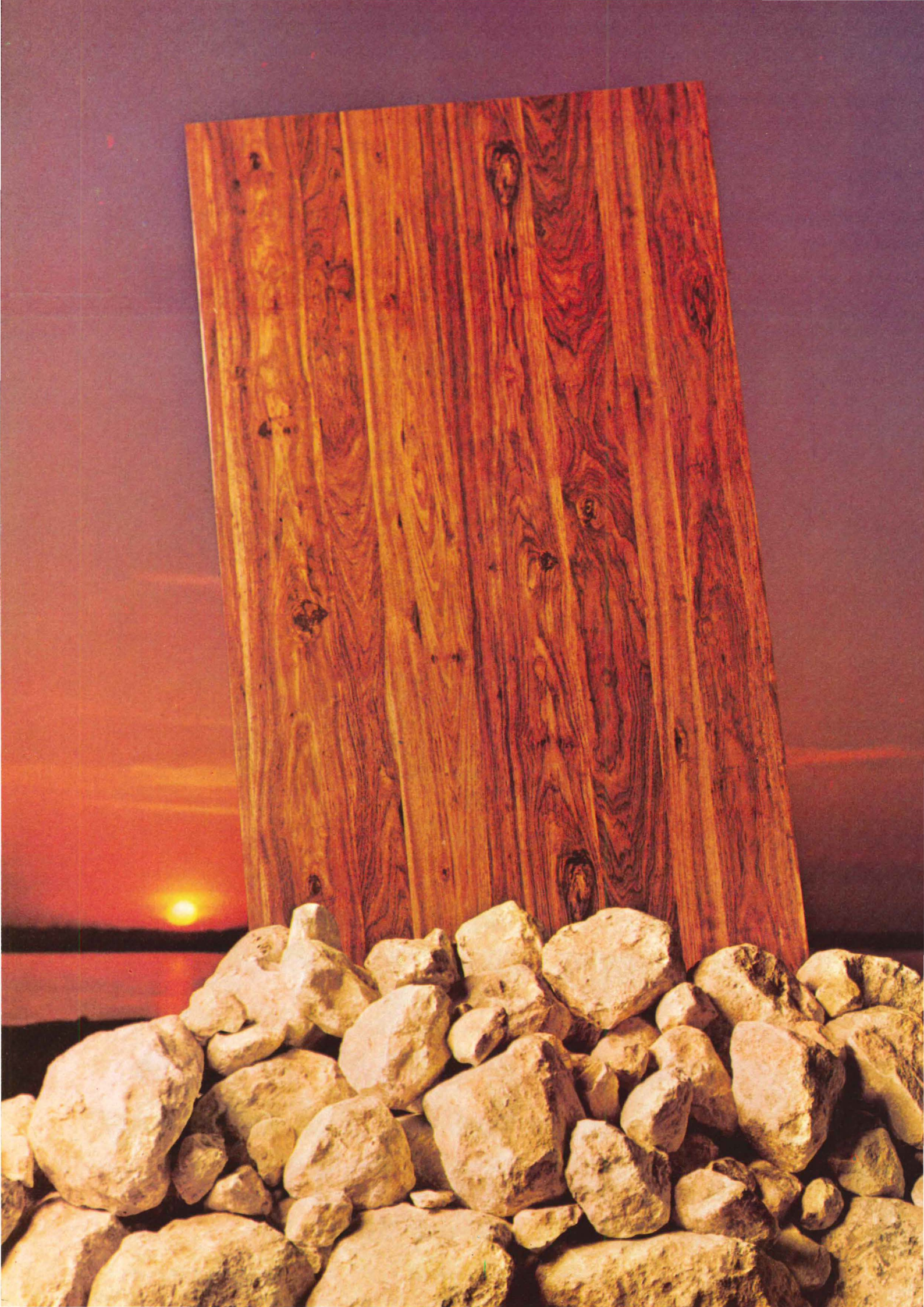
Citizens' Bank, N.A., Readington Township, New Jersey  
Architects: Lyman · Finne · Reese,  
Architects-Engineers, Elizabeth, New Jersey  
Roofer: J. Strober and Sons, Ringoes, New Jersey  
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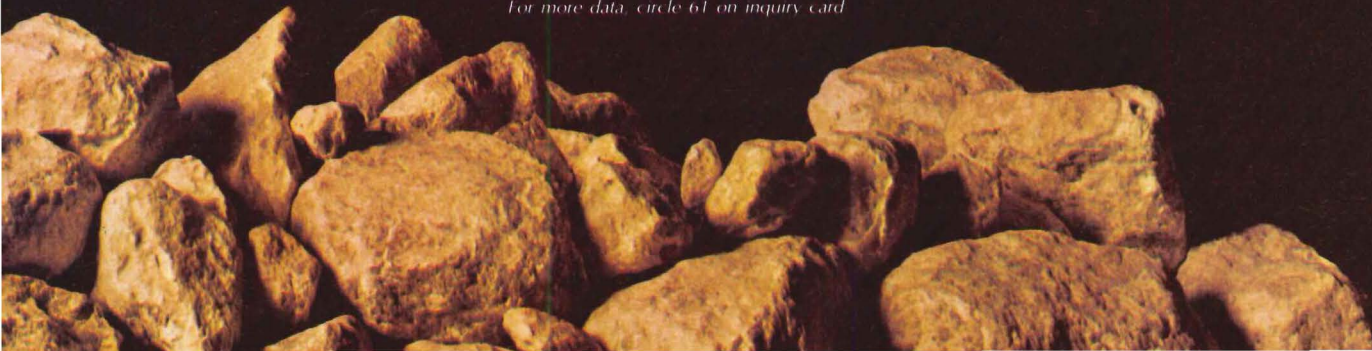
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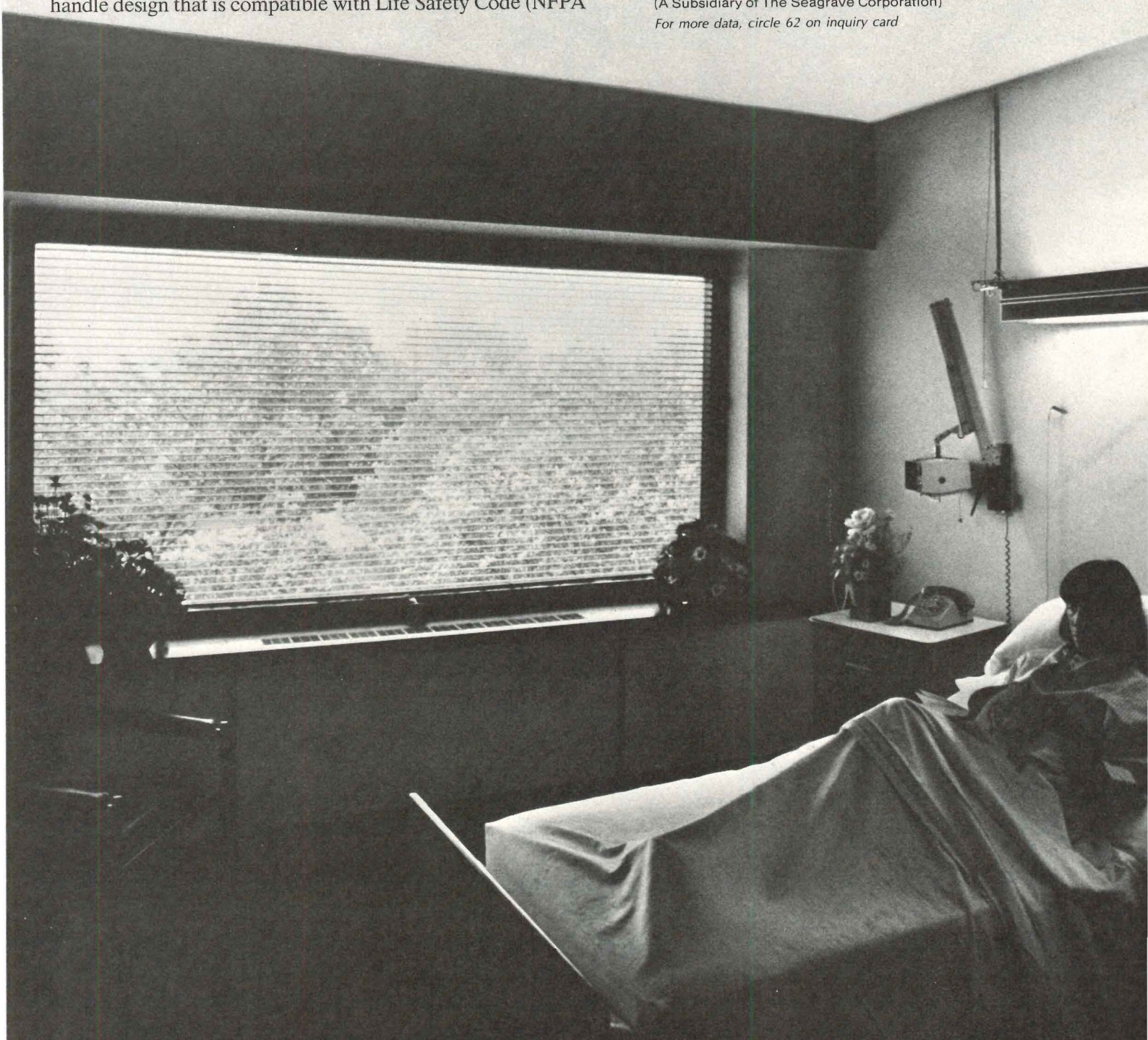
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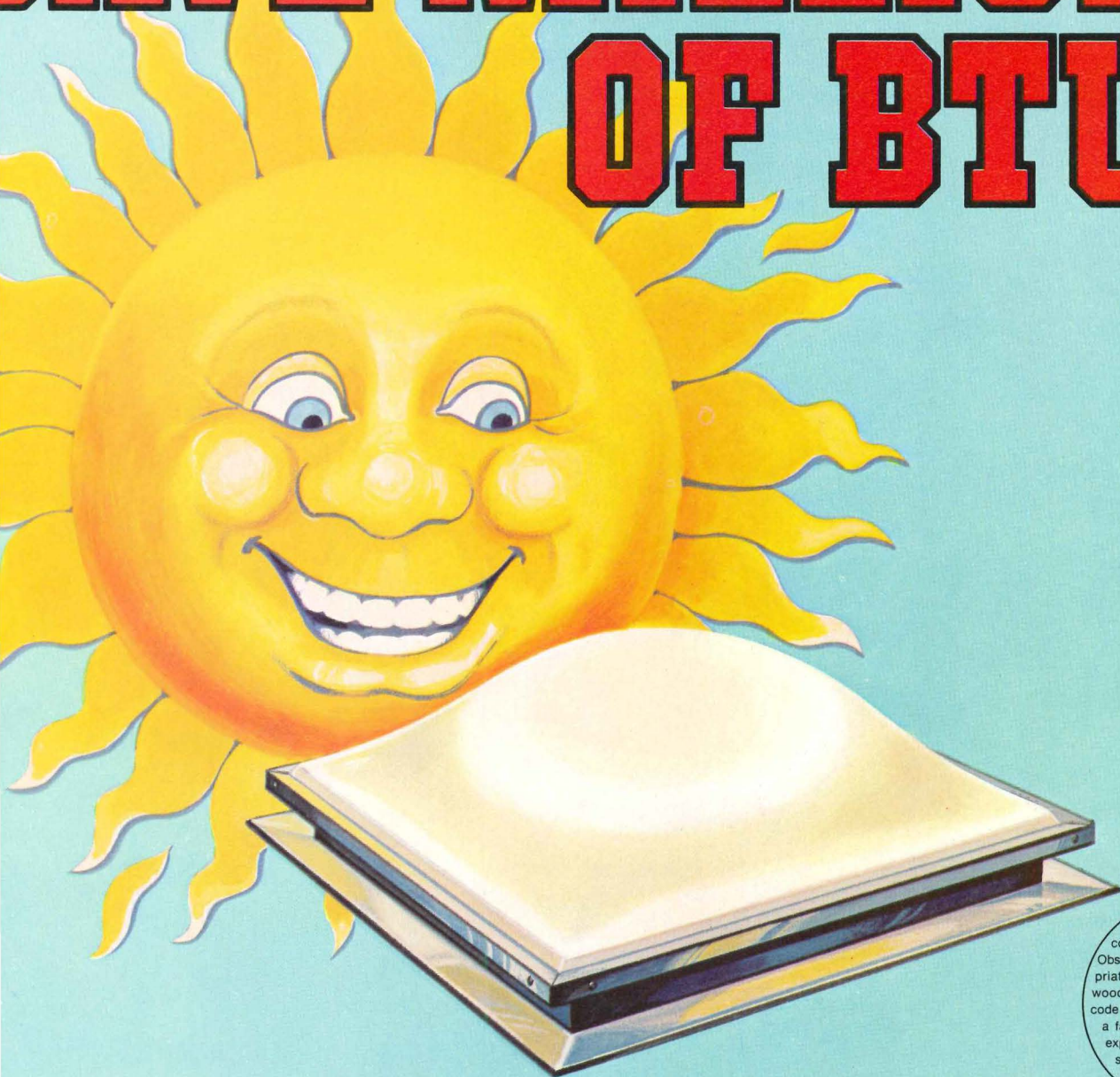
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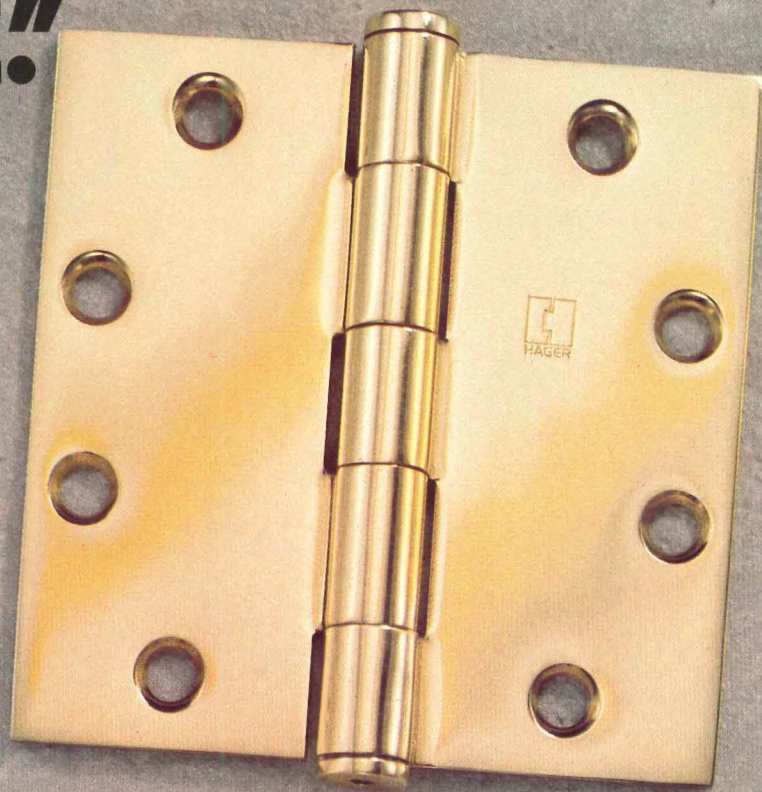
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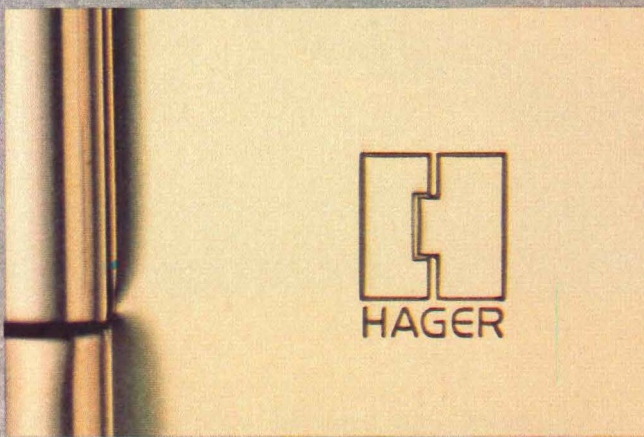
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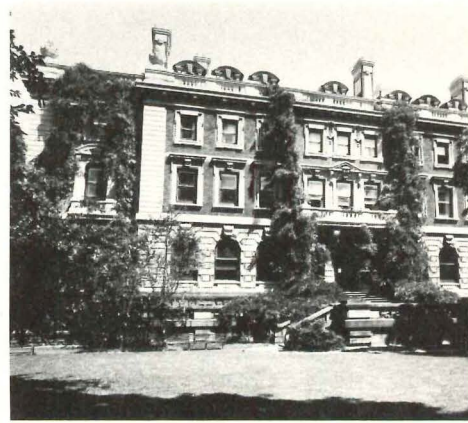
Norman McGrath



## Recycling architectural masterpieces —and other buildings not so great

From the firm's beginning, and long before it became the thing to do, Hardy Holzman Pfeiffer Associates have been turning warehouses into museums, barns into schools for the performing arts, and almost anything into theaters. Chances have come to view such splendid buildings as the Carnegie mansion (above and overleaf) and Cass Gilbert's St. Louis Art Museum (page 88). Unfortunately, sometimes a good project is delayed indefinitely, a sad example being the transformation of the Cincinnati Union Terminal (pages 84-85), still empty because of conflicting views by clients and public as to how it should best be used. Just as interesting to the firm are the chances to recycle into new usefulness buildings of no particular distinction, such as those which will comprise the new Madison Civic Center (pages 86-87); or landmarks of uncertain pedigree like Galveston's Grand Opera House and Hotel. Continuing on page 90 Hugh Hardy with Malcolm Holzman and Norman Pfeiffer describe their zestfully undogmatic, interpretive yet critical approaches to the most subtle and exacting of architectural problems.—M.F.S.

# The Cooper-Hewitt Museum in New York City: a turn-of-the-century mansion built by A

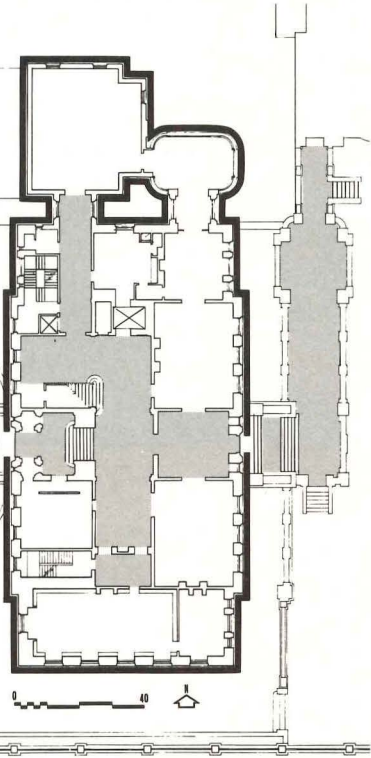
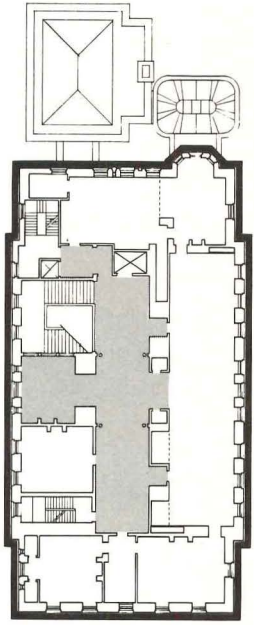


Hardy Holzman Pfeiffer Associates made few ob-  
changes in the mansion. The teak parquet floors,  
hand carved oak ceilings, wrought bronze grillework  
and quartered oak paneling were left essentially a-  
An elevator was inobtrusively installed in the spa-  
occupied by a pipe-organ in Carnegie's day (left)  
ornament was carefully cleaned and restored wher-  
the jambs and lintels of new openings were espe-  
made to match the remaining original door frame-  
and the basic axial arrangements of the house  
were respected. The old rooms have become eleg-  
for such objects as the Villa Tressino (opposite pa-  
included in an exhibit of models of the work of P



Norman Mc

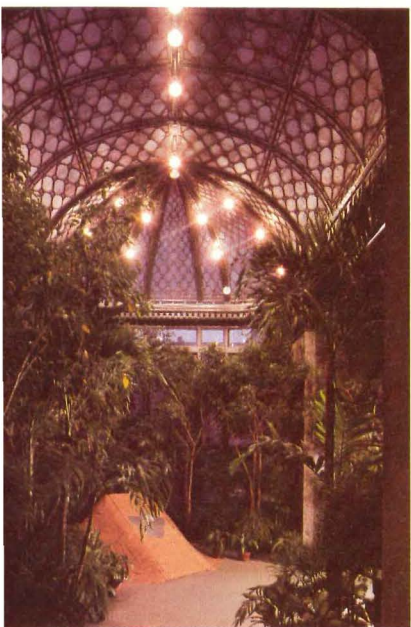
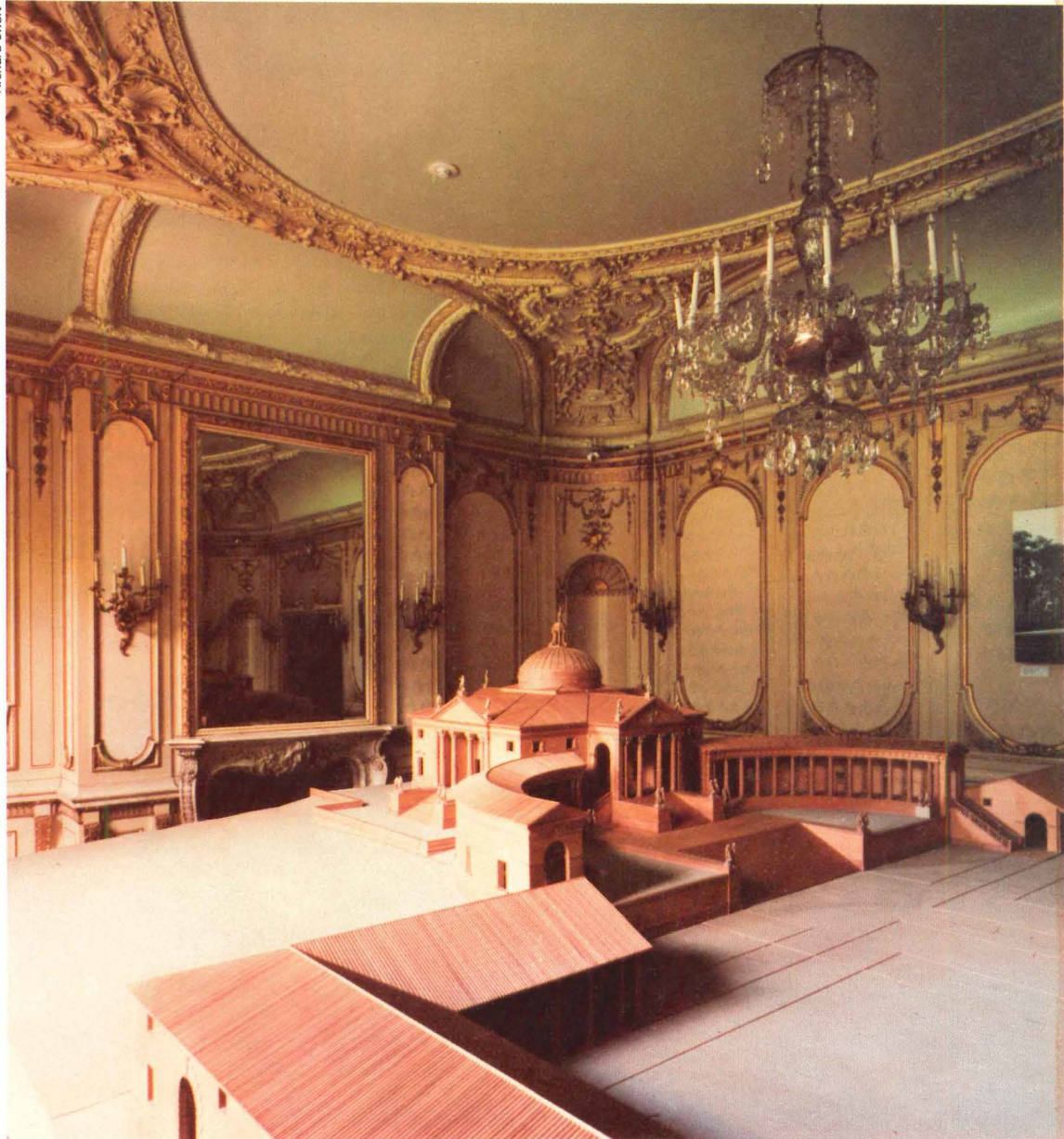
...e, recycled into the Smithsonian Institution's National Museum of Design



Norman McGrath



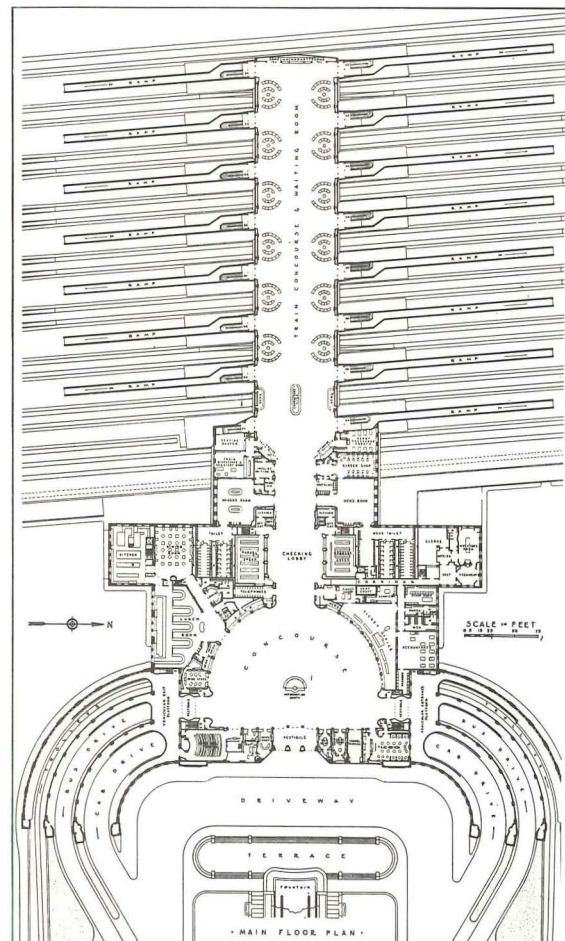
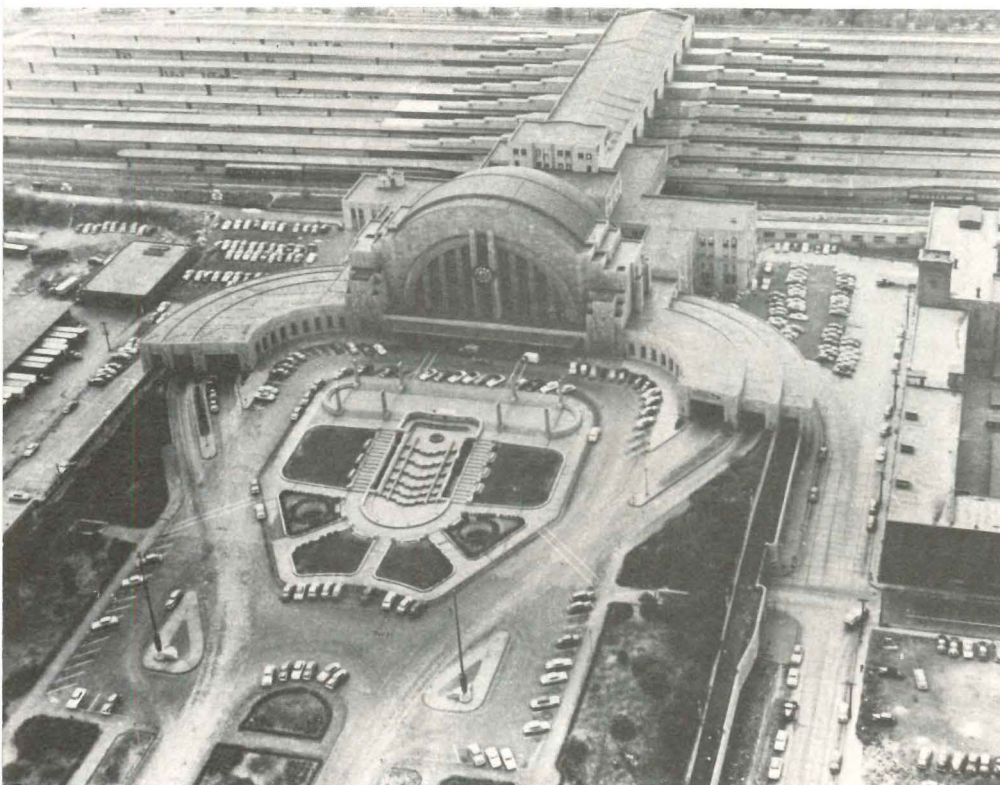
Richard Short



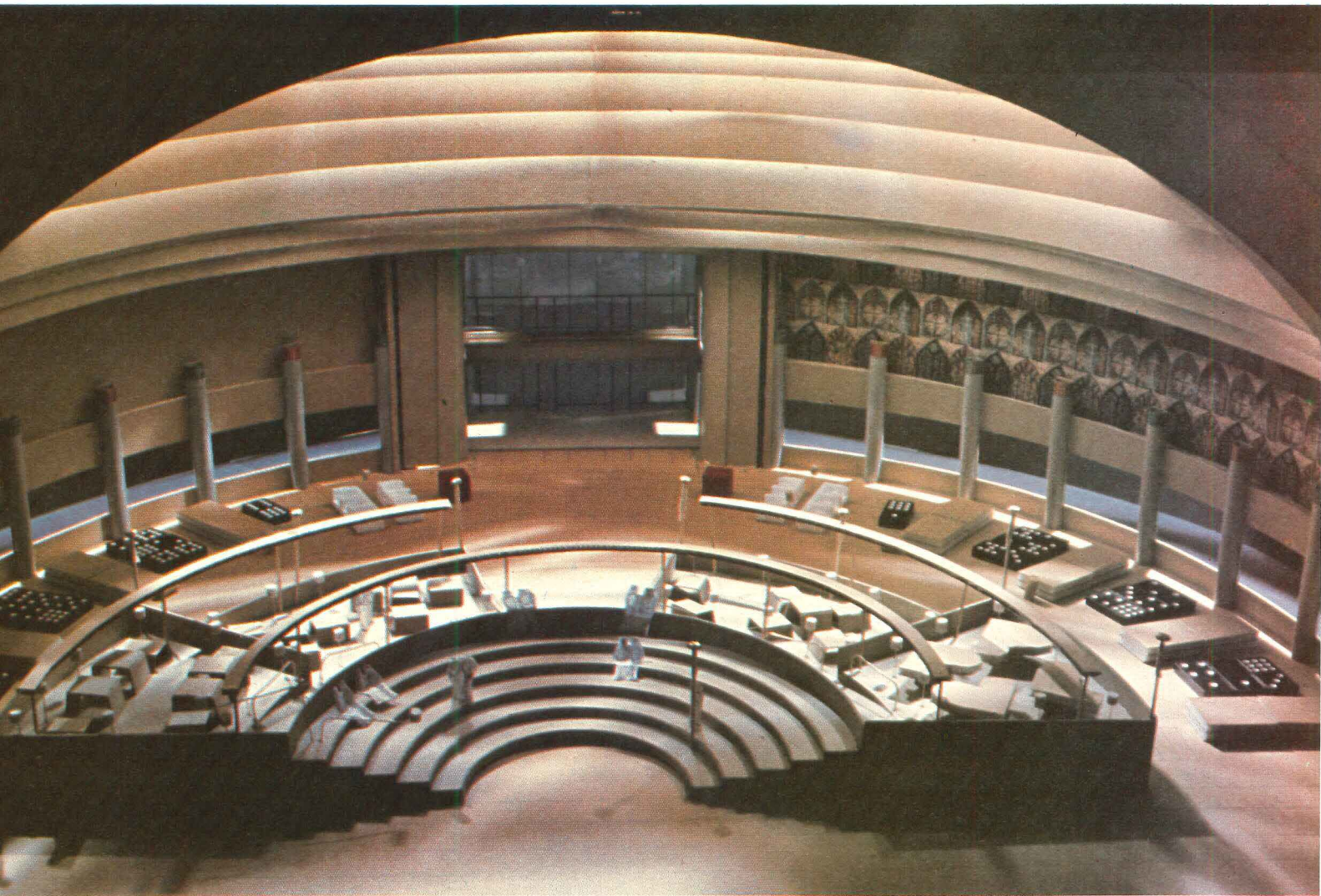
# The Cincinnati Union Terminal: a maimed and abandoned landmark that could be main



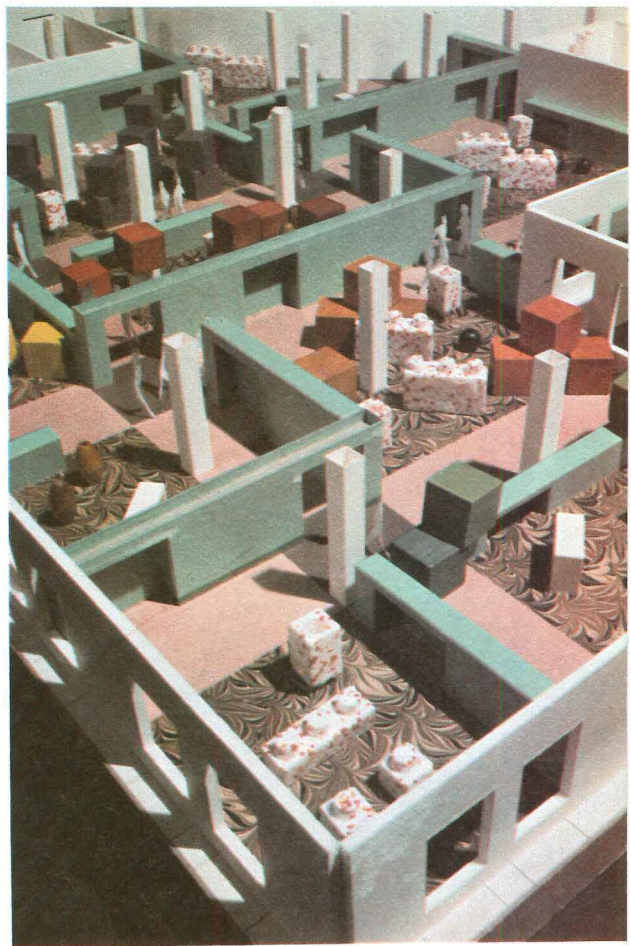
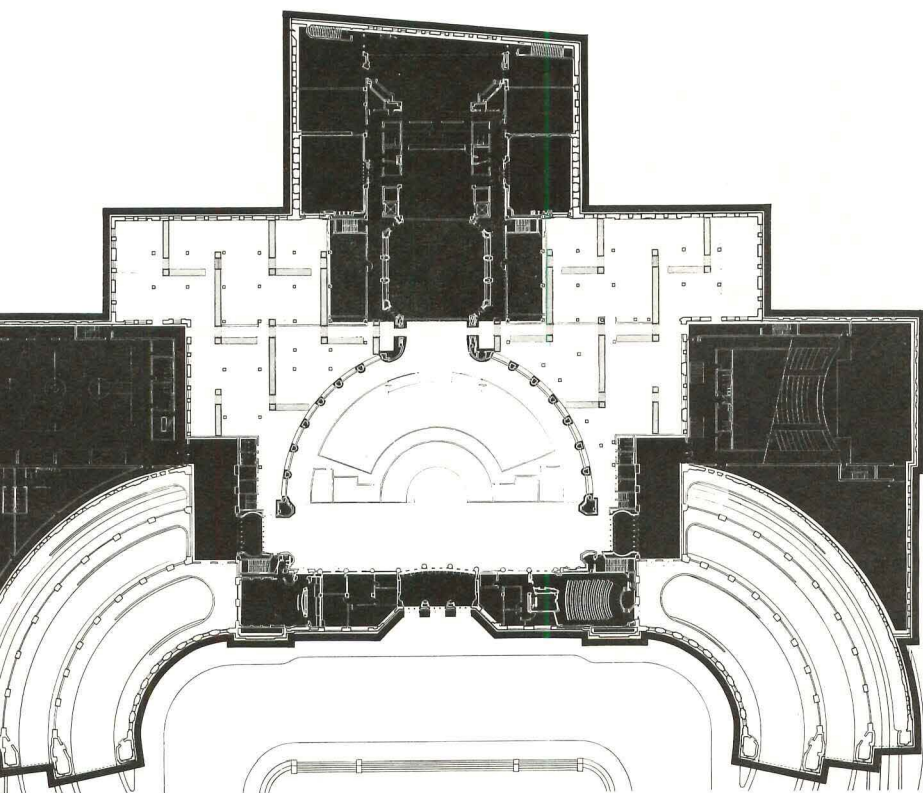
*The terminal, completed in 1933, affirmed its builders' misplaced faith in the future of passenger rail transportation. It was never used to capacity and indeed served as a passenger terminal for only a brief period after it was inaugurated. In 1974 the concourse (included in photo and drawing below) was demolished.*



ed and successfully re-used as a school for the arts

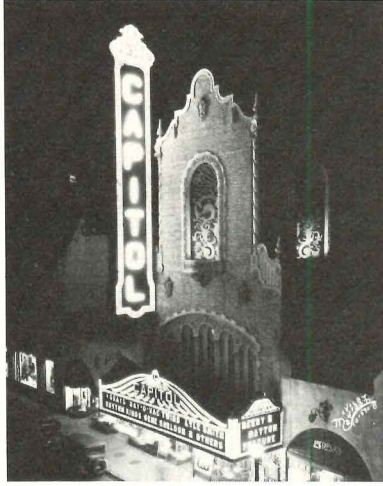


*In 1975, Hardy Holzman Pfeiffer Associates began to plan a school for the performing arts on the upper floors of the terminal. A bus garage was under study for the lower floors. Unfortunately there was no agreement on how the terminal should be restored (see page 90), and the building remains unused.*



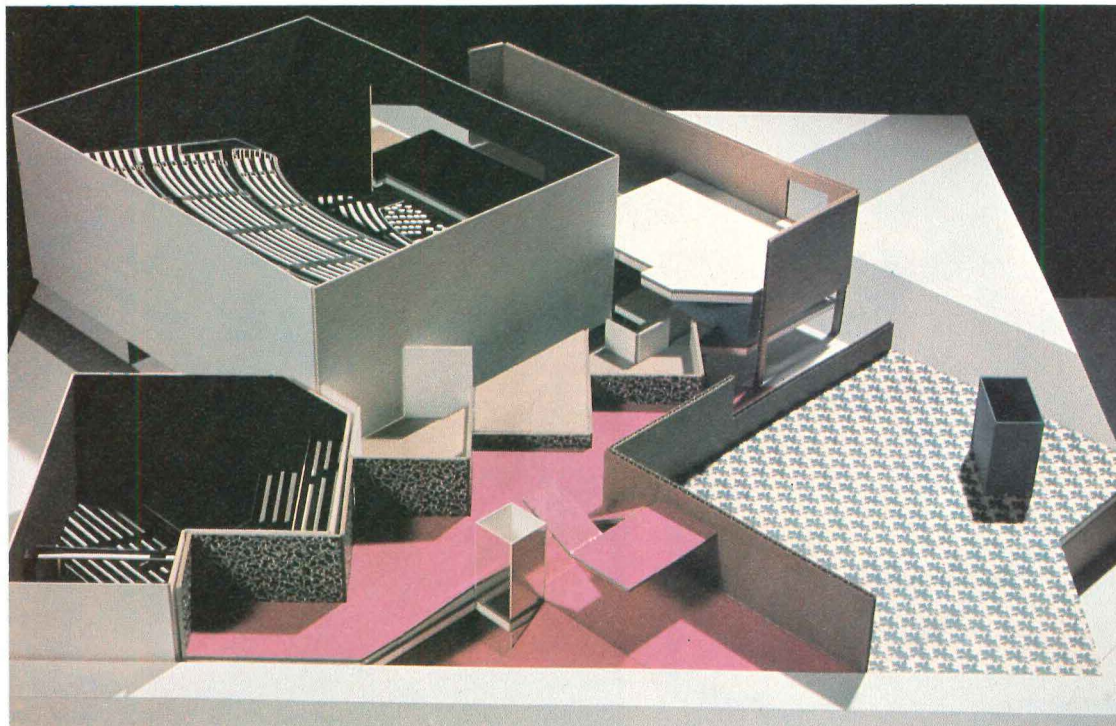
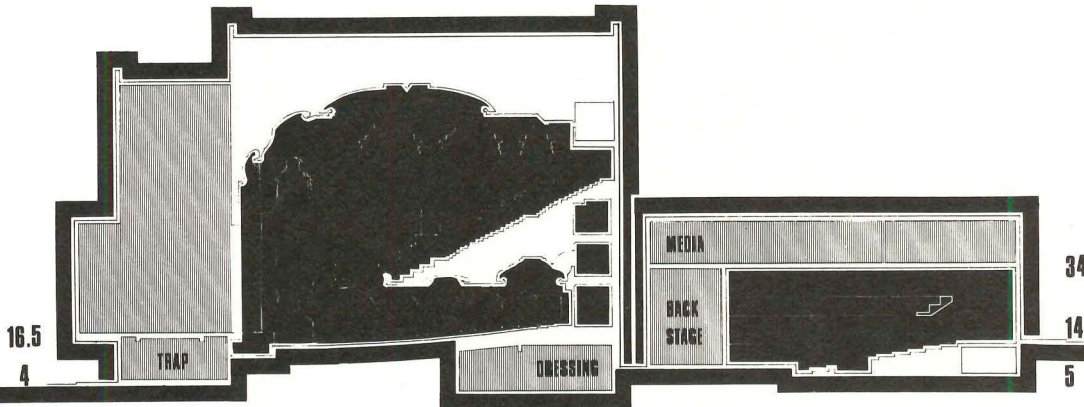
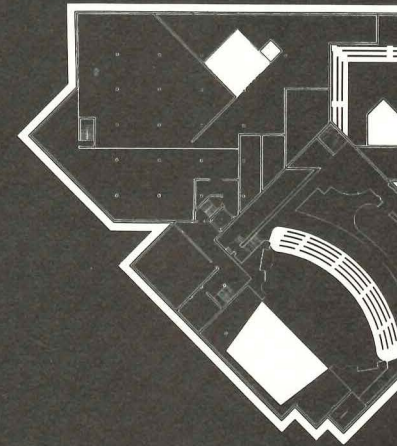
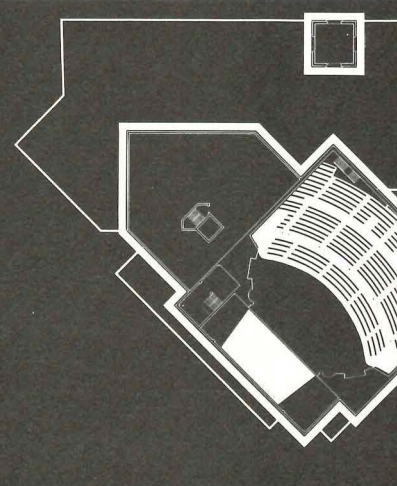
# The Madison Civic Center: a new art gallery and auditorium which grew from a former

State Historical Society of Wisconsin

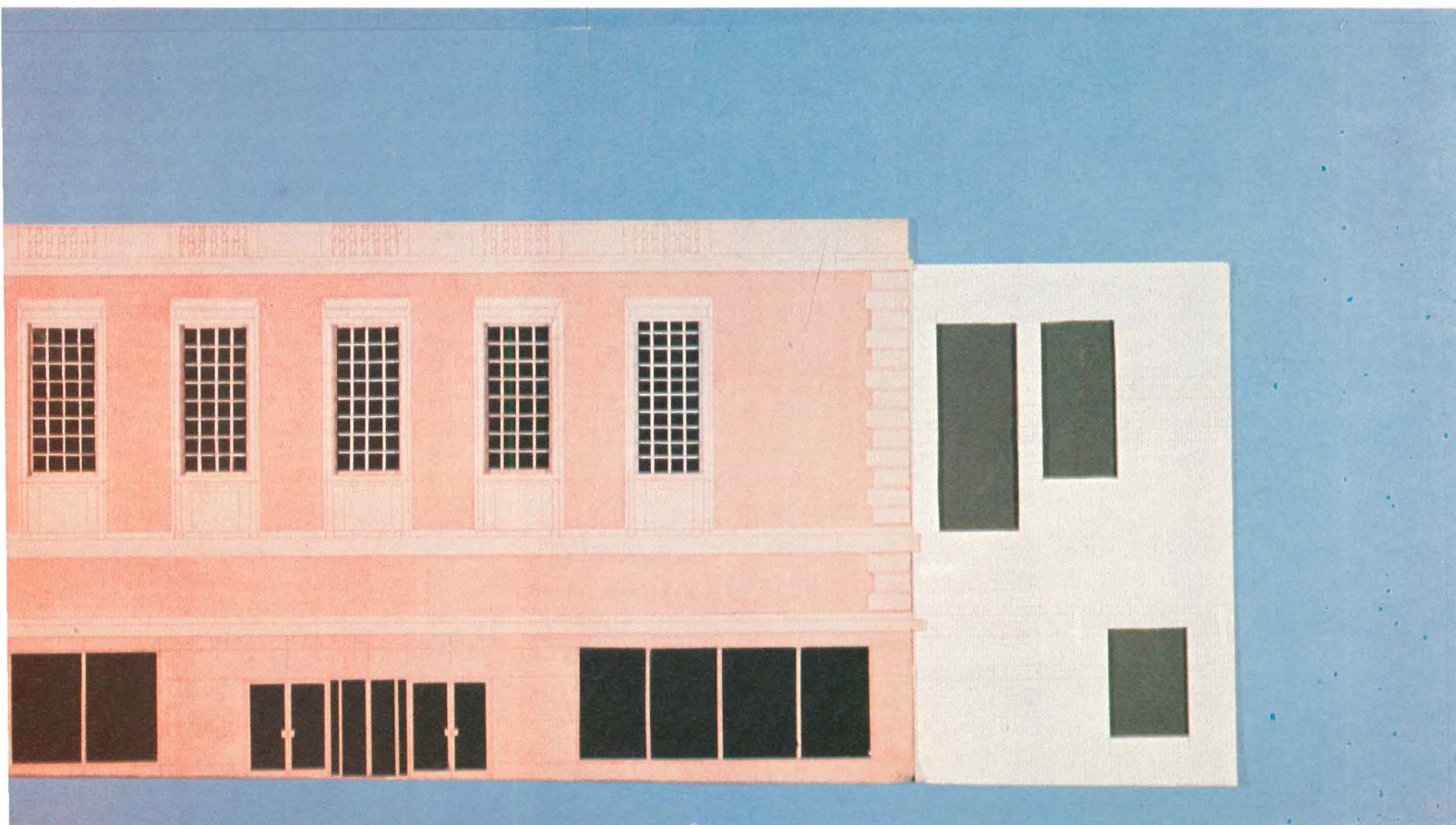
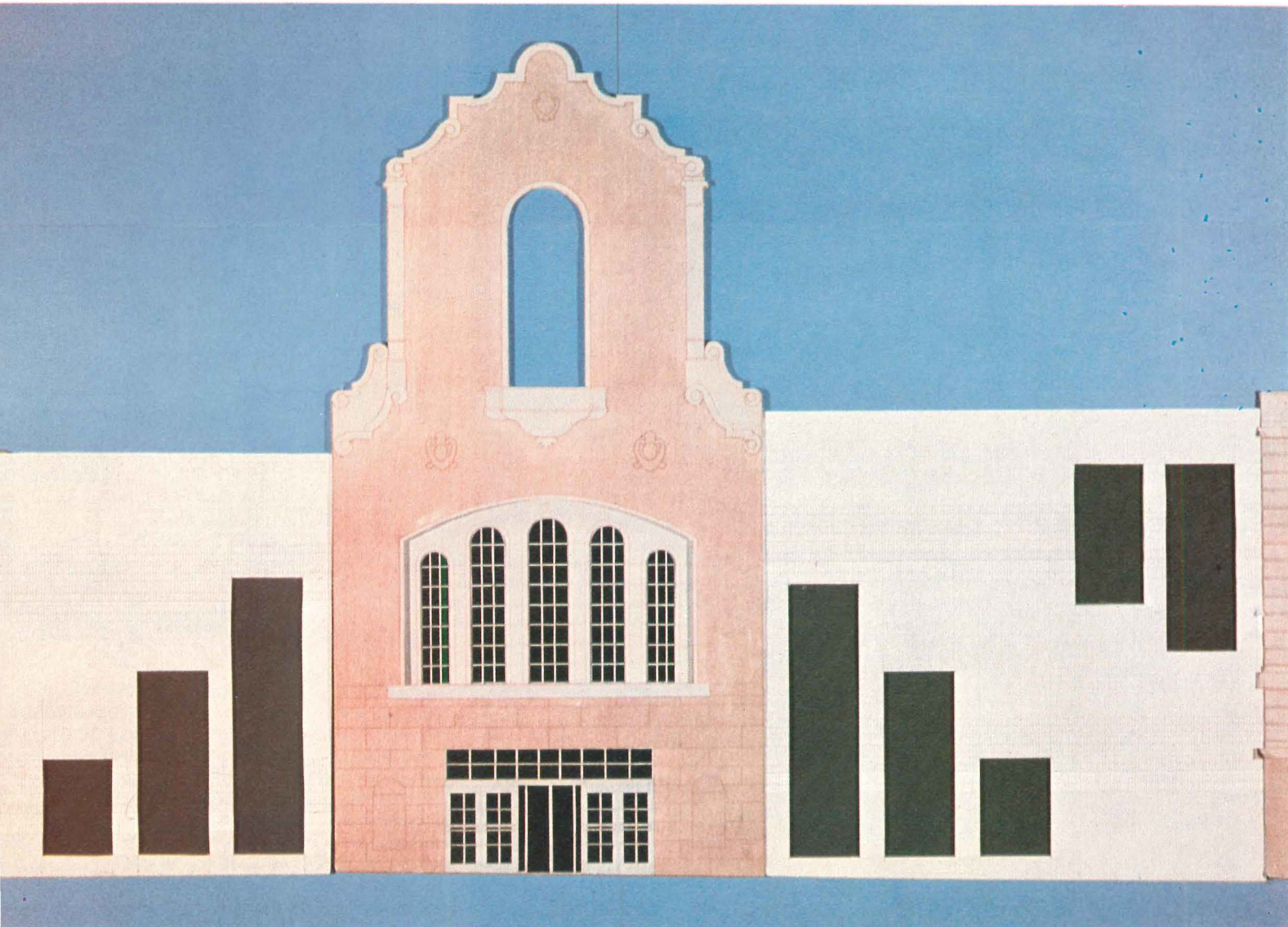


State Historical Society of Wisconsin

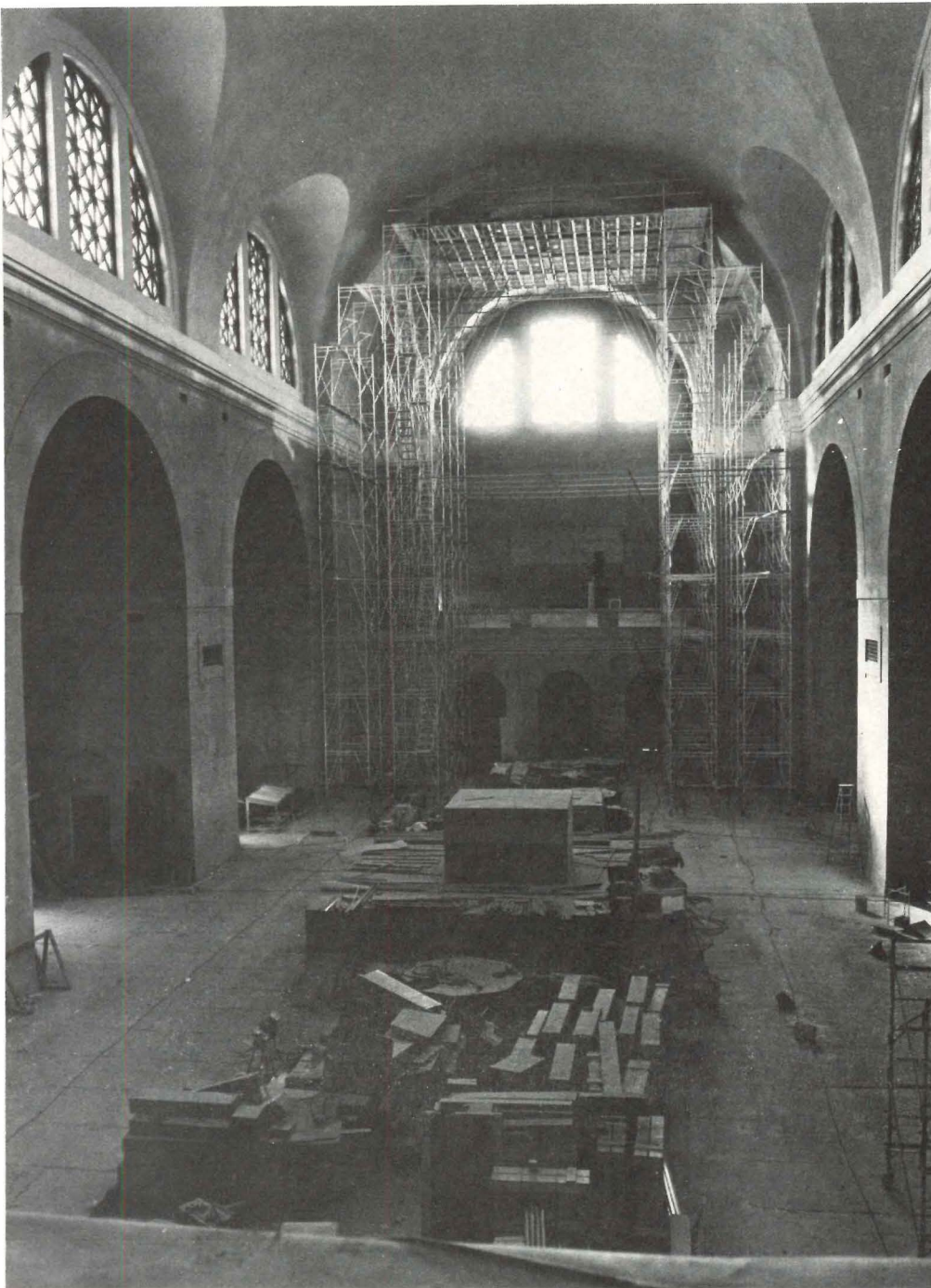
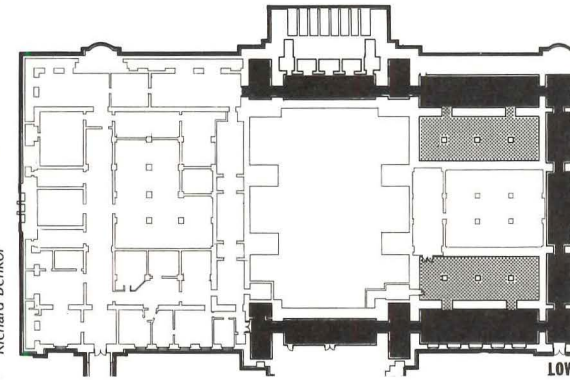
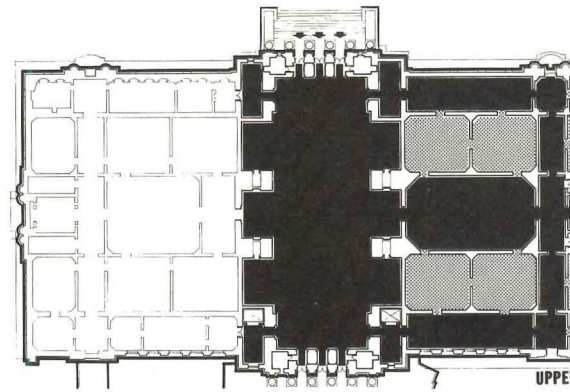
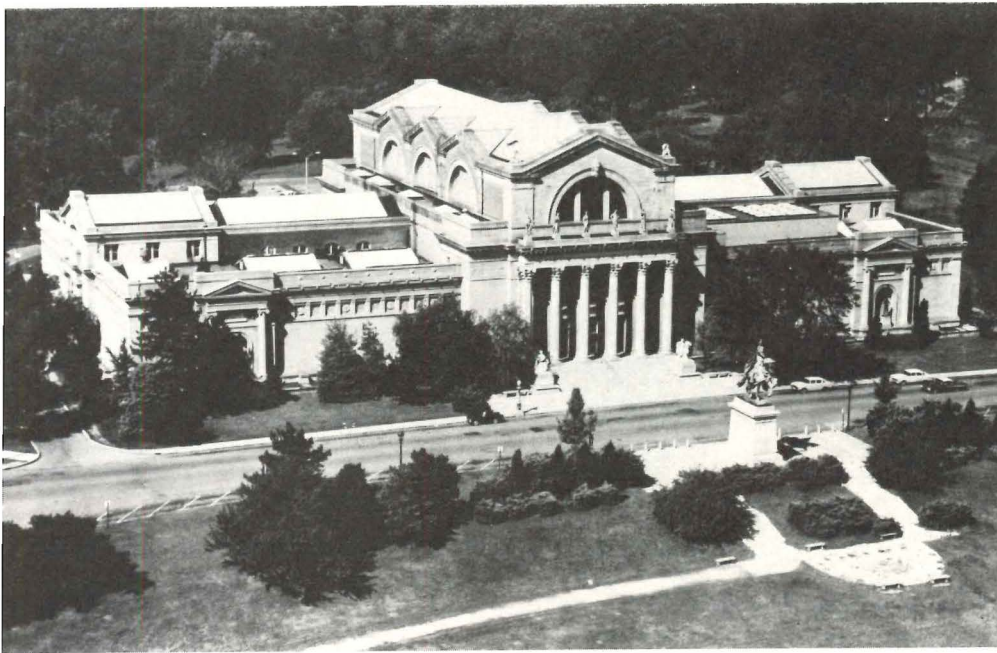
Neither the Capitol theater (above right), nor the Montgomery Ward store adjoining it could be considered important landmarks. Their right to be preserved and recycled is vested in their position on State Street, Madison, Wisconsin's principal thoroughfare, which is now being revitalized, and the economics of re-use. Together with adjoining properties the two buildings are being transformed by Hardy Holzman Pfeiffer Associates into an auditorium, a thrust stage theater, an art gallery and a media center, at a saving of approximately \$2.1 million over the cost of new construction. The drawings (opposite page) are early studies of the massing and proportioning of the new construction as it relates to the former movie palace. When complete, the public space will interconnect four levels of the project with three different exterior public entrances and ten interior entrances.



and a department store—woven together by new construction



# The St. Louis Art Museum: upgrading a seventy-year-old building to today's standards

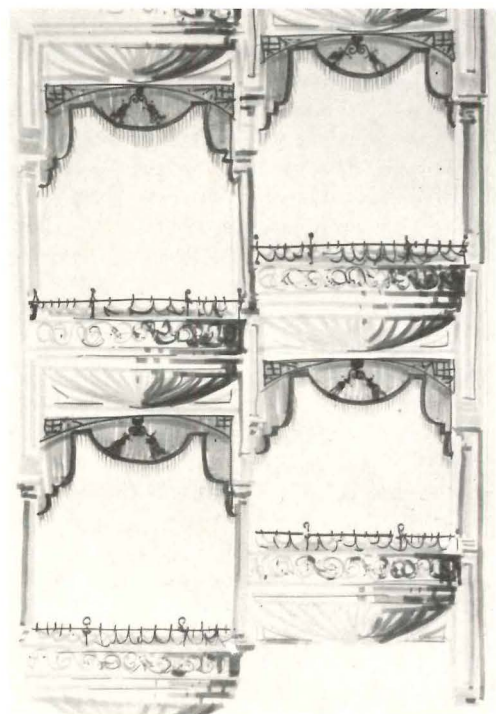


Richard Benkof

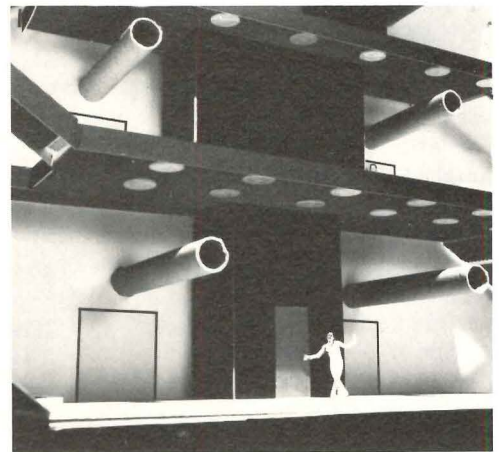
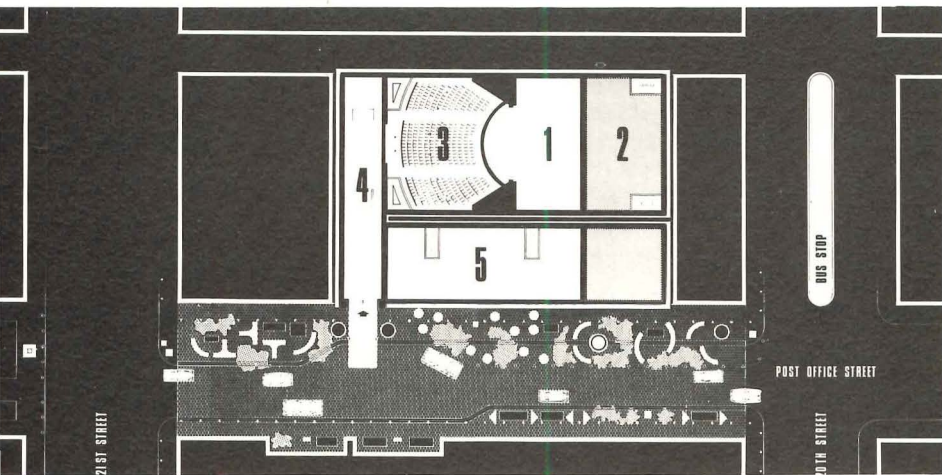
In the office of Hardy Holzman Pfeiffer Associates, this project is known as the Cass Gilbert Renovation. Gilbert's design was in the spirit of the St. Louis World's Fair of 1904 (below). The original plan was strong and logical, but it became less and less legible through the years as a jumble of ill-considered interior installations added confusion. In addition, the building had developed serious leaks, the temperature and humidity controls were not up to the standards of today's museums and the lighting was inadequate. The architects have re-established the four major axes, relating them, by the use of new glazed areas, to the park outside. They are restoring Gilbert's original architectural details, removing the ornament of later periods. Construction workers are covering the gallery walls with invisibly joined sheets of a dense plywood, which can accept heavy art objects anchored to the walls and which can easily be patched and refinished when exhibits are removed. Daylight introduced through new skylights will be controlled at a near constant level all-year-round while the conservation requirement of maximum light level on the walls of 30-footcandles will not be exceeded. The upper glazing level of each skylight will consist of thermal glass for energy conservation in which the top layer will be heat absorbing glass and the bottom layer opalescent annealed glass. The cavity between the skylight and the gallery ceiling will be highly reflective, distributing light evenly through the entire area of this glass ceiling. The latter will be a sandwich consisting of a top layer of ultra-violet omitting acrylic plastic, which is partially opalescent, a middle layer which will be a light directing louver, and a final layer of finely-grained, textured glass that will render the filtering layer invisible.







Hardy Holzman Pfeiffer Associates are making no effort to recreate the Galveston Grand Opera House of 1894. For the auditorium itself, they are evoking the style of the period by various means including devising new ornament (above) made up of painted stencil patterns based upon the decorations of the old hall (below). The techniques involved are closer to those of scenery painters than of contemporary architects. The boxes on either side of the proscenium will be recreated but their number, placement and lighting will conform to today's standards. In contrast to the hall, the new public and support spaces will be entirely contemporary. The architects have received a grant from the National Endowment of the Arts to study the building in the broader context of the city and come up with recommendations for the re-use of the old hotel space above the hall. Neither a restaurant nor living quarters appear to be practical.



Until recently the economics of real-estate development always favored new construction over re-use. Tax laws, lending policy, construction methods, and design philosophy all once conspired to make the re-use of existing buildings appear to be more costly than demolition and replacement. At the same time, most architects, critics and theoreticians previously used the past only as apologia for present concepts about new buildings.

But now even the pseudo past of Disneyland is admired as offering serious ideas about urban planning. The stylistic manipulations of California movie theaters are used to suggest "new" perceptions about how to combine architectural elements. Moldings, trellises and colored pattern—all of which modernists once believed vanished forever—are returning to architecture in projects by the young practitioners. New York's Museum of Modern Art, once a bastion of the avant-garde, exhibited the scenographic displays of Beaux Arts elevations with considerable self-assurance (although neatly side-stepping any direct suggestions of relevance), and after years of awards for contemporary buildings, the AIA's stately glance has fallen upon old buildings in a national award category called "Honor Awards for Extended Use." In the process of all this revisionism some of the youngest practitioners have philosophically joined some of the oldest in celebrating re-use.

This surprising turnaround could illuminate and enrich the course of architecture, because in consideration of the past, architects are now forced into a greater awareness of the context—both social and physical—within which buildings get built.

Re-use also confronts contemporary architects with one of their most difficult problems in interior design: the use of ornament. Earlier structures have it everywhere: on ceilings, walls and floors. It populates intersections and wriggles across every surface. What to do about it? Should it all be stripped away as impure? Should all the muntins and mullions, arrises, eggs and darts, tendrils and rosettes be banished; or should they be reclaimed or even

recreated where missing? We suggest that now, when architecture is retreating from the concept of buildings as objects, the traditions of ornament (if not their specific results) are worthy of reexamination.

Beyond ornament and its preservation and restoration is the question of what buildings should be preserved, and if restored—how? At one extreme there are buildings of such certified distinction and existing coherence that they must be treated with utmost respect. At the other extreme there are buildings that are run-of-the-mill in conception or indifferent in execution, although perhaps valid representations of their time. It is our belief that unassuming structures can prove as worthy to their communities as great monuments, albeit for different reasons.

Of course, between these two extremes lie many other possibilities. Especially complex are structures that have been worked over at various periods of time—without assimilation of any particular architectural point of view.

When a new use is different from the old, some adjustments must take place. The greatest changes are those required by a new circulation. Then there is the problem of finding the appropriate architectural character. Finally come concerns of detail. All three considerations must reinforce one another. The most difficult problems are those in which a landmark structure must be put to radically different use.

In considering four of our firm's projects in re-use (none of which are examples of pure restoration or pure new construction), it might prove helpful to review our involvement with the Cincinnati Union Terminal (pages 84-85), a project that illustrates almost every aspect of the conflicts inherent in the re-use of buildings, conflicts in this case so great that despite considerable expense by the City, the Board of Education, and the Southwest Ohio Regional Transit Authority, the building still sits empty. With the best intentions of all those involved in assuring its survival, no common perception of re-use was shared. Everyone therefore worked against one another and achieved futility. The result is a stalemate which ensures continued desolation.

Part of the art of architecture lies in resolving conflicts between aesthetics and use. In a society

where circulation systems are swiftly made obsolete, the original patterns of movement within buildings may cease to function, even though their appearance still offers pleasure. The revolution in transportation caused by the automobile has forced many types of buildings to be abandoned, but none more dramatically or ironically than the Cincinnati Union Terminal.

### Recycling a railroad terminal into an art school turns out not to be easy

The terminal designed by Fellheimer & Wagner was completed in 1933 for \$40,000,000. It supplanted a heterogeneous mix of stations owned by five different railroad companies. One of the most ambitious projects of the railroad era, it offered every conceivable service to the traveler in handsomely designed rooms—a tea shop, cafeteria, private dining room, newsreel theater, tourist shop, nursery, barber shop, bookstore and vast waiting areas.

The terminal was built on the mistaken assumption that passenger rail transportation would expand. Except for the troop movements of World War II the building was never used to capacity, and only for a brief period of inauguration did it serve as designed. The site was selected as the only location on which the trackage of five different railroads could be stitched together and still maintain the required grades. But while this site solved a technical problem, it unfortunately became a no-man's-land, too far from Cincinnati's central business district and too close to subsidized housing to appeal to the middle class.

In 1975 our firm was asked by the Cincinnati Board of Education to plan for a school for the creative and performing arts on the upper public floors of the terminal. George F. Roth & Partners were retained by the City to plan for a maintenance and storage facility for the local bus company on its lower floors. The City of Cincinnati, which purchased the building as the result of intense local pressure by preservationists, became the client for this hybrid.

The school required access for great numbers of people and space for public functions, and thus would benefit from the formality and grandeur of the station's public spaces. The bus company's need for bus storage could

be met by the existing three levels of parking space built between the terminal and its landscaped plaza. The railroad's original executive suite could be transformed into administrative offices for the school and vehicular access to the building at two levels permitted school buses to be separated from other traffic. In addition to using 122,800 square feet of existing space in the terminal, a school required 53,595 more square feet for a gymnasium and theater. The company needed 7,000 square feet to realize its program. Therefore, expansion of the terminal was called for.

During the six-month planning and design process there was little agreement among the participants about how to approach use. Three different views emerged about what the best use of the terminal should be. Each was locally supported by a group of less adherents, each representing an extreme position, and none accepted the reality of change. The group's extreme position was simply wrap the thing up. In their belief that rail travel would someday recapture the public's affection, they urged that the building be mothballed until the terminal was born again as a rail center. Thus future generations would do the work of architecture as originally conceived. This position firms that the problem presented by landmark structures is stylistic, not architectural; and "sterilization" of buildings by some use of advanced technology could freeze them in time until a cure for their present illness comes available. Cryogenics comes to architecture. A second group believed that the original form of the building was its best use; therefore new activities would be permitted—so long as they could be accommodated without permanent change. Thus architecture becomes scenery, a momentary illusion providing space for temporary events which will also disappear. This position assumes the immutability of architecture and ignores the fact that even when buildings are perfectly "preserved," society changes. All buildings exist in a physical and cultural context, which causes them to shift in meaning—though their appearance may change.

The third group favored scientific restoration for the rooms. Proposed without reg-

## layers; we must change them purposefully, yet respectfully, to meet modern needs

This method would restore (but not life), and concentrate upon the esthetics of "de-  
" spaces without regard for technology which supports It renders the terminal an nt joke. Ticket windows baggage rooms would, for in- be painstakingly refurb- , but no tickets would be r luggage shipped. The orig- ber shop would gleam, but customers would use it for ts. The cafeteria would re- r from history, but not the ss or the food which gave it ng. Thus scientific restora- ould be used to "purify" the ng, purging the natural ap- ges and growths of succeed- nerations in favor of a fake geneity. The simulated be- more valuable than the real. ach of these proposals repre- a rationale to avoid the es required by re-use. Each es the *only* appropriate use uilding is that for which it riginally intended.

Our architectural firm believes Union Terminal needs to be d, because this is the only e landmark can be main- and inhabited—even if in ocess physical changes are ed. Our client believes would prevent the build- destruction.

Our proposed scheme for an retive restoration reinforces basic axial symmetry of the both through the refurbish- of major public spaces and eation of entirely new open- interiors. Since the building no longer serve as a al (because the concourse led to the trains from its rotunda had been removed), sic central circulation spine o longer needed. The style of uilding is Art Deco, but it is a tional structure conceived an as a series of separate -Arts rooms, each with its design motif.

We found it possible, there- o divide the main axis into ate spaces by means of glass ns, and introduce two new ation patterns around these to form a totally different spa- esign. Academic functions distributed on the first floor; hop functions were placed e second floor using a similar n premise. New symmetrical ns in matching brickwork ined the auditorium and gym. ajor public spaces were thus

preserved (with the exception of a restaurant whose ceiling mural was to be reinstalled in the lobby of the auditorium), and new areas required by the program were frankly designed to suit present need, all within the basic plan geometry of the original scheme.

Our firm does not regard old buildings as the vehicle with which to practice new geometries for their own sake. We believe existing buildings need not play host to new activities at the expense of their original interiors. As these examples show, retention of major existing spaces in the fabric of totally new circulation patterns is not disloyal to the tenets of good design. Indeed, some old beads strung along new access routes may well improve the final results.

This project, unfortunately, has been abandoned even though construction costs for this school have proven to be competitive with new construction. The reason for such an unfortunate state of affairs lies in the inability of well-meaning people to accept a radically different use.

Against this background of failure I would like to contrast two other projects, each unlike the other. Both are in part a confirmation and extension of their originally designed use: both require totally new circulation systems.

The first project is the transformation into a civic center by remodeling and by combining with new construction a movie theater (designed in 1928 by Rapp and Rapp), and a Montgomery Ward Store (designed in 1940 by a staff architect for the company). The second is the remodeling for continuing use as a public art collection of a certifiable landmark structure, the St. Louis Art Museum (designed by Cass Gilbert for the 1904 World's Fair). Both projects are underway.

### **A grand plan by Wright abandoned in favor of upgrading Main Street**

The citizens of Madison, Wisconsin have worked towards the creation of a civic center since the idea was first proposed by Mayor J.C. Fairchild in 1848. In 1939 Frank Lloyd Wright took advantage of the Capitol's unique lakeside site to outline a surprisingly Beaux-Arts scheme for a new Civic Center which was never built.

In 1975 the City completed purchase of the abandoned Capitol Theater, Montgomery Ward Store,

and adjoining properties for just under \$900 thousand. With \$4.5 million remaining from a previous bond issue and \$1.3 million in private funds, Madison is now moving towards construction of a 2,300-seat auditorium, 299-seat thrust stage theater, 26,900-square-foot art gallery, 4,700-square-foot media center and 42,100 square feet of support space (pages 86-87). If purchased new, a conservative estimate for construction of this project would be \$8.8 million.

Looked at by itself, the Capitol Theater would never make the history books, except perhaps as a footnote to the spread of Southern California culture into alien climes. Its vaguely Spanish style and cardboard quality show a Hollywood cultural ancestry in pale reflection. Although certainly not the most rambunctious or florid of the movie palaces, it is unique to Madison, and as legitimately a pleasure dome for contemporary audiences as for those who inaugurated it fifty years ago.

The Montgomery Ward Store holds even less distinction. Built in 1941 in a loosely Georgian style, it offers a modest brick facade and an open loft-like interior. Its rear elevations are unprepossessing and vaguely cubistic. The adjacent stores are one-story filler, framed in wood, quickly built to take advantage of State Street's once active commercial life. None of these structures by themselves would be given a second critical glance, and all would have been reduced to the debris of an urban renewal limbo, were it not for the progressive mayor of Madison who seized upon them as a vehicle for the revitalization of the principal commercial thoroughfare, State Street.

The two major existing structures have been retained, the rest replaced with new construction designed to weave disparate parts into one so that the inside is an admixture. It is formed by the restored Capitol Theater, and the new thrust theater, all joined by new construction to a reworked Montgomery Ward Store whose open interiors became gallery space below and administrative space above.

The public space is called "Cross-roads" because it connects the four levels of the project with three different exterior public entrances and ten interior entrances.

This frankly contemporary space is defined on one side by a

folded wall of masonry supporting linear patterns of circular fluorescent light. On the other side, a glass wall of industrial sash has 19-foot-tall panes which offer views into the Madison Arts Center, newly housed in the reworked department store. Given only the addition of gallery lighting, the blandness of this open interior provides the perfect background for contemporary art.

The auditorium of the Capitol Theater is brought back to life with all the illusionistic devices of the 1920s: strong patterning in glazes and stencils, indirect cove lighting in three colors, and cascades of draped velour, all tasseled and fringed. Although not a literal recreation, it will nonetheless have the flavor and make-believe of the movie palace era.

On the exterior, elements of the existing facades have been combined with new symmetrical fenestration patterns so that the cohesion of the street wall is preserved. At the same time this device signifies that something new lies within. Even though neither of the existing facades is particularly noteworthy by itself, weaving them into a new design results in a streetscape special to Madison, one which maintains a special continuity.

Here then is a single project composed of distinctly disparate parts. It is the deliberate contrasts *between* them, not some over-all formal order, which provides an essential character: one intended to encourage community participation.

### **Providing for new activities and better environmental control in a seventy-year-old museum**

The St. Louis Art Museum, designed by Cass Gilbert, has goals similar to the Madison Civic Center but they are expressed in a different architecture (pages 88-89).

The original plan for the museum was generated by the placement of separate volumes of gallery space along symmetrical axes. A clear-cut scheme, it first tied the present stone building to three adjacent temporary wood and plaster structures, built to house the arts of other countries. When these pavilions were removed, doors at either end of the main axis were sealed, and in subsequent years the plan became a jumble of "atmospheric" installations in which art objects were placed in pseudo settings whose

# The juxtaposition of old and new can be better than either

inaccuracy denigrated the art they were trying to embellish. In addition, environmental control was all but lacking, and objects placed in the Museum for safekeeping were actually being destroyed by water damage, temperature-and-humidity oscillations, and air pollution. Finally, all sorts of support activities not imagined when the building was designed, had found odd nooks and recesses, making work difficult and administration haphazard.

How then to restore the logic of the original plan, provide for new activities, and accommodate the technology of present environmental control within a seventy-year-old building?

And how to approach restoration of the galleries? In this case the original plan clearly held the key. By re-establishing its four major axes and continuing them through the building into the park (with new glazed areas) visitors once again will be able to orient themselves inside and view the park outside. At the same time, all stylistic encumbrances of other periods (which obscured most walls, floors, and ceilings) were removed. This was not done to make the galleries more uniform, but rather to establish their inherent variety—stemming from different volumes of space and different ways in which natural light is admitted. By reinstalling architectural detail as it was in the original building, differences in ceiling height, and in the color and intensity of light all become more apparent.

On the exterior, awkward links to construction in the 1950s will be removed, and support functions will be centralized in a new freestanding building. (In the Cass Gilbert building all mechanical, electrical and plumbing systems are concealed in the conventional manner).

Two further examples of interpretive interior restoration by our firm are the National Museum of Design for the Cooper-Hewitt Museum of the Smithsonian Institution, located in the former New York residence of Andrew Carnegie, and the Galveston 1894 Grand Opera House for the Galveston County Cultural Arts Council. Each represents radical changes in public circulation, technological systems, and new construction (in part expressed as such), but both contain rooms deliberately conceived as illusion.

## Recycling a turn-of-the-century mansion into a museum for the decorative arts

The major interior rooms of the Carnegie mansion have little distinction in their details although their axial arrangement offers an architectural experience of great diversity (pages 81-83). Built in 1901 (a year after the founding of the Carnegie Institute in Pittsburgh and four years before work began on the Carnegie Institute of Technology), it is clearly the house of a man interested in technology. For Carnegie, true distinction lay not in the decor of his house, but in the devices used to heat, cool, and control the humidity of its principal rooms. Even though his human servants were uncommonly well housed in rooms open to light and air, it was clearly the mechanical servants, located in the basement, which most concerned Carnegie.

Upstairs the finish materials are of high quality: teak parquet floors, hand-carved oak ceilings, wrought bronze grillework and quartered oak paneling, but the public rooms are a stylistic jumble (much in fashion at the time), and each is wrapped in a different decorative theme. Our firm thought it inappropriate to "purify" these period interiors by imposing a single style. We decided to consider these public rooms as a background for the display of decorative objects and to leave them essentially alone. Their variety of styles offers an opportunity to set off collections in more than one way, and thus the polyglot character of the house becomes an asset.

The original architects, Babb Cook & Willard, organized each level of the building around a large central hall (set slightly off center in plan so that rooms with a southern exposure overlooking the garden might be larger than those facing north). An elevator introduced in space formerly occupied by a pipe organ interconnects these halls at each level. (The use of an hydraulic lift prevented penthouse machinery from disfiguring the roof). Existing duct systems are used for supplying air, and the shaft that once contained Andrew Carnegie's diminutive private elevator returns air from all floors. Thus the duct work has been neatly contained, leaving the interiors intact.

Perhaps the most subtle—but vitally important—change to the appearance of the main hall is its

lighting. Since this hall needed to become a major public thoroughfare, it was impossible to pursue a scientific restoration to include the original lamps and standing bric-a-brac of Carnegie's era. But something had to be done, nonetheless, to introduce appropriate basic illumination and decorative highlights. We added recessed adjustable lamps, therefore, to provide highlights across newly-cleaned paneled walls, while pairs of period wall sconces not original to the house add the warmth once provided by miscellaneous floor lamps.

On the second floor a tangle of small rooms could not be adapted to contemporary use and one long exhibition gallery was created in their place. In plan it complements the second floor hall. The latter's formal wood-paneled wainscot, carved columns, pedimented door frames and plasterwork ceiling were deliberately left intact to contrast with this simply detailed long gallery. Here the structure of the original steel-beam and concrete-arch ceiling is exposed to view, while the walls are left as neutral display surfaces.

## Bringing an opera house back to life: an exercise in interpretation

Present standards of safety, lighting, scenery movement, dressing space, and environmental control all preclude scientific recreation of the Galveston 1894 Grand Opera House that once was. Besides, the Opera House has led many lives. (page 89).

For the auditorium we selected a design which synthesizes elements of the past into a framework borrowed from the original building. In contrast we made the public and support spaces totally contemporary. The lobby's multi-levelled interior joins all layers of the auditorium into one open multi-staired space animated by patterns of utility and people.

In the auditorium, elements of the original design have been re-created such as the boxes on either side of the proscenium but their location and number have been changed to satisfy contemporary standards of viewing and theatrical lighting. The outlines and color of the original decorating scheme have been maintained but individual details have been adapted to painted-stencil patterns. At the same time patterns not original to the room have been

added to maintain textural continuity. In execution a subtlety must be achieved so that what must appear to be old does not look too new. Although the techniques involved are closer to scene painting than contemporary architecture, we believe they are far more appropriate to the spirit of the original opera house.

## To sum up: there are no rules. Intelligent interpretations, not design dogma, are called for.

Suggesting as we have in the foregoing examples that interpretive restoration is a matter for individual judgment, perception, taste, is dangerous because it offers no rules. It indicates that there is no "how to"; no manual of instruction. Architects, however, have the capacity to interpret and resolve conflicting demands. This is the blood of what they do. Since the past represents a continuity of development, the re-use of old structures demands that attention be paid to the context within which they grew as much as to the specifics of their built reality.

All of the buildings considered above form part of a masonry tradition in architecture. Although in some cases supported by steel or reinforced concrete they use vocabularies whose origins lie in the use of stone or brick. None of them exhibit a natural purity or a consistent relationship between outside and inside (with perhaps the exception of Cass Gilbert's Museum).

We believe, however, that these buildings, as we are re-creating them, form legitimate elements of a contemporary context. We have not attempted to unify the style of each one. As a result these buildings represent an architectural approach which bridges between science and scenery. It accepts the juxtaposition of old and new as an asset. This may appear too modest an accomplishment to merit attention, but we suggest it is an appropriate point of departure for those who believe the built environment merits use, not destruction.

COOPER HEWITT MUSEUM, THE SMITHSONIAN INSTITUTION'S NATIONAL MUSEUM OF DESIGN, New York City. Architects: Hardy Holzman Fitch Associates—project architect: James Rhodes. Consultants: LeMessurier Associates (structural); Golder Gass Associates (interior design); Flack & Kurtz (mechanical/electrical); Jules Fisher & Paul Marantz, Inc. (lighting); Wolf & Company (costs); Thaddeus Lazarr (exterior renovation). General contractor: New-Again Restorations, Inc.

# RELATING COMMON SOLUTIONS: TWO LIBRARIES

BY MITCHELL/GIURGOLA

While the Tredyffrin Township Public Library (photo and sketch, left) and the University of Washington law school-library (sketch below) appear to be very different, there are common underlying concepts with which they meet the programs for libraries in general—concepts from a design vocabulary that has established an international reputation for the architects.

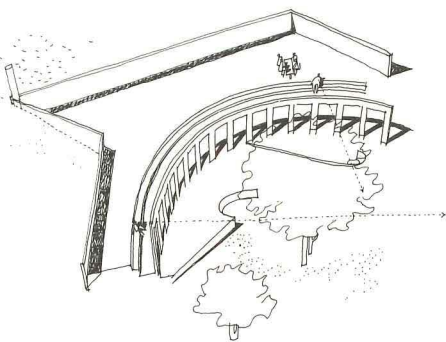
First, the two buildings show an unusual sensitivity in using natural light to best advantage while warding off the direct sun. Both buildings welcome light from the north through clerestories, skylights and windows; but their southern exposures are shielded by walls, outside of and separated from the buildings' actual skins.

In creating these semi-detached walls, the architects have set the stage for a second of their concerns, which is the manipulation of views within and toward the outside of their buildings. Windows and openings in the detached walls are arranged to give differing outlooks from standing and seated positions, which alleviates the possible tedium from long hours in the same environment. The main spaces in each building, the reading rooms, most literally express the concept by gaining light from the north and allowing views only to the south.

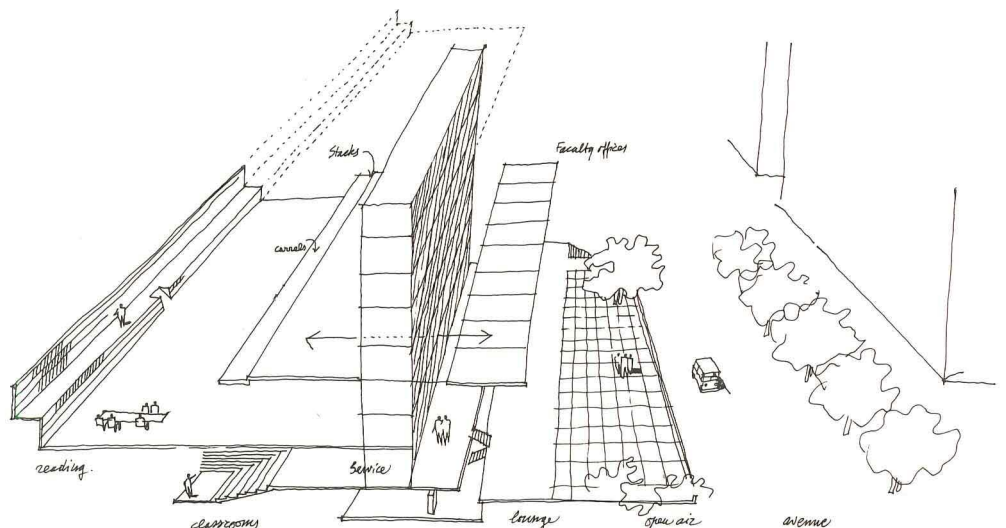
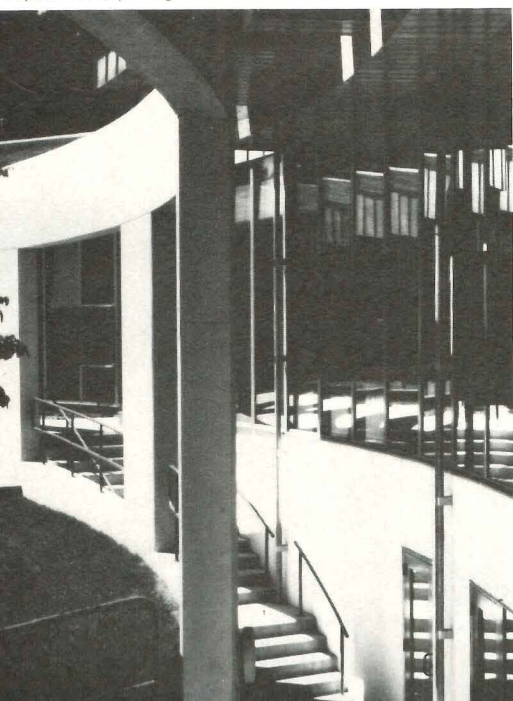
These reading rooms in both cases are treated as theaters: Tredyffrin's is an amphitheater focused southward on a park, which Giurgola modestly terms the building's most important element. The University of Washington's theater is described by the architect as a "tray," which reaches out from under the street wall of the tower and upward toward the north light under a raised platform—or airy "stage."

Each building has a quickly apparent organization of functions, so that the users can go directly to the books and reading areas without wandering through hallways for the administration. Says Romaldo Giurgola: "the emphasis is on what you go for." Still, the administration spaces are arranged for close control, as can be seen on the following pages.

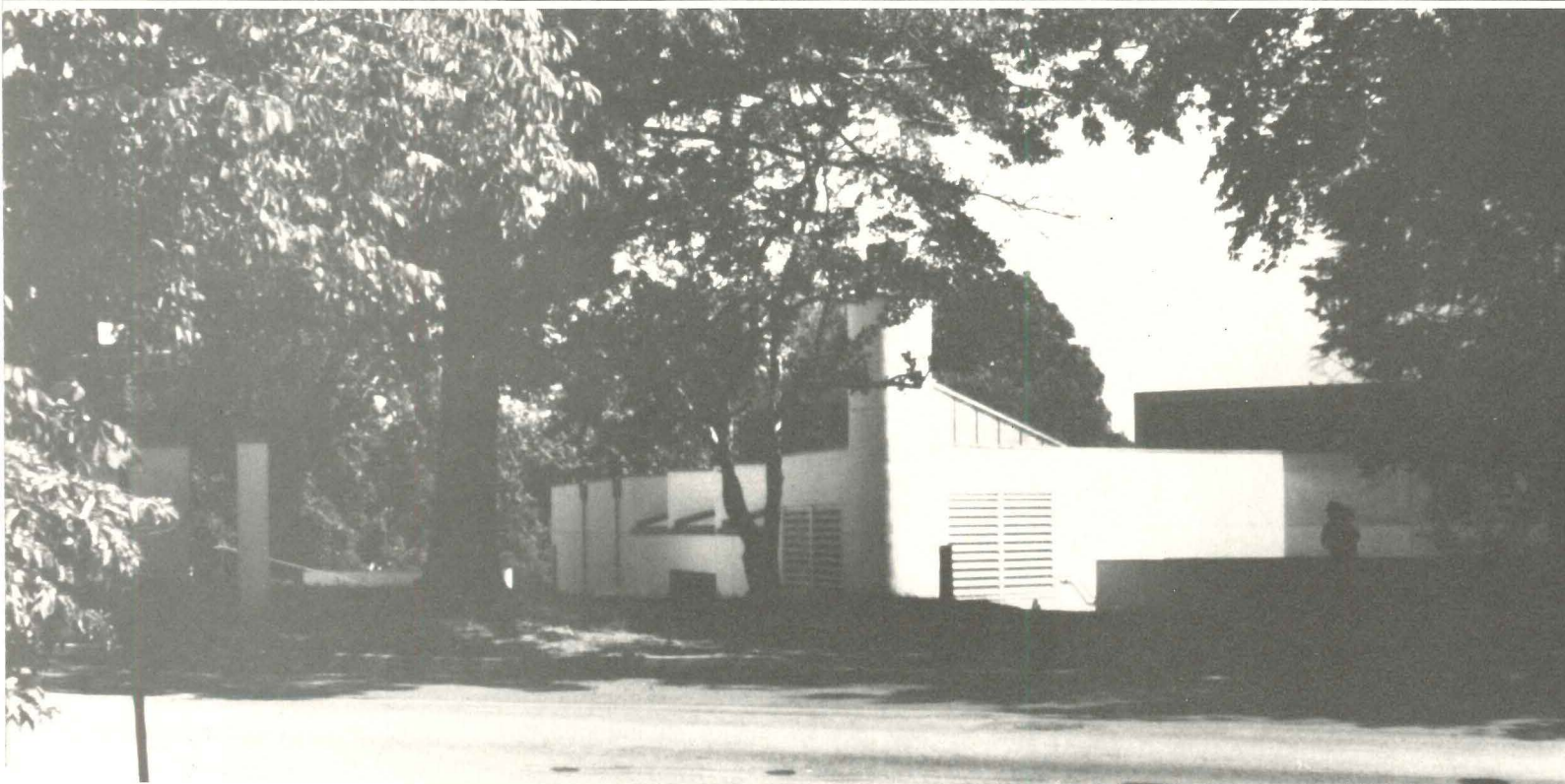
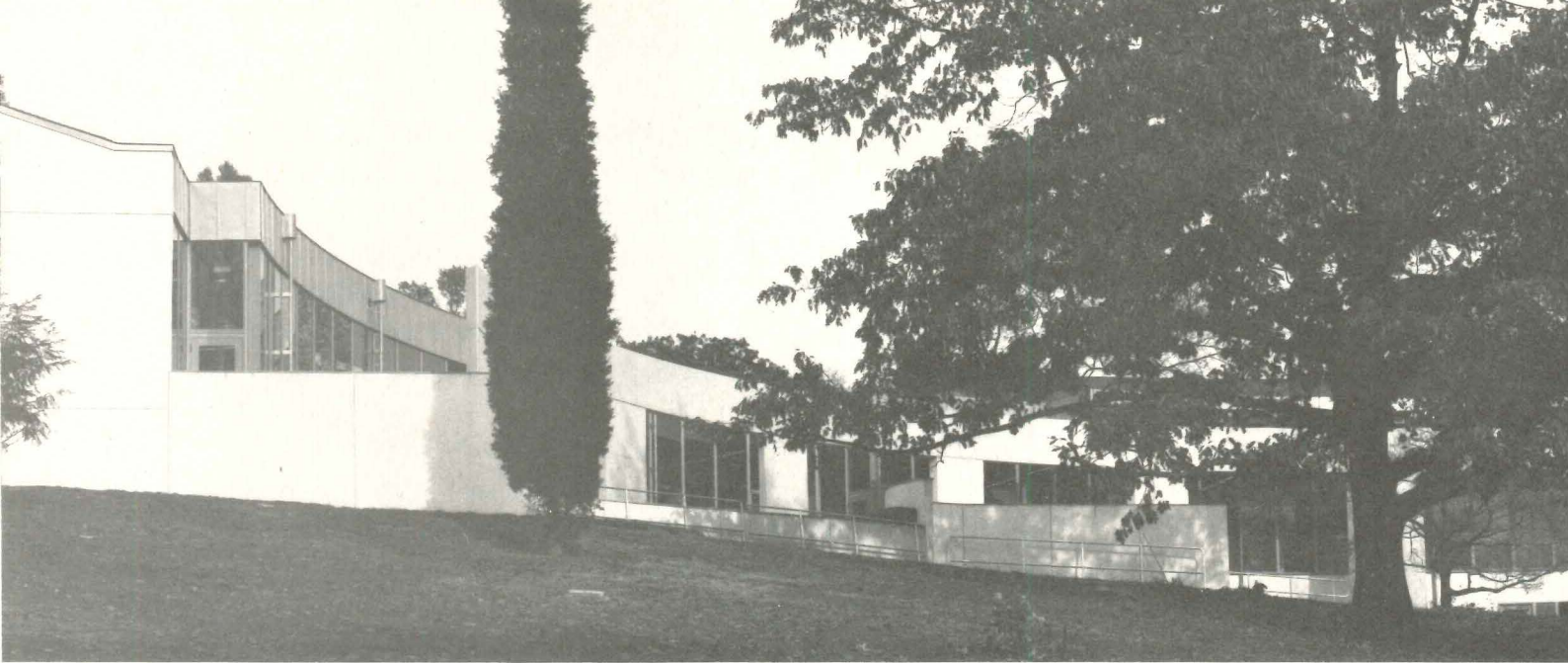
Finally, each building is responsive to the varying situations in which it is built. This is a consistency that has characterized all of Mitchell/Giurgola's work, and which explains the obvious differences in the two libraries. The Tredyffrin building in a suburban park nestles into a hill on its street side to avoid visual competition with neighboring houses, while the Seattle building (sketch, below) forms a wall that establishes a downtown boulevard as a real urban space. In one case, the presence is intentionally minimized; in the other, it is maximized. Still, the two projects reveal the results of consistent concerns from a flexible but disciplined vocabulary.—Charles King Hoyt



Tredyffrin Library merges into its rural site.



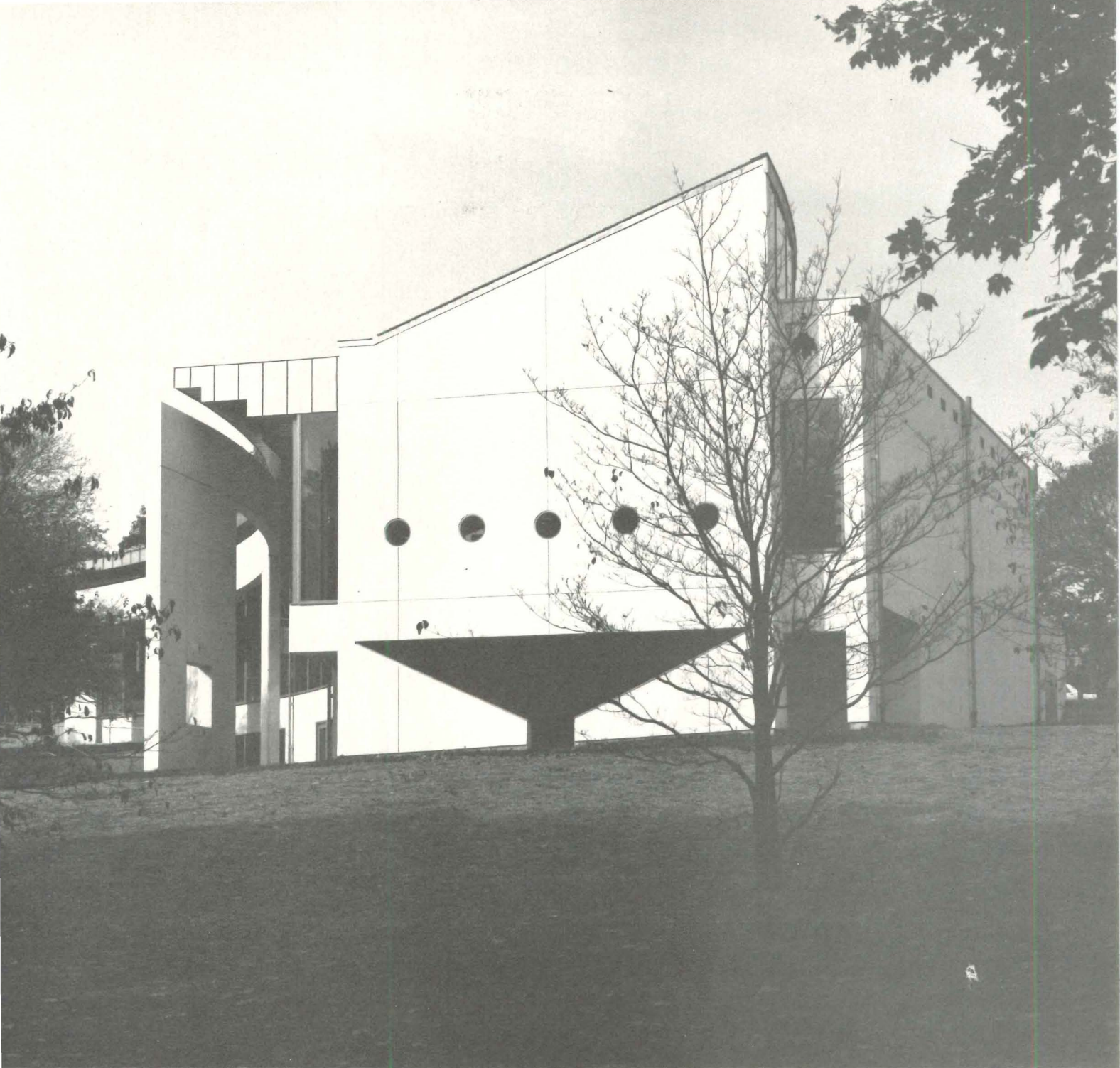
The University of Washington is a wall to "hold" a city street.



**Only where the Tredegar Public Library has curved into its suburban park setting, can it be perceived as a large-scale building.**

In the photo on the opposite page, the view from the park shows the larger two story end. The opposite end has only one story at the upper level, and this is partially depressed below the street (photo above), which recognizes the adjacent residential scale. As expressed in both its form and its construction (stuccoed-masonry bearing walls coupled with lightweight steel columns), the building has a solid entrance side, through which visitors reach an airy, semi-circular space focused on the park. In this space, the impression of an amphitheater is enhanced by seating areas stepped down from the main reading room (sketch on the last page and photo, right), and by a wood ceiling which slopes down toward framed views of the park through the poured-concrete sun-screen wall. This wall is fully detached from the building—even on the end where the roof almost meets it in order to provide a shield from the high western sun. The separation of the two walls is emphasized by their differing visual weights. (The inner wall is green tinted glass in narrow steel frames of stock manufacture, and is

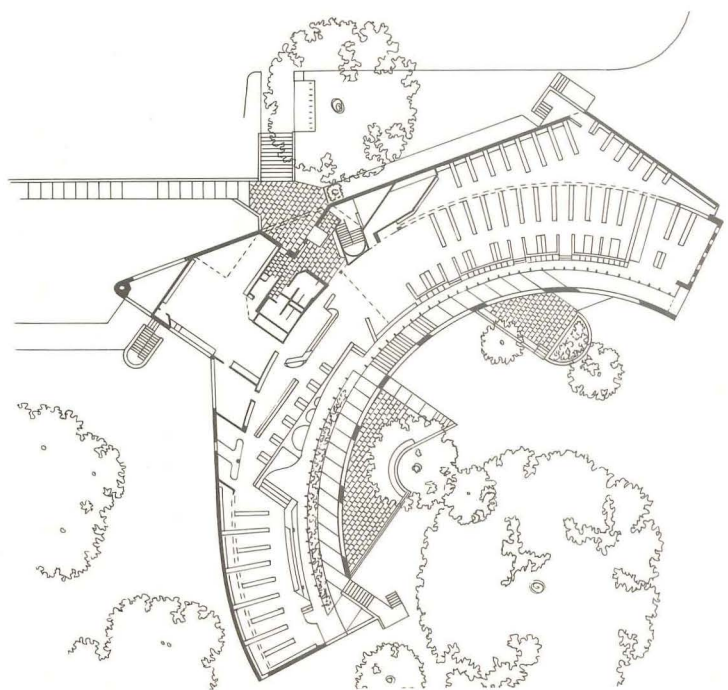




France photos

mounted by a metal fascia.) North-facing clerestories provide an interior light that seldom requires supplemental lighting. The 18,000-square-foot building has one large reading room, which is quickly perceived by the visitor and is easily controlled by the librarian. Main level offices, workrooms and toilets are contained in a cantilevered element which juts out toward the flue (photo, opposite) above the lower-level mechanical space. This arrangement allows direct access to the reading room from the public entrance. Other functions on the lower level include storage, meeting rooms and space for future expansion. And the sloping site allows direct access from all floors to the outside.

TREDYFFRIN PUBLIC LIBRARY, Stratford, Pennsylvania. Owner: Tredyffrin Township. Architects: Mitchell/Giurgola Architects—project architect: Harold Mitchell; interior project architect: Bruce Thompson. Engineers: William Elton & Associates (structural); Sharpless & Whiting (mechanical); Grover, Stephenson & Associates, Inc. (electrical). Consultants: Robert Hansen Associates, Inc. (acoustic); Cost Consultants (costs). General contractor: Altemose Construction Company.





**Located off of the main campus, the first phase of the University of Washington's law school-library is a strong building that reinforces an emerging urban pattern.** The pattern was started in the generally low-rise neighborhood by high-rise dormitories across the boulevard, to which the law school-library turns the unusually sun-conscious facade seen above. As conceived by Mitchell/Giurgola, the completed building—when extended to its full length (more than double the present-phase)—will form a defined space on the boulevard between itself and the dormitories.

Its genesis is a multi-story wall—typical of urban streetscapes—but in this case not the main wall that is seen from the outside. Instead, this genesis is the centrally located wall of utilitarian functions—stairs, toilets, elevators etc, that protrudes only at the ends—as shown in the photo above. This serves as a spine for the major north-lighted library spaces on one side and for the ancillary offices and (on the lower floor) lounges on the south. The linear concept serves both to explain clearly where to go in the building and to allow its easy elongation in the second stage.

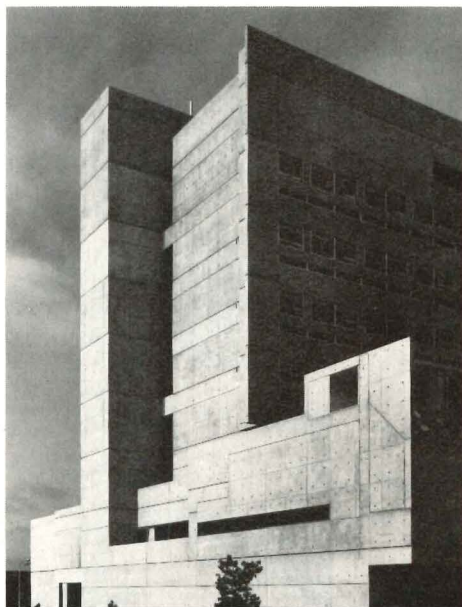


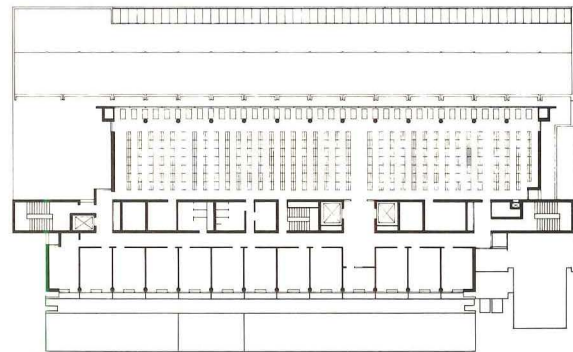




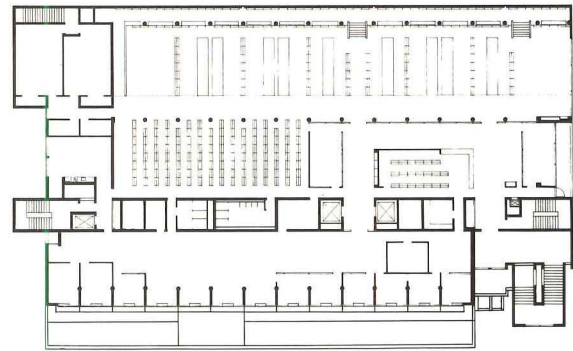
The basic structure is poured-in-place concrete, which is plainly expressed by the exposure of both the form marks and the holes created by the form ties; the holes are plugged with plastic inserts. Like the library at Tredyffrin (see previous two pages), this building has a porch on the south side articulated from the main building, which shields against the southern sun. The precast concrete panels that form the porch wall are slotted to provide reflected light on office ceilings, and the panels also form one side of a horizontal utility chase for piping and air conditioning. By contrast, the north wall of the building is designed to admit a maximum amount of light, and the glazing is detailed to be in harmony with the precast sheathing.

WEDGWOOD HALL, SCHOOL OF LAW/LAW LIBRARY, Seattle Washington. Client: The University of Washington. Architects: Mitchell/Giurgola Architects—project architect: Rollin LaFrance. Associated architects: Joyce, Kline, Vaughan and Nordfors. Engineers: Skilling, Helle, Christiansen, and Peterson (structural); Shannon & Wilson, Inc. (foundations and soils); Bouillon, Christofferson & Schairer (mechanical/electrical). Consultants: Robert Sellen Associates, Inc. (acoustical); John Meadows Associates (costs); General Contractor: John Sellen Construction Company.

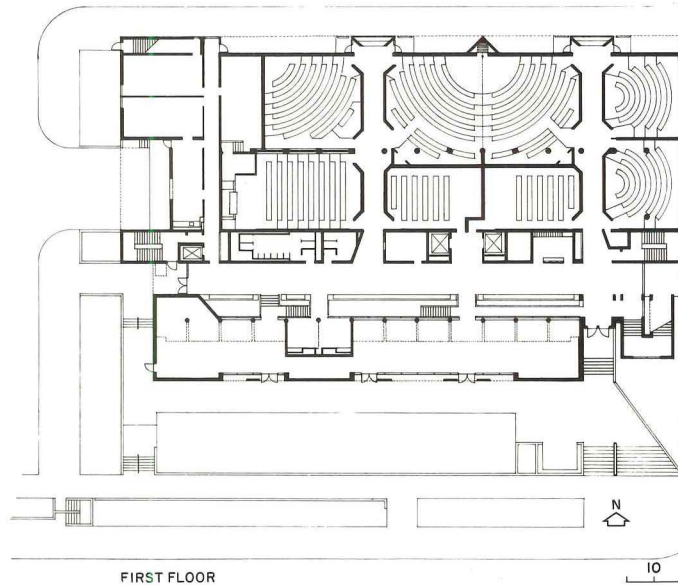




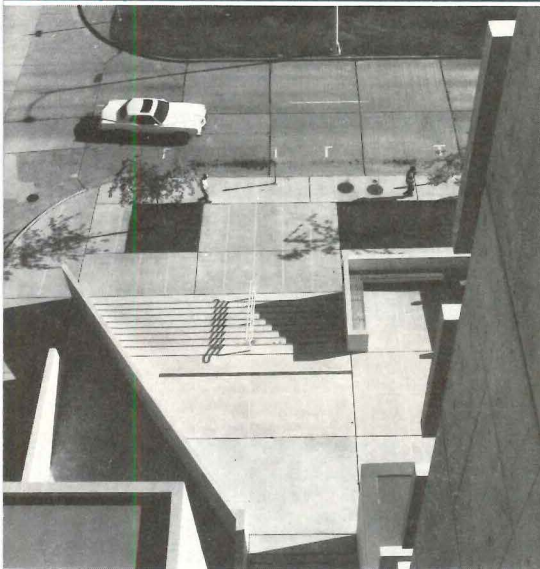
TYPICAL FLOOR



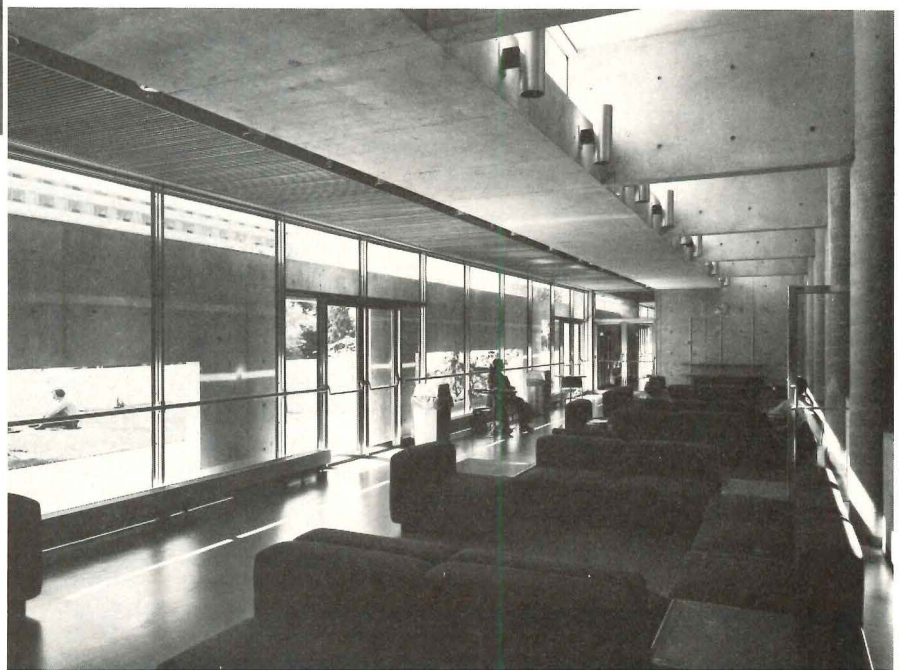
SECOND FLOOR



FIRST FLOOR

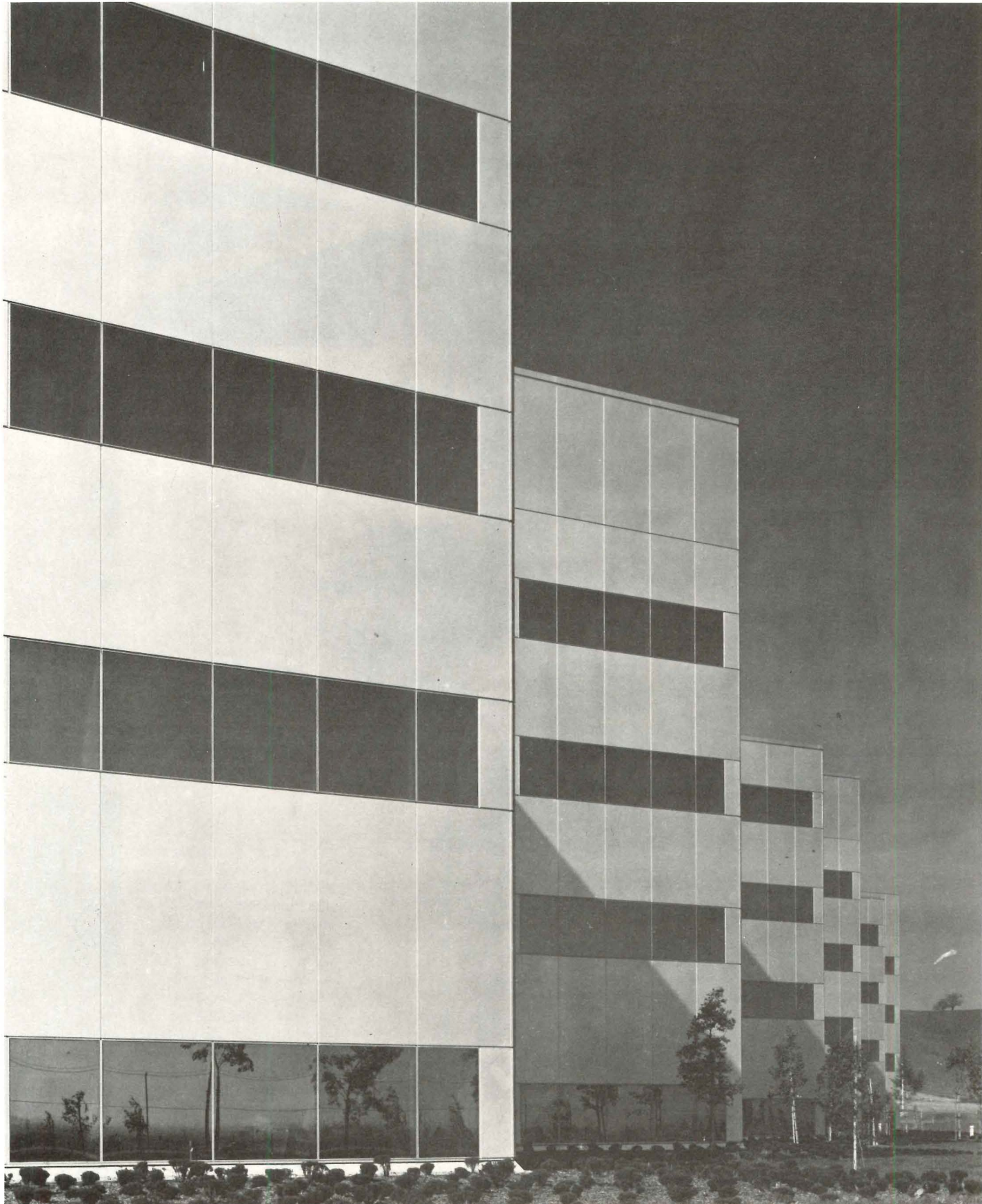


The main reading room, with its north-facing skylights, is seen in the photo above. It is located on the second floor (plan, right). The first floor contains lounges that face southward toward a raised court (photo, below), and lecture halls and a moot courtroom. Typical floors contain offices to the south and stacks with reading carrels which face north.



McCue Boone Tomsick's Santa Teresa Laboratory, in California, is a new feather in the cap of IBM's increasingly long list of significant architecture. Planned specifically for computer programmers, the complex contrasts nature and an appropriately efficient and shiny machine image—but while it is taut and disciplined, the complex presents a kaleidoscope of vistas, colors, reflections and patterns.

# IBM'S SANTA TERESA LABORATORY



Robert Brandeis



Jon Naar

This big, handsome complex for the General Products Division of IBM (used by 2000 persons, mostly computer programmers) solves a long list of seemingly incompatible problems. These, in abbreviated form, include providing for (and doing the most for): a beautiful, but earthquake prone, natural setting; a large group of technical people needing both extreme efficiency and compensating human comforts and pleasures; and the highly special and demanding requirements of computers. The result is unusually good architecture—very distinct from, but also very friendly with its surrounding world.

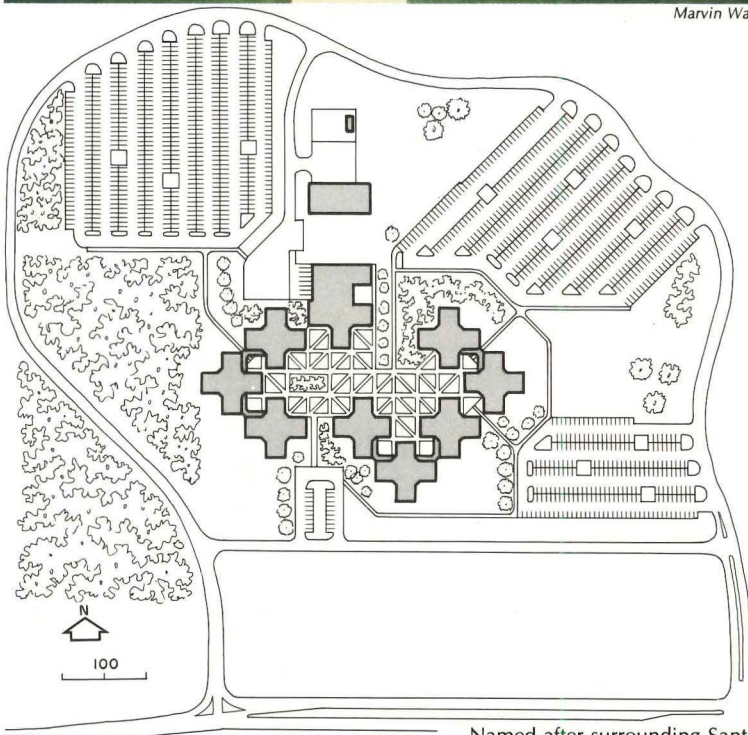


Marvin Wax

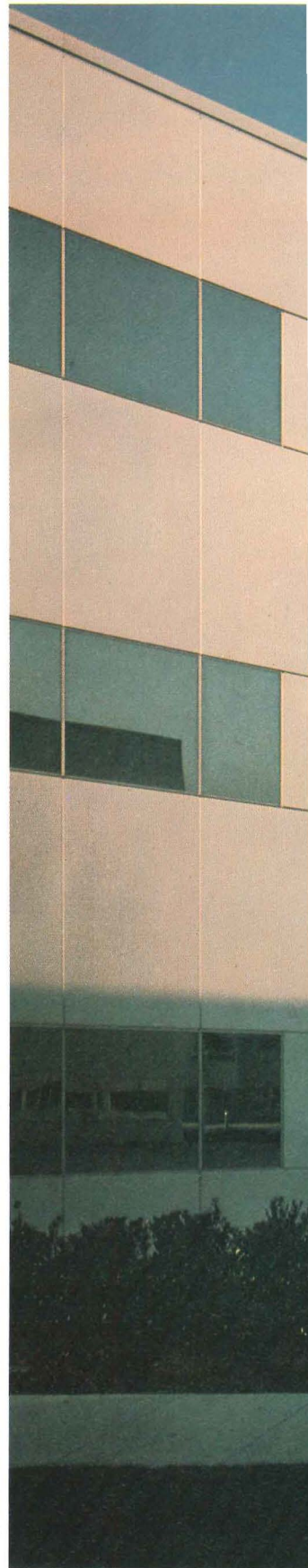
Extensive analysis of the programmer's work patterns indicated that nearly 30 per cent of their time was spent working alone, 50 per cent with groups of two or three persons, and the balance with larger groups or carrying out other responsibilities; and a typical department consists of ten to fifteen persons.

Armed with this and masses of other data, the architectural design team led by Gerald McCue worked through a series of design schemes and cost analyses. From among these studies, a campus-like set of eight cruciform-shaped buildings surrounding a plaza met most of the users' requirements—in particular, the client's request for private offices for the programmers, with as many as possible oriented to the outside views.

The design of an effective circulation pattern became extremely important once this "campus" configuration was selected. All buildings are linked beneath a second level plaza, which is a prime contributor to the "non-institutional" atmosphere of the complex. Most of the buildings are also linked by bridges at the upper floor levels. The core of each building contains the stairwell, elevator (in five of the buildings), restrooms, and "administrative support centers," surrounded by the primary circulation corridor. Radiating from the core are identi-

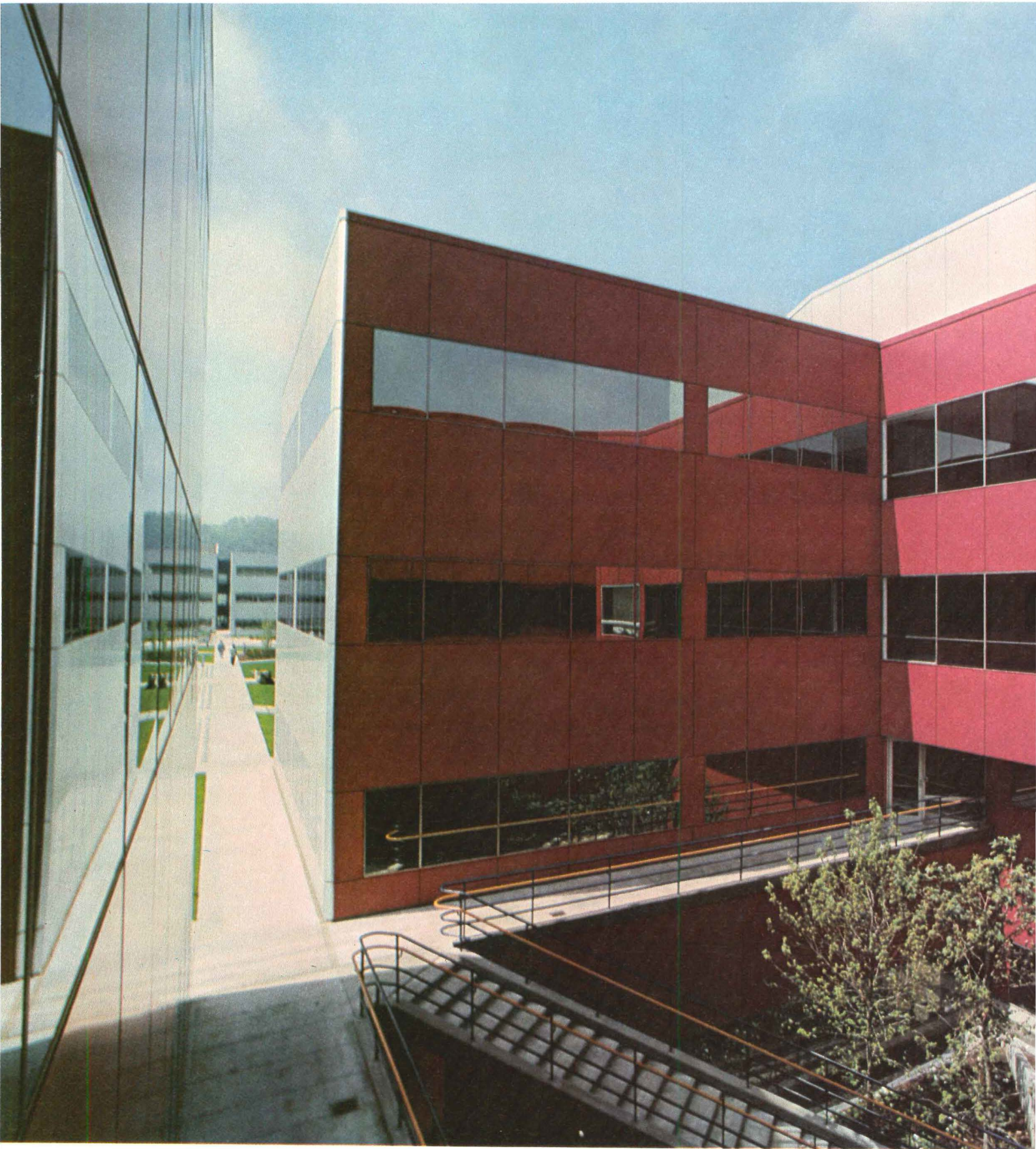


Named after surrounding Santa Teresa foothills, the complex is built on 50 acres of 1,180-acre site contained within a loop road serving as a possible fire break. The facility consists of eight four-story office towers—all having a cruciform shape—and a low, two-story building containing kitchen/cafeteria and power house, totalling nearly 600,000 square feet. All buildings surround an open, formal plaza, which is level with the second floor of the office towers. Below the plaza is the computer room, lobby, library and small, open court linking the first floors of all the towers.



*Robert Brandeis*

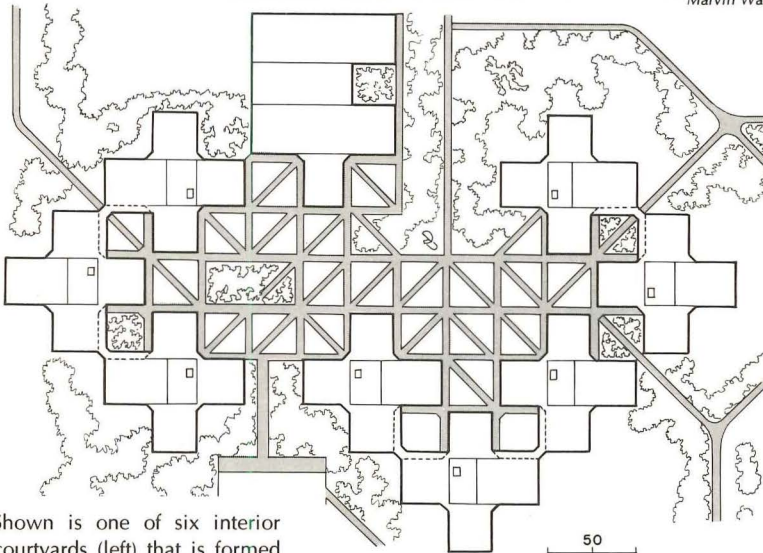




Jon Naar photos except as noted



Marvin Wax



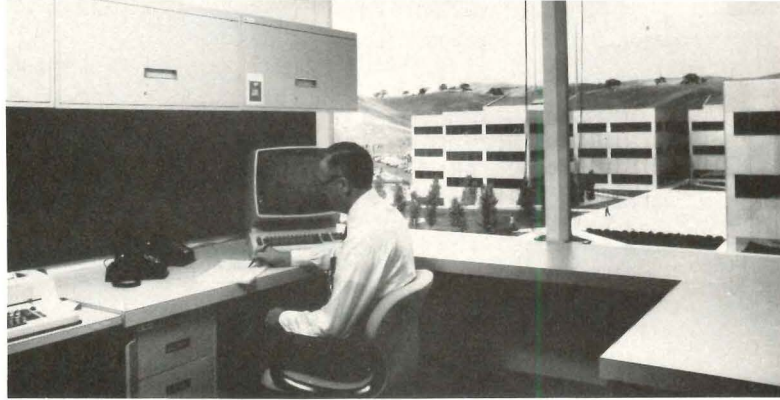
Shown is one of six interior courtyards (left) that is formed when two cruciform-shaped buildings come together in the designed cluster pattern. The courtyards act as colorful gateways to the buildings from the plaza level.

cal arms of private offices, a large conference and common computer terminal room, all serviced by a secondary U-shaped corridor. Therefore, all corridors are short, no longer than 50 feet, with no office more than 15 feet from a window.

The clustering pattern of three buildings offset from the other five marks the entrance from the visitors' parking area and reduces the scale of the complex from the roadway. It also creates a variety of spaces on the plaza, including six courtyards between the buildings, and directs views from the plaza outward to the hills on the north and to the valley on the south. Furthermore, this organization opens up "vista corridors" diagonally and at right angles throughout (seen from within the office towers as well as from the plaza), and views are architecturally emphasized by grass-lined or paved walkways on the plaza level. From certain locations, one can see the buildings' forms march down the site (page 99) or across the plaza quadrangle (left), or perceive a surrealistic view of the landscape framed by buildings across the plaza.

The complex was designed to withstand expected earthquake forces. A moment-resisting steel-frame structure, it is dynamic, capable of moving relatively freely in an earthquake. The buildings' skin, therefore, needed to be lightweight, and the aluminum was chosen for that and its high reflective quality. Mirror glass—set flush with the aluminum curtain wall panels—complete the total reflectiveness of the facade, while contributing to the over-all energy-conscious design.

The structure harmonizes with the site through its scale and proportions. "The building was meant to flirt with the landscape," says McCue. "It does not try to change it. The building ought to become an interesting contrast . . . [for] it is the juxtaposition of the man-made forms and colors to nature's . . . [that] heightens the intrinsic values of both."



The facade has the incredible ability to reflect—often abstractly—movement on the plaza as well as weather patterns, from the gray of early morning fog to brilliant light on a sunny day, to the golden colors of late afternoon. A subtle aspect of the design, but one with tremendous visual impact, is that the outside corner of each building is beveled at a 45 degree angle, which emphasizes each corner by reflecting light (top photo page 103).

Each building is color-coded with brilliant colors (magenta, red, red-orange, orange, yellow, green, teal and blue) for building identification. The coding is complete, from office tack boards to stairwells, carried to the exterior only where the wings of two adjacent buildings form a courtyard. Therefore, there are two colors in each courtyard, predetermined as complementary pairs.

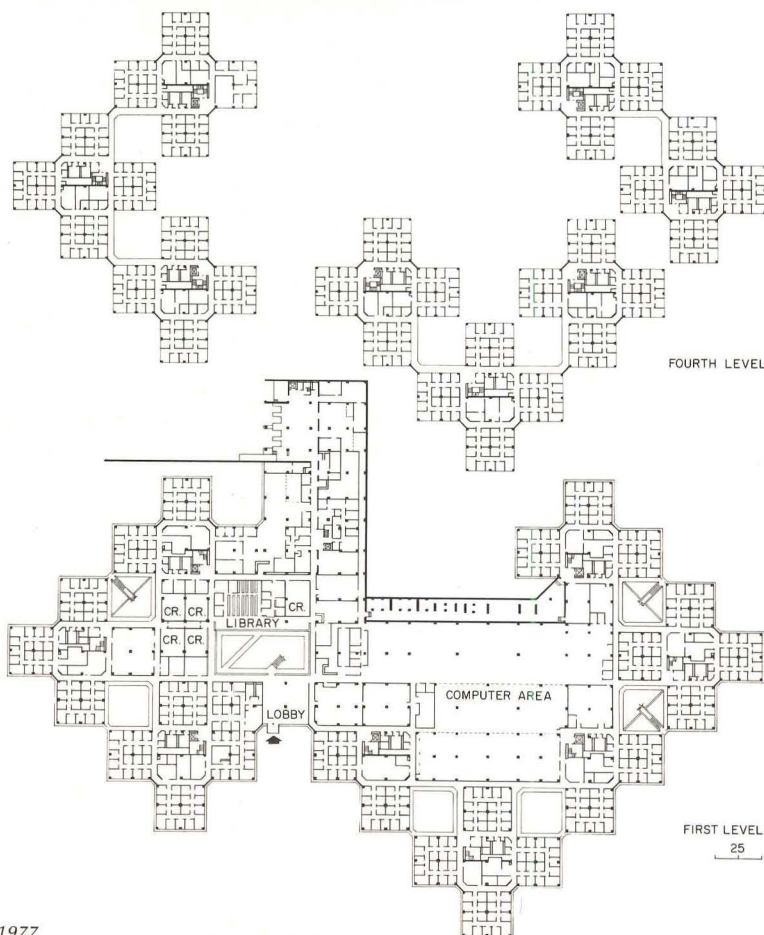
This is an energy conservative design, including the use of solar reflective glass. Heat generated from the buildings' lighting systems and from the primary computer room—a one-acre area below the grand expanse of plaza—is recovered and used to heat water, which is in turn pumped to all eight buildings (all computer controlled for optimal efficiency). In addition, every room in the complex has its own light switch for individually controlled light use.—Janet Nairn

IBM SANTA TERESA LABORATORY, San Jose, California. Architects: McCue Boone Tomsick (now MBT Associates)—principals-in-charge: David C. Boone and Alan R. Williams; design team: Gerald M. McCue in charge; Philip Copland, Kyle Cumbs, John Damonte, Gerald Dommer, Linda Groat, Charles Jennings, Ron Jewett, Tully Shelly. Engineers: Forell/Elssesser Engineers (structural); John V. Lowney & Associates (soils); Gayner Engineers (mechanical/electrical); George S. Nolte and Associates (civil). Landscape architects: The SWA Group. Interior design/graphics/costs: McCue Boone Tomsick. Consultants: Bert Marshall Jr. (food service); Eugene O. Tofflemire and Associates (curtainwall). Construction managers: Swinerton & Walberg.



Marvin Wax Photos

A typical perimeter office (top) is oriented to outside views. The cafeteria (left), located in the only two-story building in the complex, is large and open, capable of serving and seating all workers, for few people leave the complex for lunch because of its location at the edge of town. Outdoor eating areas are furnished with colorful red tables and sun-shades (not shown). The fourth floor plan is identical to the third level, being distinguished from the second level plaza area in that only the upper stories have bridges connecting most towers for easy circulation.

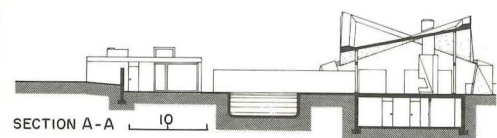
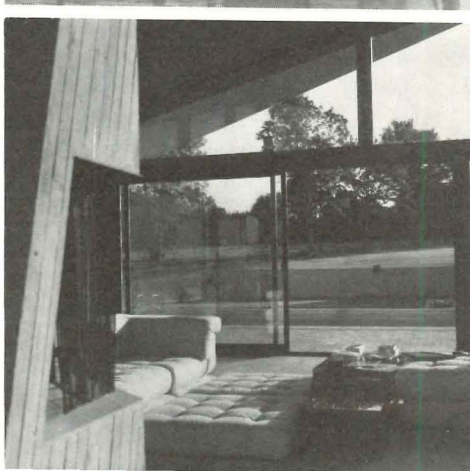
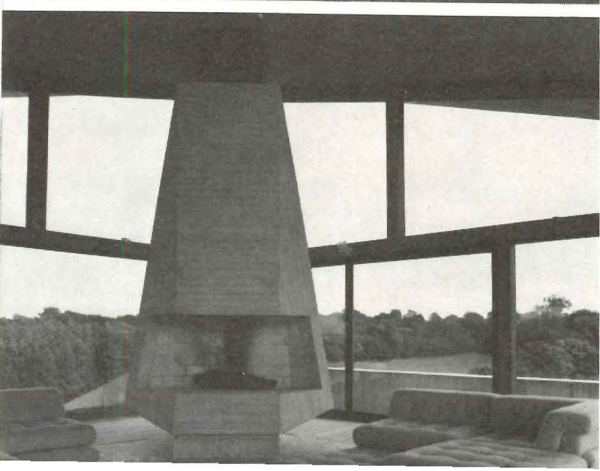
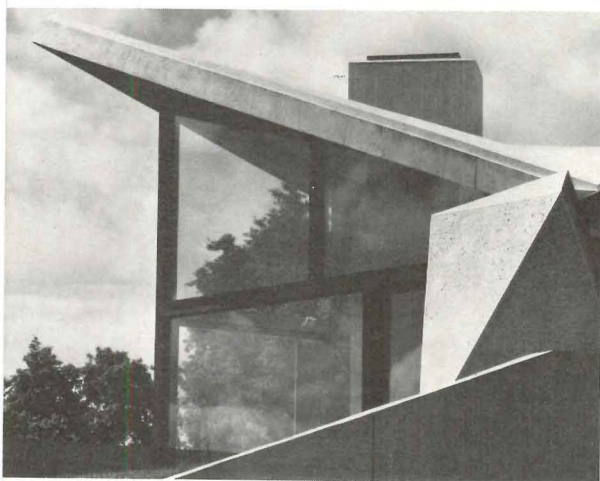




# CONTINUITY IN A FRAMEWORK OF CHANGE

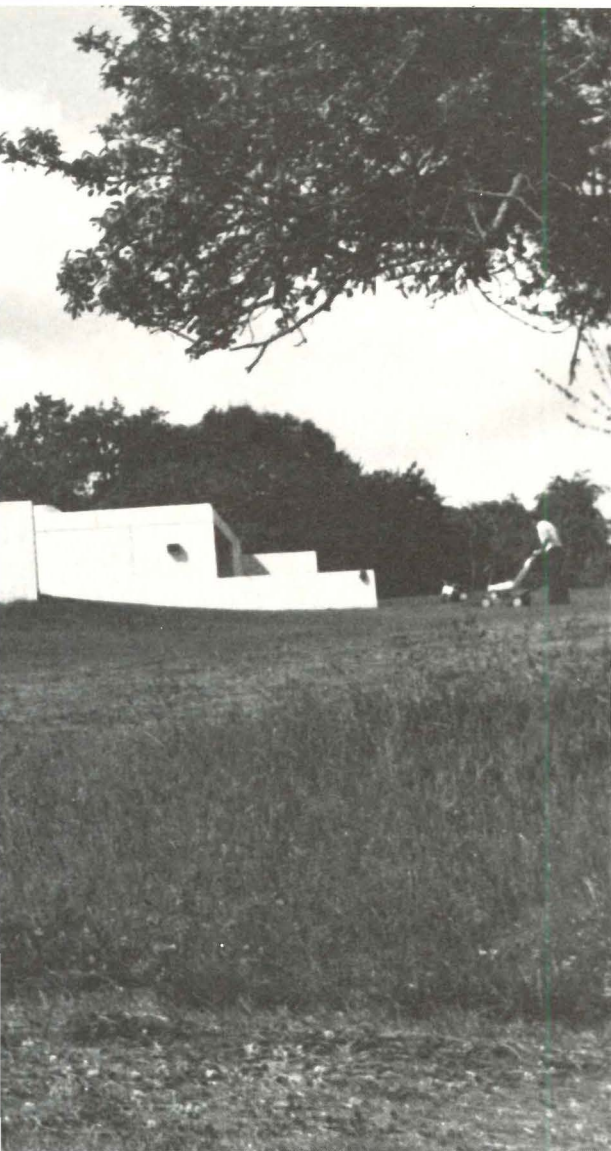


Marcel Breuer long made it office practice to share his responsibility for each new project with one or another of his associates—Herbert Beckhard, Robert Gatje, Tician Papacristou and Hamilton Smith. Here are three small buildings, each designed with a different associate, each displaying a characteristic concern for excellence, and all dating from the period leading up to Mr. Breuer's recent retirement.



A large measure of the success of the design stems from the intended contrast between concrete the planar material and concrete the plastic substance. It was critical, therefore, that both inside and out, the concrete work be first class. It was—right out of the forms. Little patching or touchup was required after the forms were removed. As a weekend and vacation house, it was also desirable to keep the design as easy to maintain as possible. The durable masonry surfaces answer this need handsomely.

# A PAIR OF HYPERBOLIC PARABOLOIDS, JOINED AT THEIR COMMON SEAM: BREUER AND MARIO JOSSA HAD WAITED TO GIVE THIS FORM A RESIDENTIAL TRIAL

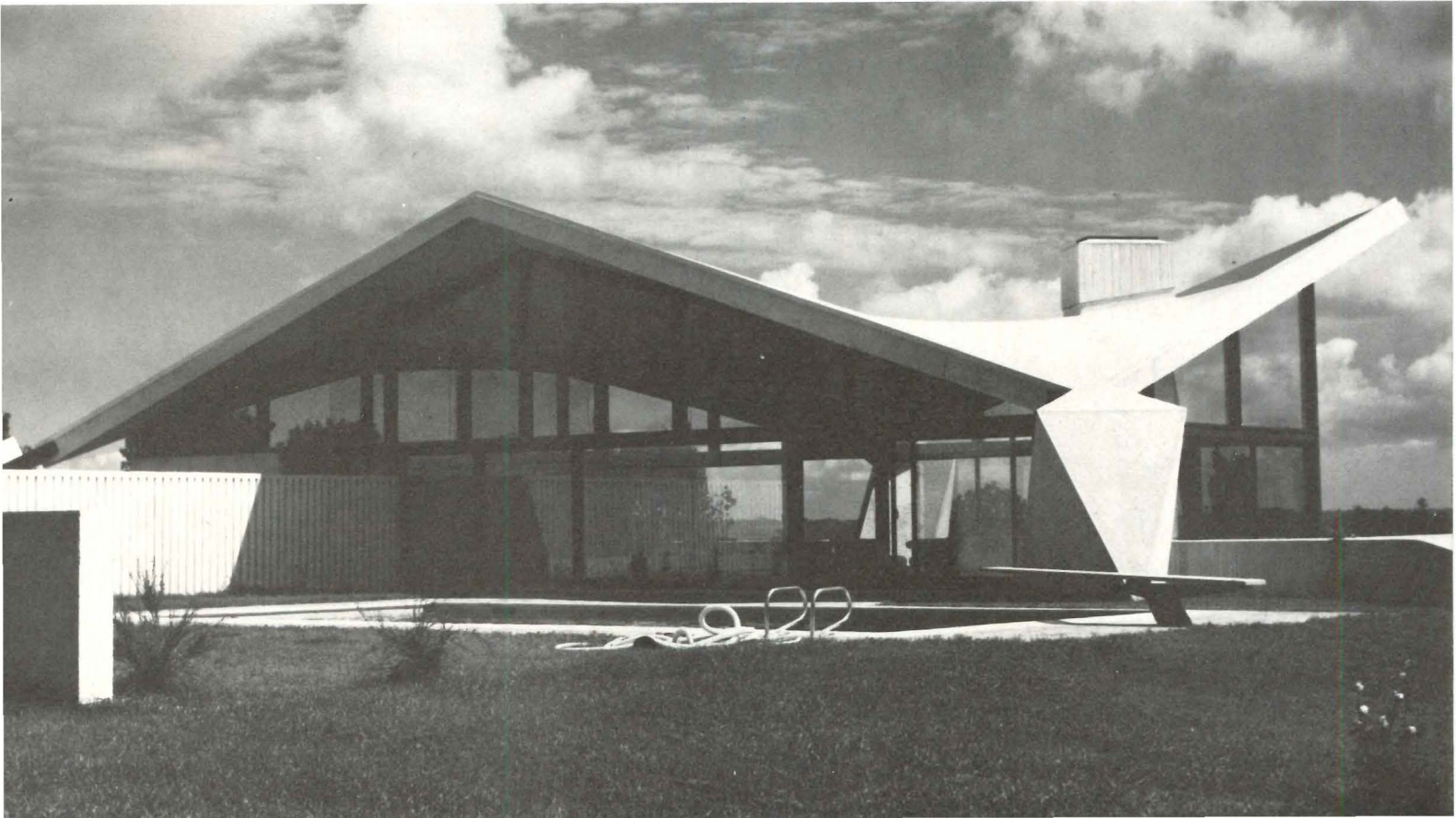
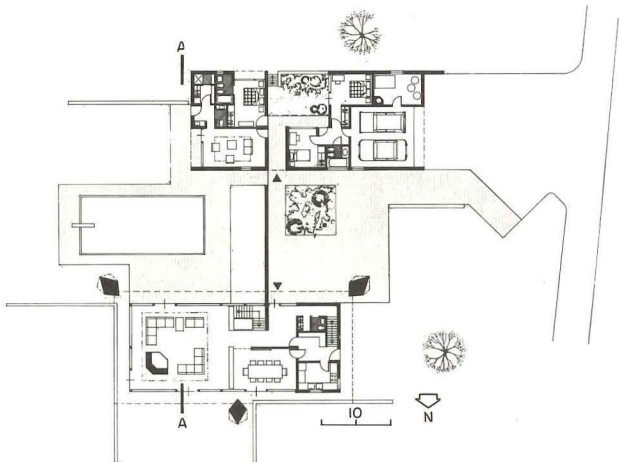


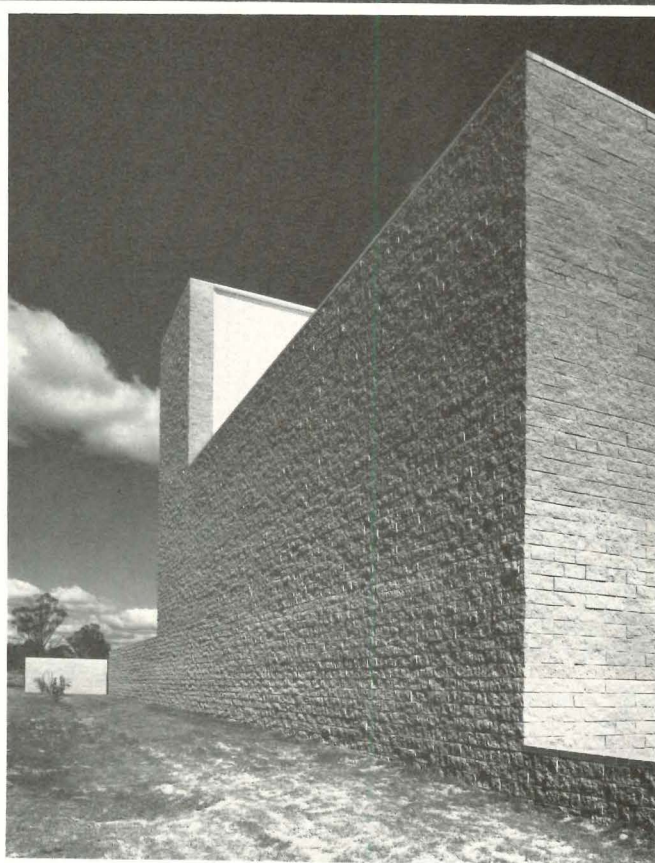
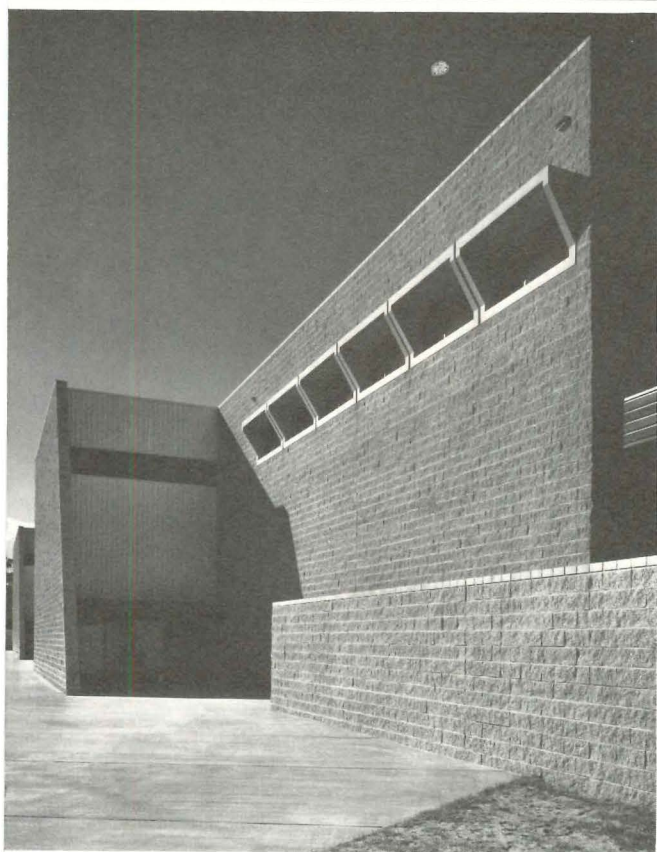
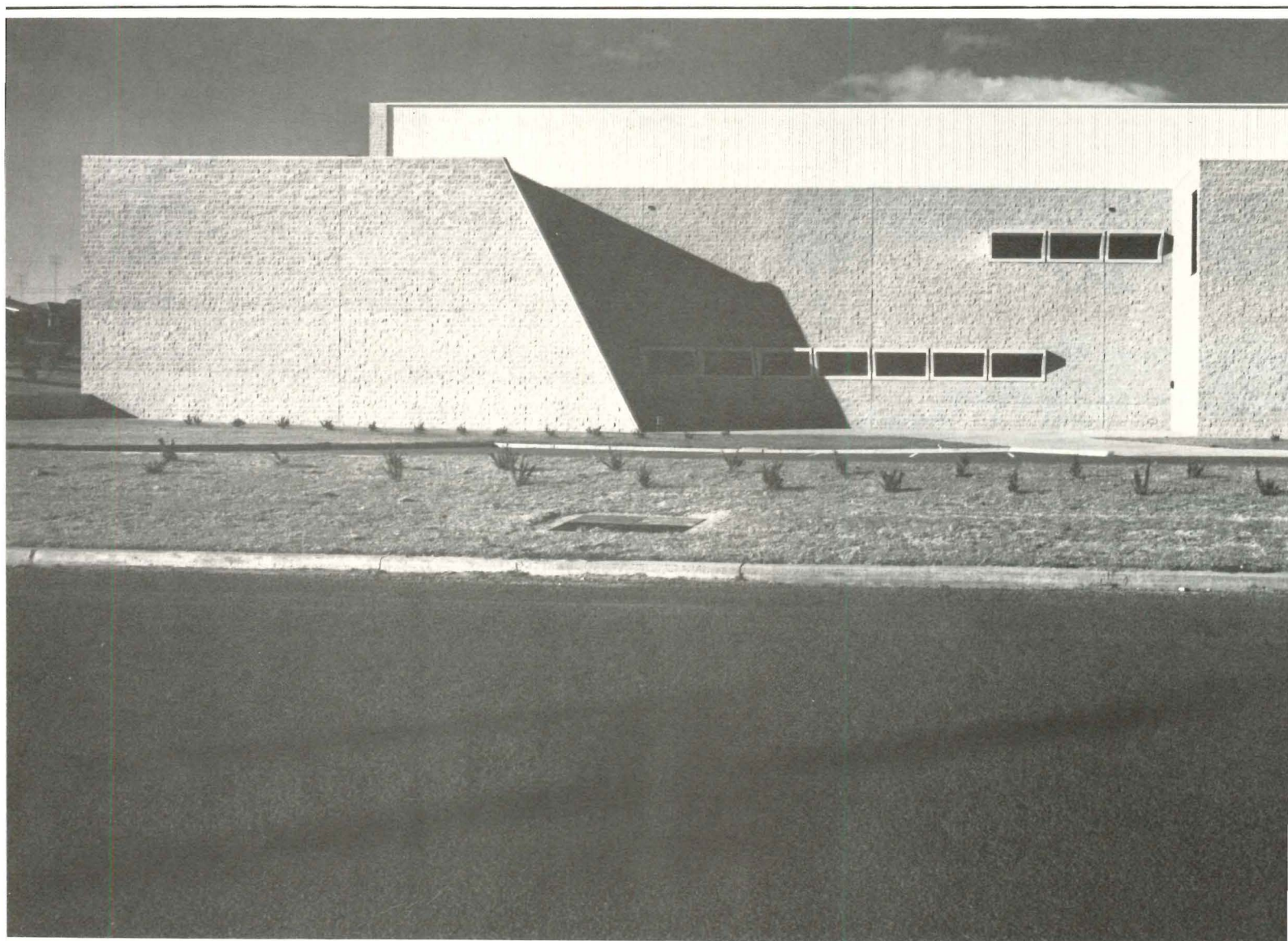
Yves Guillemaut photos

Under this very vigorous roof form, a form that first appeared in Breuer's unrealized design for the Ustinov house in Vevey, Switzerland (1959), is a surprisingly restrained and simply furnished vacation house near Deauville, France for a Parisian businessman and his family. The sheltering roof, warped for stiffness, is brought down to grade at only three points but each of the abutments is an essay in sculptural energy and concrete craftsmanship. Long retaining walls lock the house into its site and, in a gesture of reconciliation, soften the contrast between the house and its verdant, rolling surrounds. Though the sea is out of sight, screened by a veil of trees, there are several long views and Breuer has exploited them with abundant use of glass.

The simple strength and elegance of the exterior forms is translated to the interiors with conviction. There are few applied finishes, virtually no compromises of detail and an absence of contrived relationships between formal conception and functional need. The program was comparatively simple. Breuer, with his Paris associate Mario Jossa, solved it boldly with the concern for pattern, for materials, for structural expression that has characterized the firm's work from the beginning.

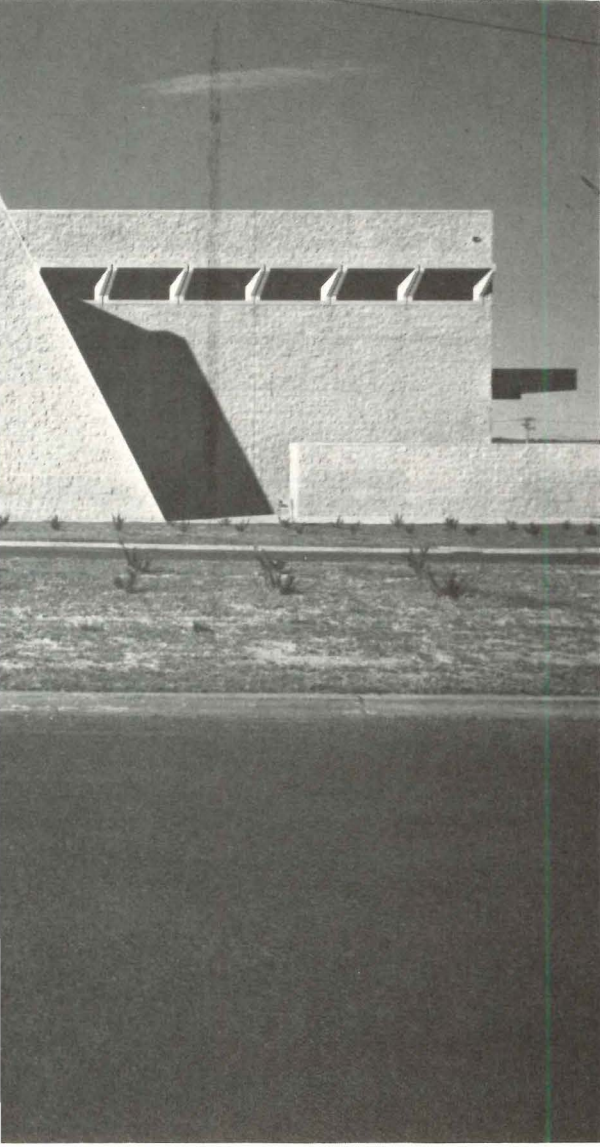
SAIER HOUSE, near Deauville, France. Architects: *Marcel Breuer and Mario Jossa*. Engineers: *Cabinet Dufromont (structural); Enterprise Marion (mechanical)*. Contractor: *Enterprise Marion*.





The Torin building uses face brick as a principal exterior finish. The beautiful textured surface that results when it is used in broad applications is counterpointed here by thin rows of perforated window hoods that screen entering workspaces. The overall composition retains its functional character by its fully developed volumetric expression.

# FOR THE TORIN COMPANY, A FAMILIAR CLIENT, BREUER AND HERBERT BECKHARD DESIGNED THIS PLANT FOR A SITE WHERE THE SUN SHINES FROM THE NORTH

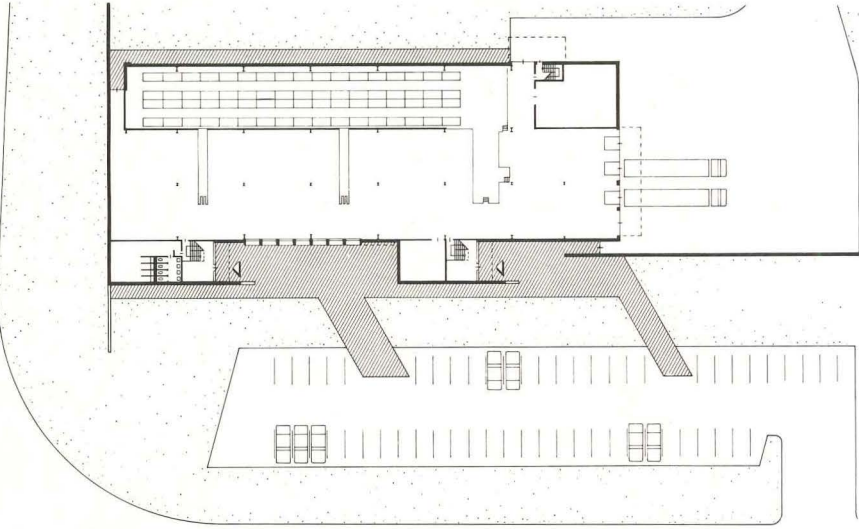


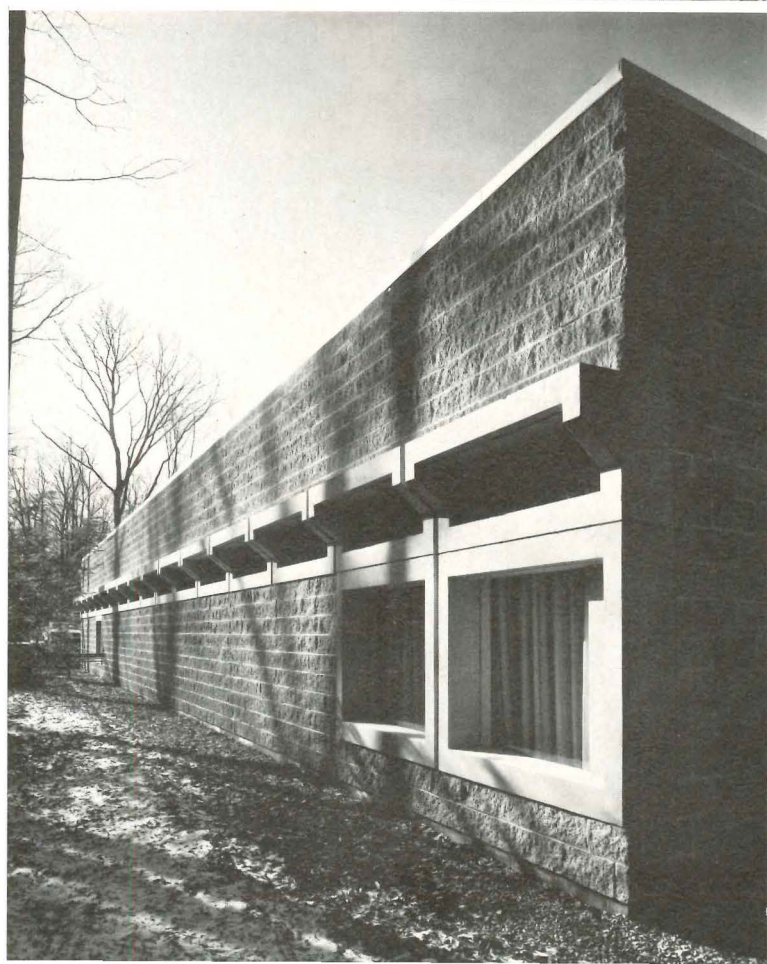
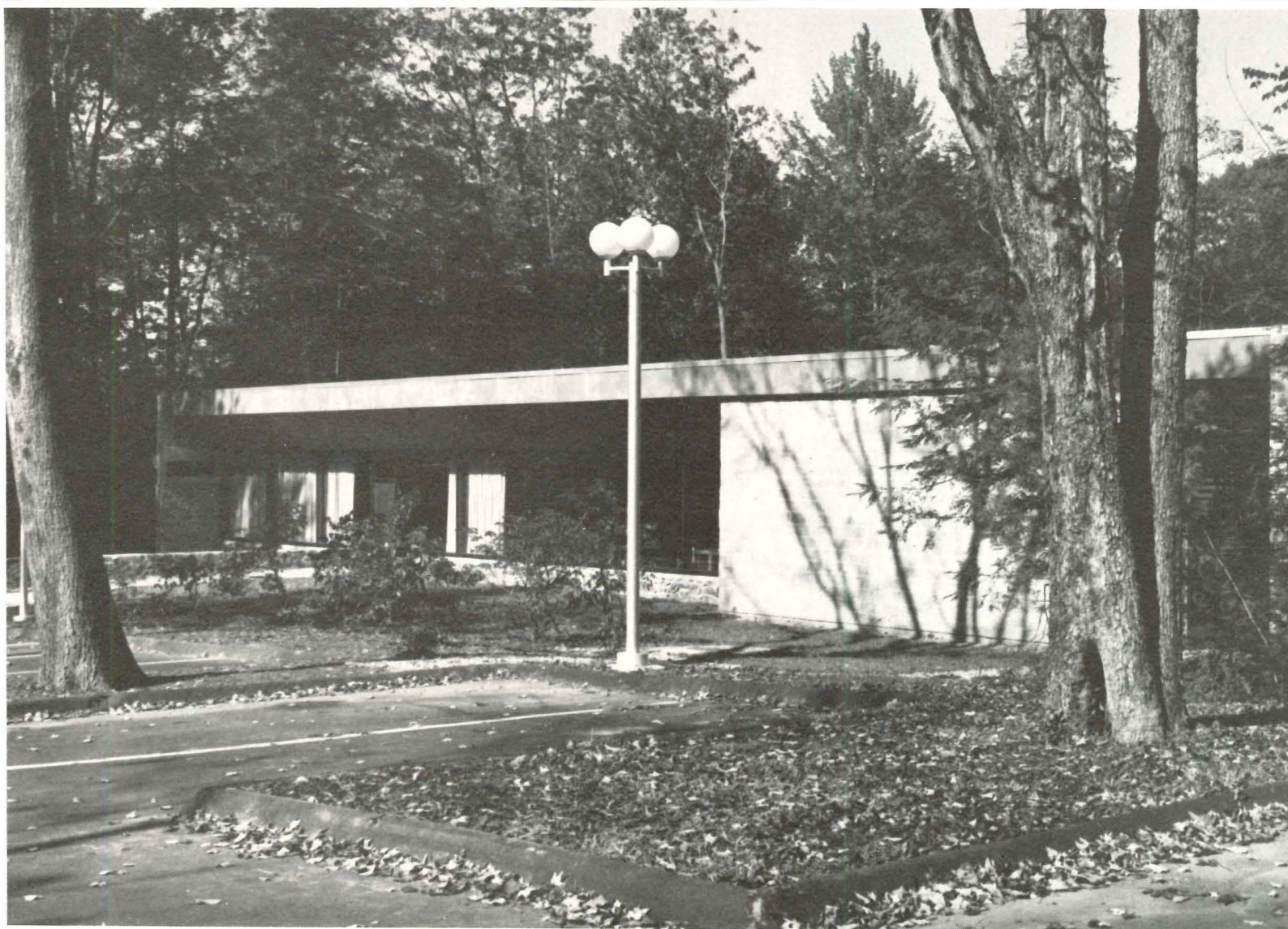
Max Dupain photos

For the Torin Corporation's new Australian plant, Breuer and his associate Herbert Beckhard threw off typical industrial images and relied instead on the design expression and vocabulary of materials the firm had carefully developed through a number of earlier projects for the same client.

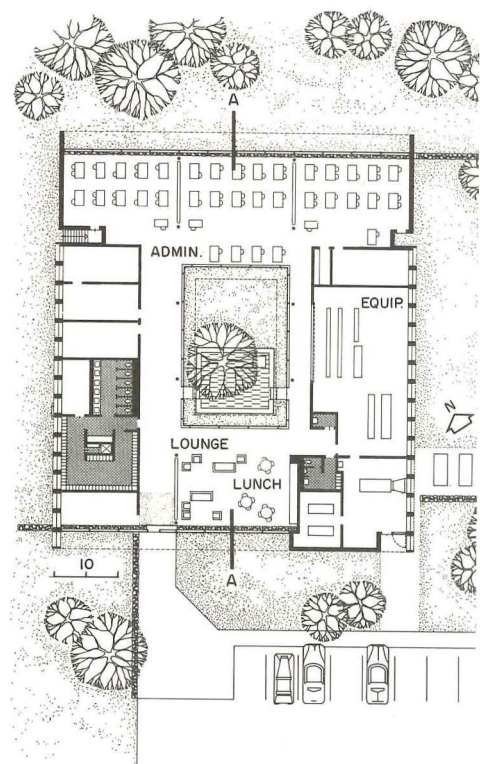
The site is rather flat and exposed. The manufacturing process to be enclosed offered few compelling design clues. The architects therefore developed their design around the program's tall, windowless storage space—a space governed by a rail-mounted crane that aids in storage and retrieval of inventory. The liveliness of the building grows out of the skill with which manufacturing and office spaces are arranged in relation to the storage space and the strongly-modelled elevations that result. The tapered walls (photo left) screen service entrances. Like the other small buildings in this group, this plant shows a remarkable design concern in a building type not always characterized by quality, and a surehandedness in its massing and texturing that has long been one of the happiest hallmarks of the firm.

TORIN CORPORATION BUILDING, Australia. Architects: Marcel Breuer and Herbert Beckhard. Engineers: Paul Weidlinger (structural); Prodecon PTY, Ltd. (mechanical). Contractor: Prodecon PTY, Ltd.





The architects have been careful to preserve the site's natural qualities wherever possible. Parking for 60 cars is provided on the site's northwest side, but the rest of the site is left almost undisturbed. This is in sharp contrast to the interior court, which is formal and urban in intention and feeling.



# THE NEED FOR A SERIOUS WORKSPACE WITH COMMUNITY OVERTONES LED BREUER AND HAMILTON SMITH TO THIS UNEXPECTED ATRIUM SOLUTION

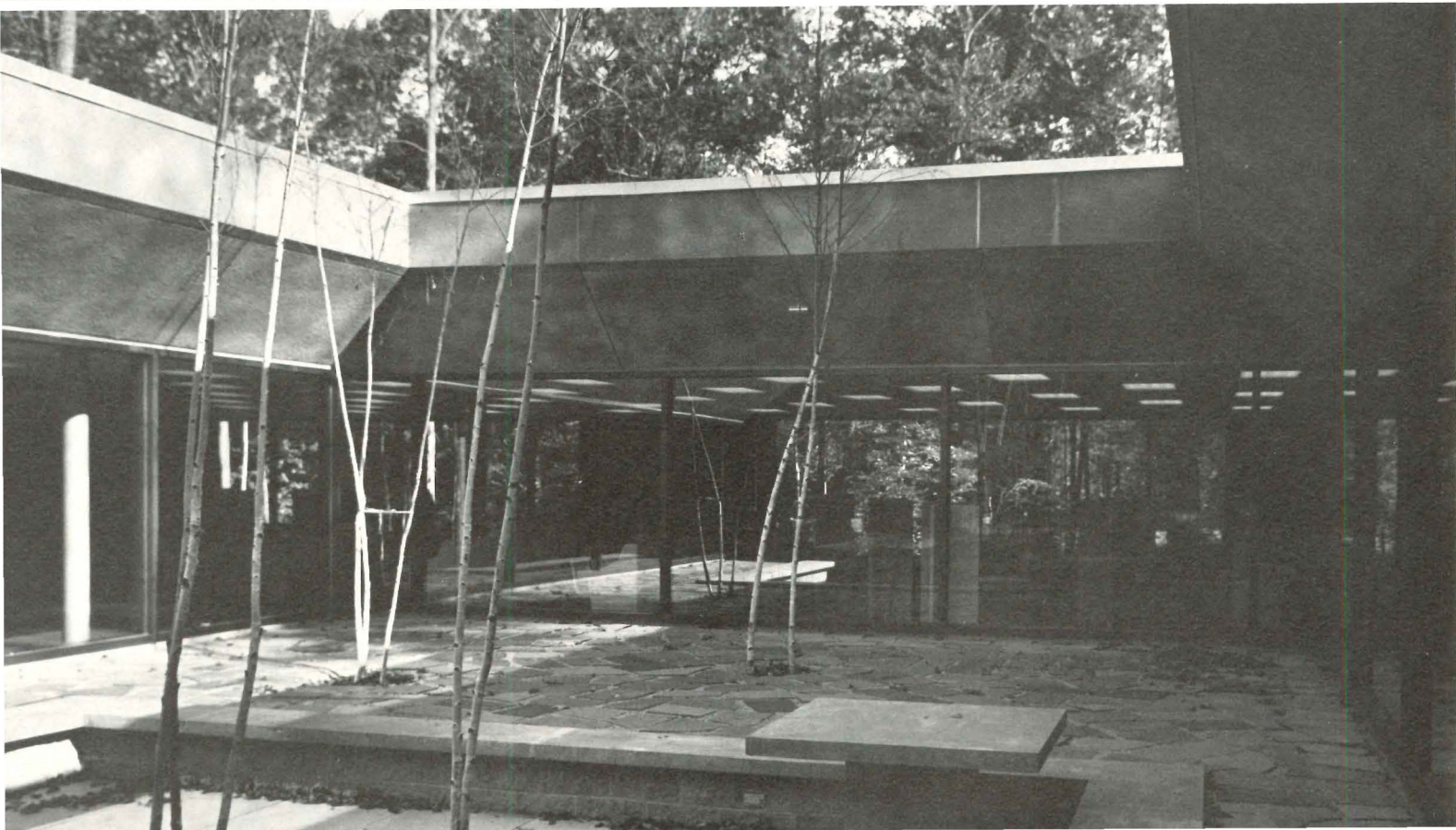


Joseph Molitor photos

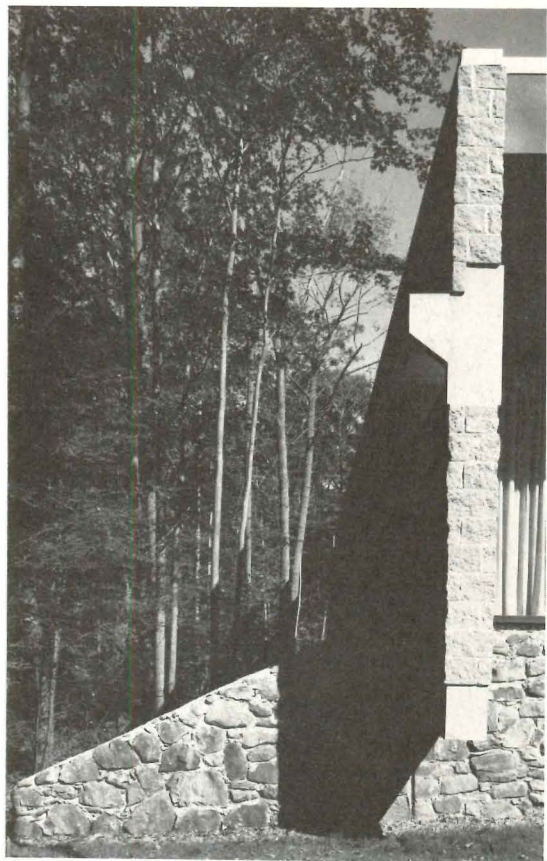
The site for this new Traffic Service Systems Building for the Southern New England Telephone Company is a wooded property adjacent to the Torin Corporation's Headquarters in Torrington, Connecticut. The building is staffed to a greater than ordinary degree by local women who work part-time. In this way the building has a community aspect that Breuer and associate Hamilton Smith sought to give expression to by providing social space in the form of an informal cafeteria area. The courtyard is another expression of this socializing function. Though at first resisted by the architects as a redundancy on a site so wooded, the atrium provides an internal focus when the blinds on the exterior walls are drawn in the evening.

The vocabulary of forms and finishes bears intentional relationships to both the Torin Headquarters next door as well as the Torin facility on the preceding pages. The architects have used split face block mingled here with natural stone. Wall openings are framed out using precast window surrounds and hoods that are sculpturally detailed but remain small enough to be integrated easily into the coursing of the exterior block.

TRAFFIC SERVICE POSITION SYSTEMS BUILDING, Torrington, Connecticut. Owner: Southern New England Telephone Company. Architects: Marcel Breuer and Hamilton Smith. Engineers: Paul Weidlinger; mechanical and electrical engineering by Owner. Contractor: Oneglia and Gervasini Construction.



Photos at right and below show a corner condition in the building. Not without an element of fun, the intersection of planes both vertical and canted and the mingling of materials is expressed practically to the point of confession.

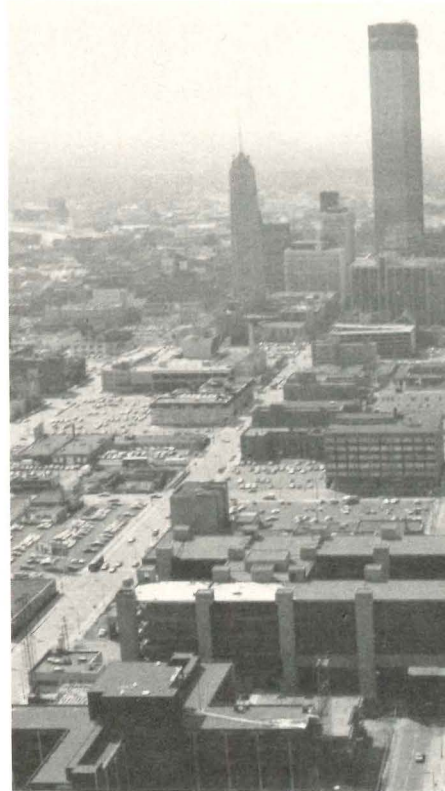
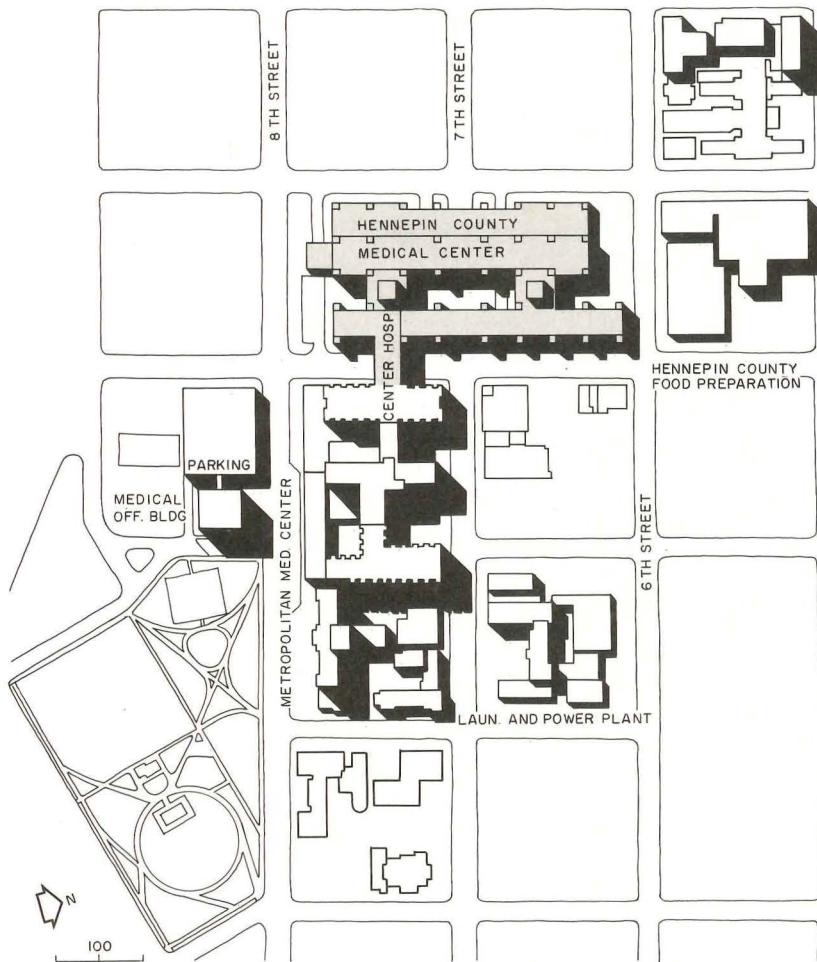




# HOSPITALS

## HOW ARE THEY?

Now here is a word for you, from the Greeks. *Iatrogenesis*. It refers to the process by which physicians originate things, and, these days, it has come to refer to things that make things even worse—like cures that end up intensifying diseases. Put another way, it has come to refer to any medical person or any medical place that induces illness. Very few physicians or allied health-care professionals who work in hospitals, and certainly very few architects who spend a lot of their time designing them, are going to readily admit that hospitals, as worked in or as designed, are “sickening.” Or *iatrogenic*. Yet too many of them are precisely so. Architectural hemlock, even if administered with manifest sympathy, is still architectural hemlock. Why is it that so many of those who are responsible for getting hospitals up, and then functioning, talking about economy and efficiency and humanity in the delivery of health care, so often fail to perceive the practical, curative dividends of good-looking, good-feeling surroundings? And why is it, too, that so many architectural specialists in the hospital field, spending a lot of their time in documenting how expeditiously their firms gave doctors and administrators and trustees what they wanted (within budget, of course), tend to get up such ugly buildings? The fact is, any firm with a solid commitment to esthetic, humanistic, and emotional factors stands a good chance of being excused, early on, by a hospital’s building committee should that firm’s representatives venture too far away from the routinely expected recitation of technical experience and statistical resources. The results, encrusting the health-care community at every level, constitute an architecture of alienation and intimidation and antiseptic ennui that is scarcely redeemed by colorful supergraphics and potted plants. The very facilities that are meant to return people to normal health are, too frequently, *abnormal* in their over-all make-up, functional methodology, and certainly in their pervasive mood. No two ways about it, designing such facilities—the places where people go to stay well or to get well—is not an easy architectural task. It takes about as long to finish a hospital as it does to train and qualify a physician—a good eight years, or even longer. The composite of technological and departmental requirements is foreboding, and the internecine contentiousness among the groups comprising the hospital “client” can occasion constant re-programming and re-design. If this complicated, often prolonged process ends up expropriating an architect’s concern for the visual, sensory, and psychological impact of the hospital job at hand, it is a process that also ends up expropriating the patients’ sense of well-being, or reassurance. Good design would not only be demanded by this type of client but economic arguments against good design would also be honestly put into perspective were this client to frankly acknowledge that it is not good design that “costs” but the shabby balkanized programming tactics that these infinitely wise, well-titled types are given to. That is what is ugly, and that is why so many of the hospitals we end up with are ugly. What does good design cost? Better ask how much it costs to administer a patient, see after his files, or process the checks that he or his insurance carrier writes. Better ask how much it costs to keep a patient for one day in a hospital bed—it’s up over 500 per cent in the last 25 years. And better ask why the average construction cost of hospitals is over \$90,000 per bed, especially when over two-thirds of that goes for technical equipment that is mostly outdated in ten years. The health-care industry itself is badly designed and must continually be bailed out. The cost of good design is a false factor in the client’s equation of what it can afford. And an environment that is technically proficient and personally attentive in delivering care should also be bright, uplifting, and regenerative in its architectural character. American society is coming up against the challenge of asking itself just what good health is, and it has as much to do with our whole approach to life as with the crippling costs of treatment. What Ivan Illich calls the *medicalization* of our society is being questioned, finally—the health-care industry having attained a ubiquity that has consumed, more than a hefty amount of our paychecks, an unhealthy amount of consciousness. We need some get-well cards for our ailing assumptions about health and hospitals. Three of them are illustrated in the following section.— *William Marlin*



## HENNEPIN COUNTY MEDICAL CENTER, MINNEAPOLIS

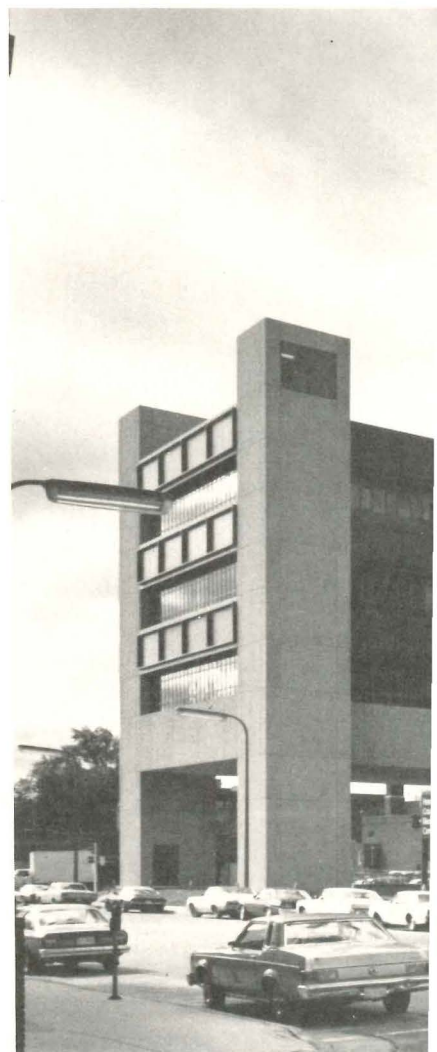
It is not for nothing that Minneapolis is being called an architectural mecca, what with the IDS Center by Philip Johnson and John Burgee, the Federal Reserve Bank by Gunnar Birkerts, the Hennepin County Government Center by John Carl Warnecke, that street-spanning, block-splicing slew of walkways, and, of course, the light-stepping, well-landscaped Nicollet Mall. But there is another, newer reason for architects to take a shine to Minneapolis.

The reason is a hospital, an extremely big one, containing 545,000 square feet and almost 500 beds and an incredible amount of institutional as well as structural innovation. It is the Hennepin County Medical Center, and it is a very important building and a very important *city* building, to boot. A team of architects, called Medical Facilities Associates—General, was specially assembled to get the thing done, and the team was composed of two firms—Smiley Glotter Associates, and Thorsen & Thorshov Associates.

But Hennepin, a teaching hospital, is actually a big piece of connective tissue for a whole network of health-support and health-care facilities, including the adjacent 736-bed Metropolitan Medical Center, an existing voluntary institution. Put them all together, and it adds up to a 1,221-bed complex, Hennepin itself spreading over a chunk of urban land, one block by two blocks, spanning an intervening street as it does so, and then, turning at a right angle to meet up with Metropolitan, spanning still another. The old street grid is thus given a real go, and there is a feeling, as

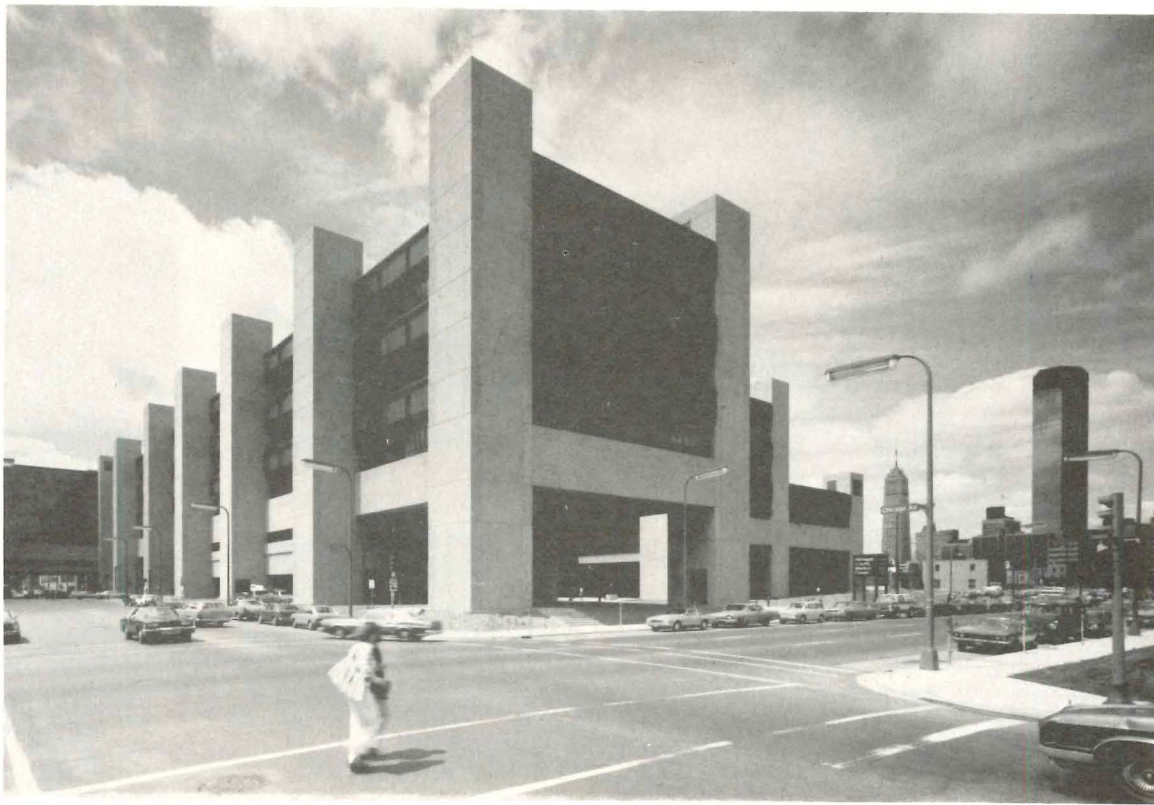
one approaches Hennepin, walking or driving up beside and, indeed, beneath it, that the architects quite deliberately, discerningly had set about to create a civil, if sizable, *urban composition*—as vital to their conception, or so it seems, as were the myriad, maddening medical territories that had to be either housed or, thinking of Metropolitan, related to. Certainly the sharing of basic services between a public and private hospital, agreed to back in 1971 with the idea of development savings and, of course, longer-term economies of over-all health-care costs, is itself an innovation worth watching. But for the architectural team, it was an agreement that also meant developing a form of diplomacy through which all those doctors, department heads, administrators, city and county officials, trustees, and (laudably) community representatives might come to a meeting of minds on how the relationship would be resolved. Which is to say, how it would be *designed*.

Hennepin, being a county institution, embodied some highly specific, and contrasting, requirements. As a teaching facility, it had to have a lot of public space, of various sorts. As an emergency facility, it had to have distinct, controllable definition between those public spaces and the private treatment sectors. As a very large facility, physically linked to an even larger facility, meaning Metropolitan, it had to have some highly efficient means to get people, equipment, food, material, the general *accoutrement* of caring and curing from one point to another point. Moreover, what with medical science changing its means



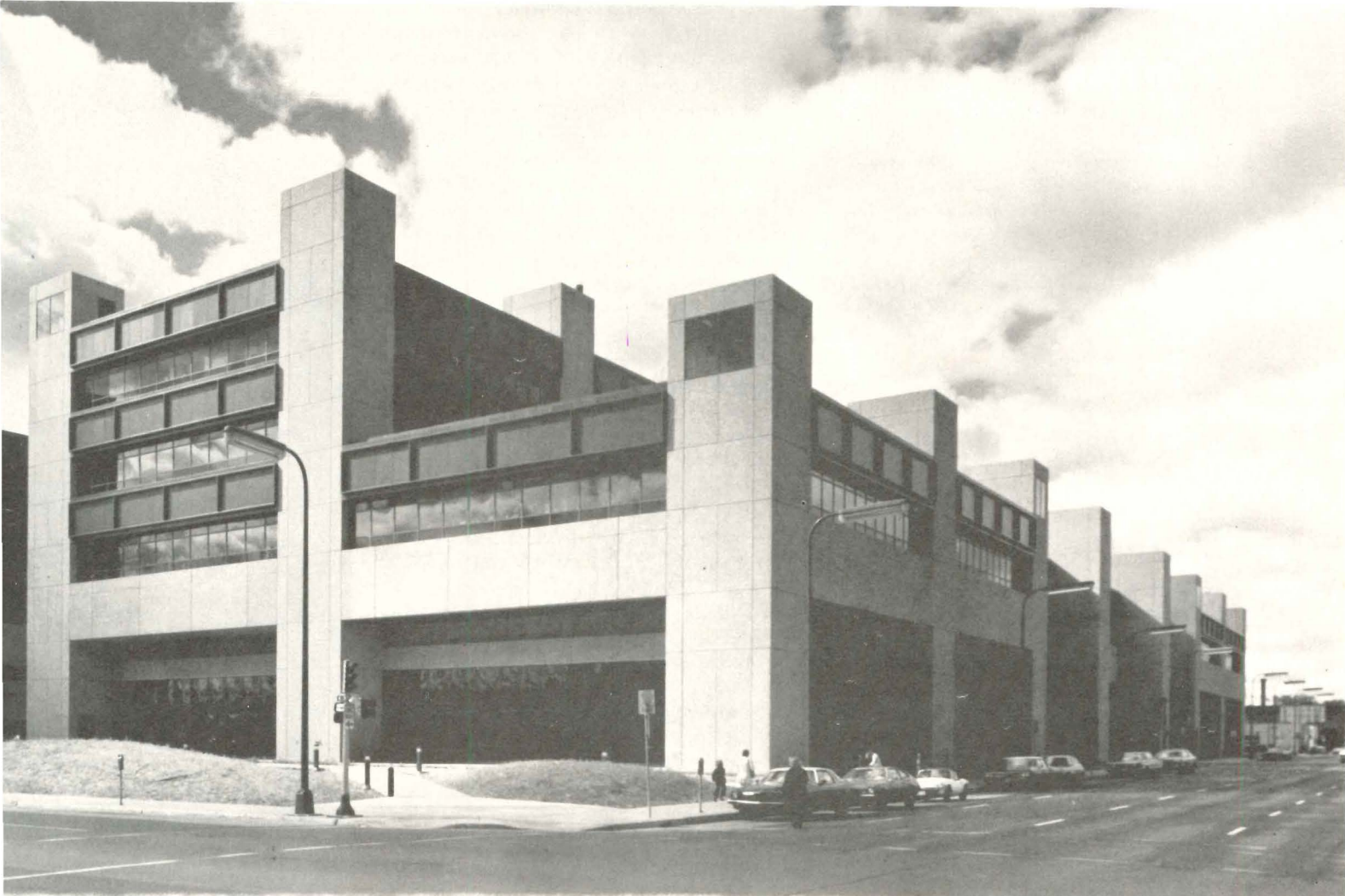


Medical Facilities Associates



The Hennepin County Medical Center, just on the edge of downtown Minneapolis, is yet another bench mark building in a city burgeoning with them these past few years. The architectural treatment stems from a clear, consistent system of free-span spatial modules called "cytoids," which are denoted by a cadence of mechanical and stair towers. The streetscape, given a character and definition that it lacked before, flows under and into the complex.

by Korab photos except where noted





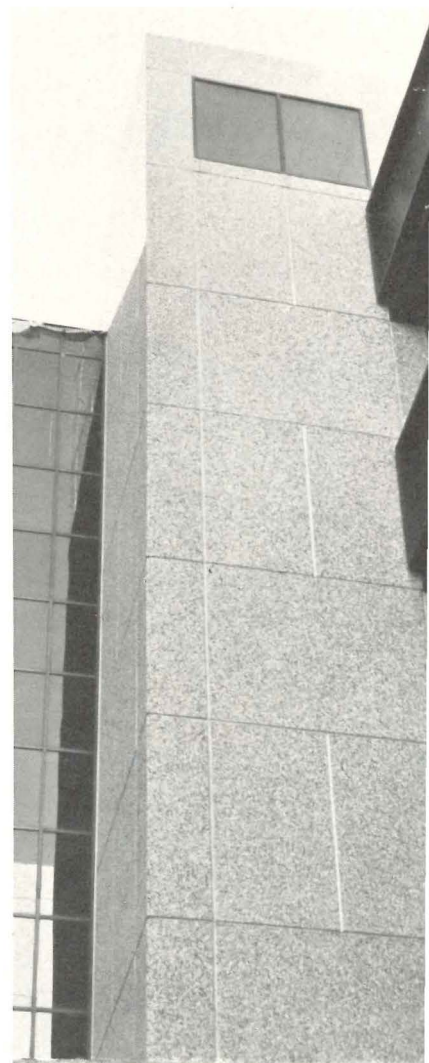
and methodology and its very mind every few years, and even every few minutes, Hennepin was obviously going to have to be prepared to change. And change with agility.

Just programming a way to program something as complex as Hennepin, or to de-program something as complex as the average medical ego, would send most architects flying over the Cuckoo's Nest. But all officialdom involved had committed themselves to a goal in getting Hennepin underway: This was not going to be the last of the old hospitals, officialdom insisted, but the first of the really new hospitals. No going back on something like that.

And so Medical Facilities Associates-General, back in June of 1971, hoping to insert some positive mental attitudes into this mix of medical professionals, got everyone inside a warehouse—top administrators and lab technicians and nurses and busy doctors. And for a whole week everyone sweated out what it was, exactly, that they were setting about to do. Metropolitan was well into the basic planning stage by this time, with a second architectural team in charge—the firms of Harty Elving & Associates and Close Associates. But Metropolitan's staff and that of the coming Hennepin complex soon resolved substantive differences, agreeing that the maintenance of the identity of both institutions need not result in physical barriers between them. There had to be give-and-take between them, functionally and symbolically—and in that respect alone, the architect-initiated "charette" was a breakthrough.

But it was a breakthrough in another vital respect. It led to the concept of sharing services, and by the end of that week, the warehouse space strewn with fairly sophisticated programmatic diagrams, everyone had figured out that there must be a couple of dozen different ways, at least, to share them. Actually, it ended up being about 20 different ways—including pediatrics, obstetrics, rehabilitation and extended care facilities, emergency, radiology, communications, the movement of information, the movement of materials, the movement of chilled water, and the movement of food. The technical aspects of how some of this sharing now goes on is extremely interesting. More of which shortly.

To wrap all of this up, structurally, the architects of Hennepin developed a mega-structural component called a "cytoid," probably because it had to be called *something*, but possibly because cytology is a branch of biology that deals with the formation of cells. Which is what these "cytoids" are—units of growth. They are 75-foot-square and, at each corner, there is a tower. So with each "cytoid" containing a clear span of infinitely flexible space, and with each having four towers containing stairs and mechanicals and assorted kinds of wireage, the architects had their formative, organizing principle. A "cytoid" could be made to create a perfect replica of itself, and in an architectural rendition of "Send In the Clones," these units of growth were soon seen bunching themselves up and stringing themselves along until, before anyone knew it, a very large composite of





Publicly oriented areas as well as patient-care spaces like the team center (above) are considerably, colorfully detailed to maximize a warm, attentive, and human atmosphere. Support functions such as laboratory space (below) are interspersed throughout the treatment areas, allowing an efficient flow of care in both in- and out-patient sections of the same floor.

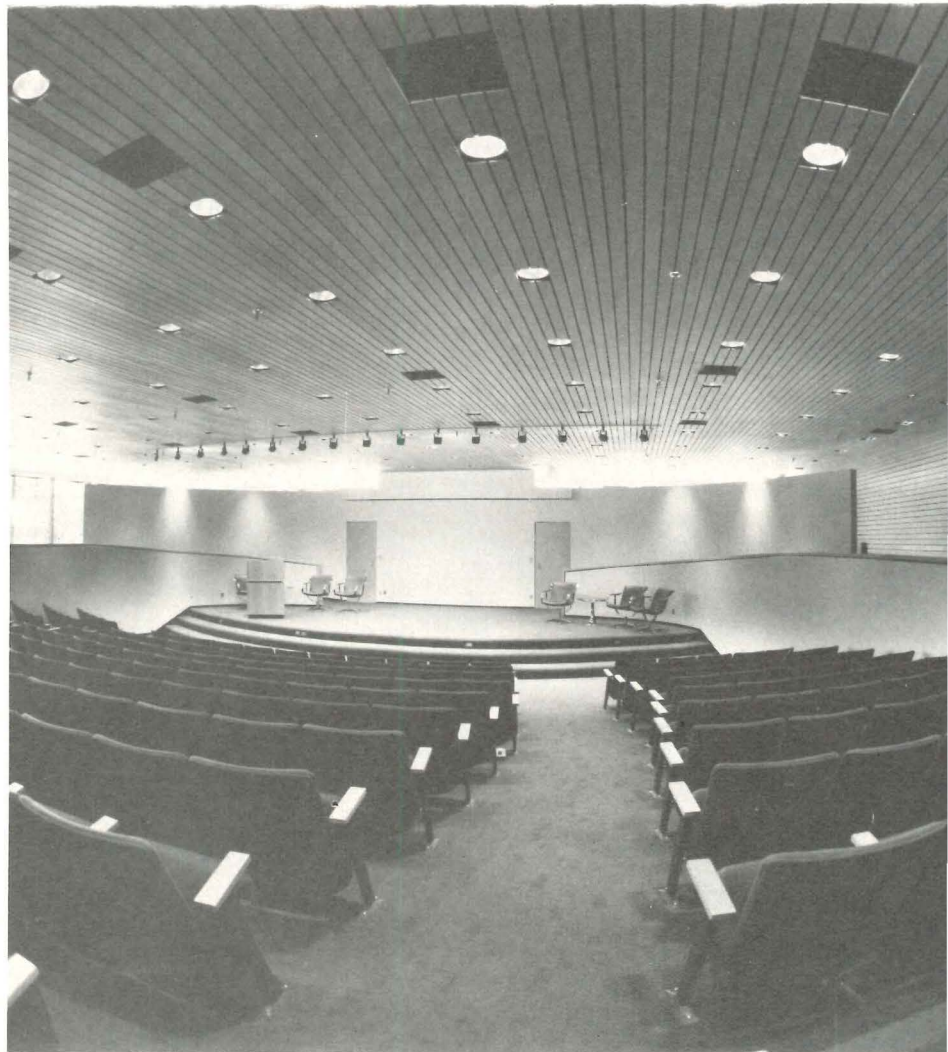


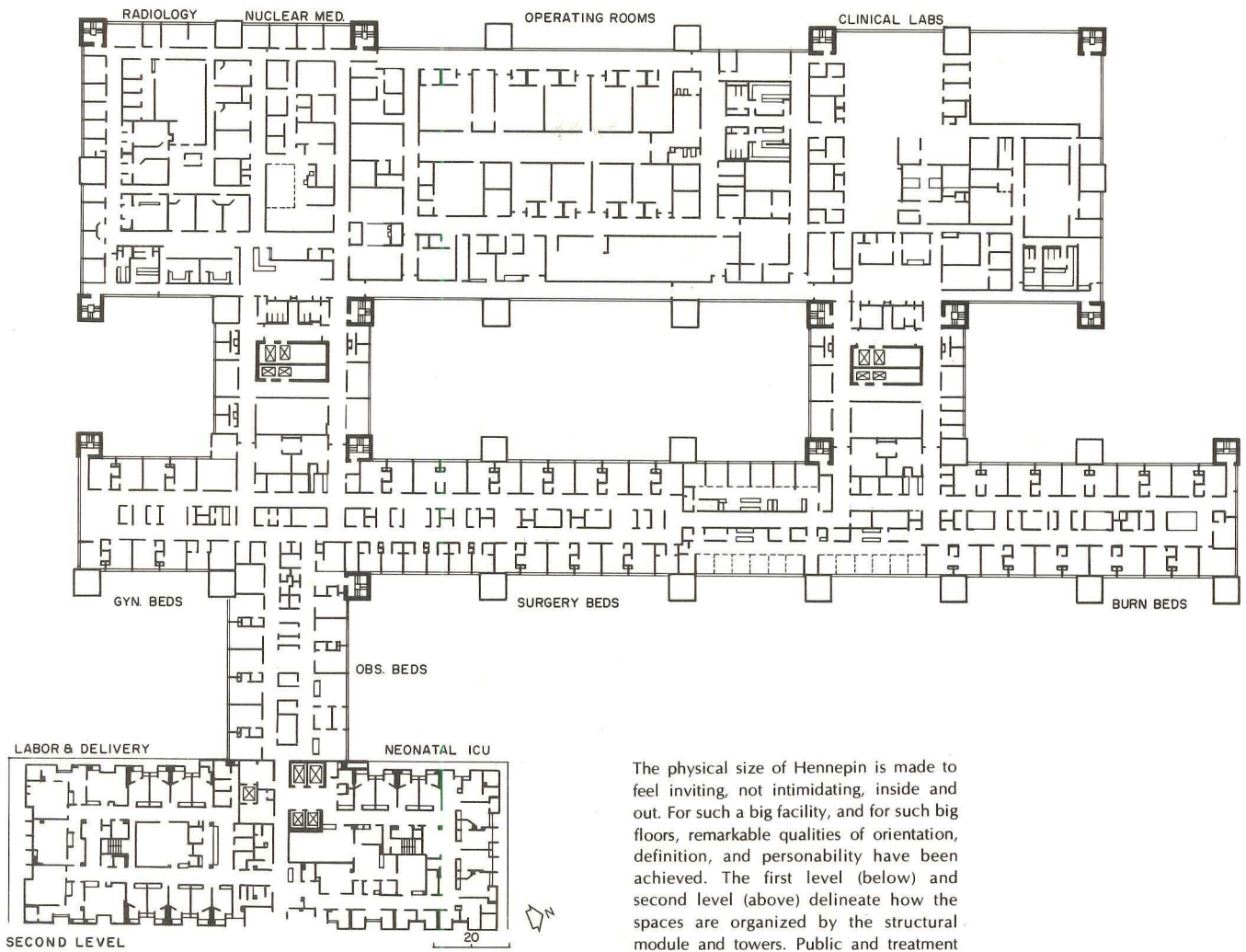


deep steel beams, carrying the four floors and connecting the four towers, and of excellent precast panels had gone up in record time. Fast-tracked, as the project was, it had to—but the clustered “cytoids” are beautifully detailed. Those deep beams, dark and strong, meet the precast panels just so, and the panels themselves, a tawny-gray aggregate that comes off as good old granite, cover the towers, soffits, and the walls of the lobbies that surround the elevator cores.

Those deep beams also denote the interstitial space between each floor, where the horizontal runs of the mechanicals and other systems are accommodated, and easily rearranged or repaired. It is on the level of experience and sensation, though, that this structural system succeeds. As big as Hennepin is, and as big as the over-all health-care complex surrounding it is, the configuration of the “cytoids,” both horizontally and vertically, break down this bigness. The result is a manageable, legible, touchable, certainly likeable scale, and though a few local wags have suggested that its “style” recalls the sweltering warehouse in which the crucial “charette” took place, the question cannot be reduced to whether this is an “ugly” or a “beautiful” job. It is a coherent accommodation of highly differentiated functions; it explains its architectural nature; it efficiently directs people and things (the graphics are skilled and spectacular); it hangs together visually, and, where it bridges over to the Metropolitan complex by way of an integral facility called the Center Hospital, which contains several of the shared

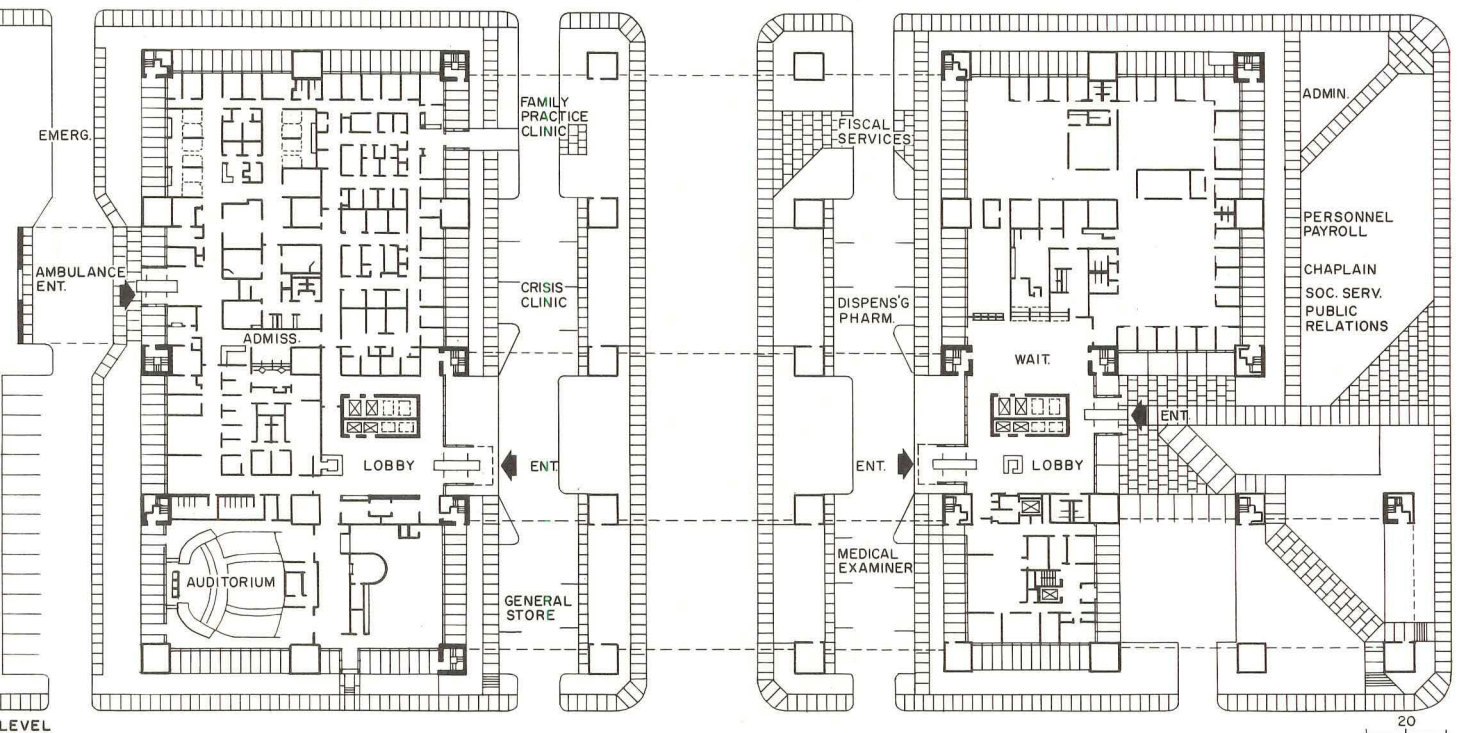
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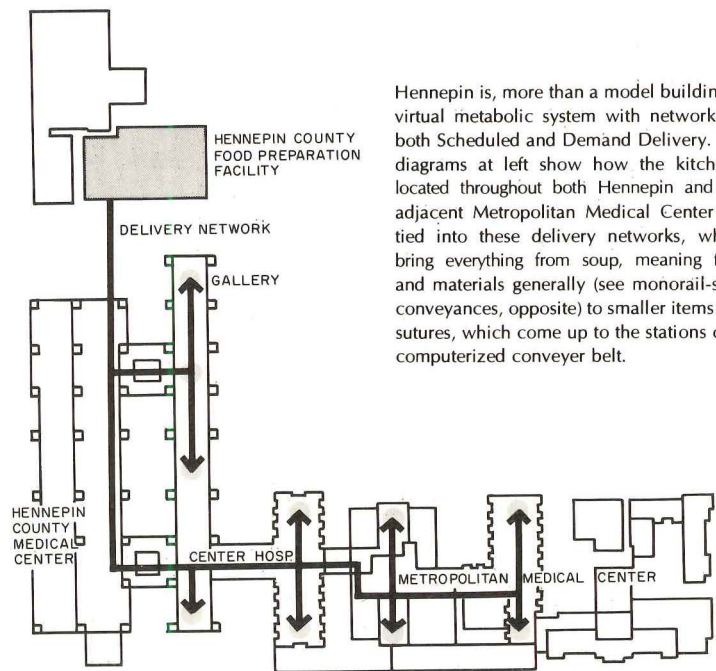
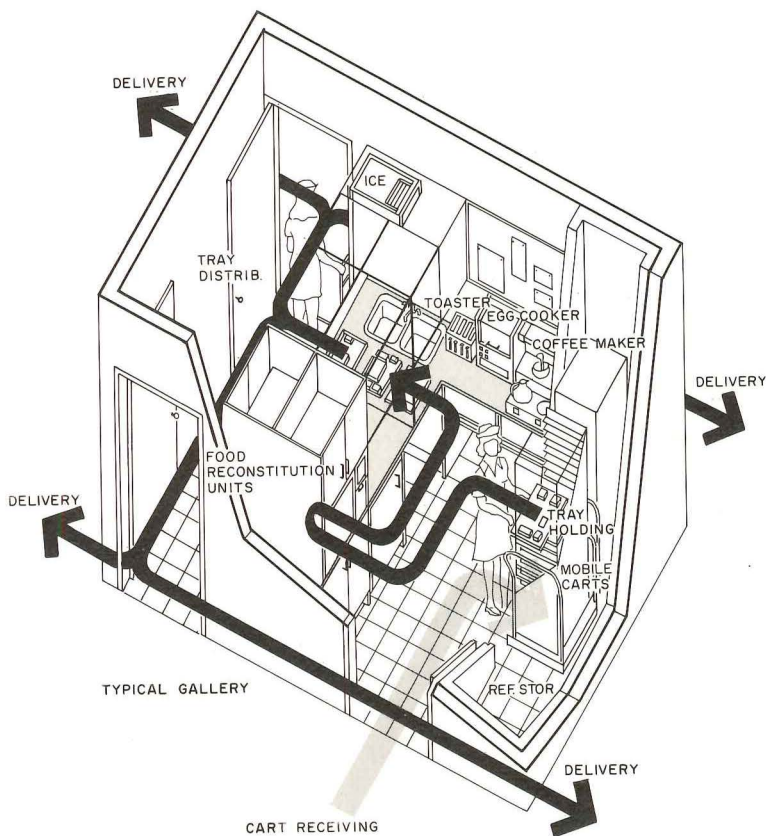


SECOND LEVEL

The physical size of Hennepin is made to feel inviting, not intimidating, inside and out. For such a big facility, and for such big floors, remarkable qualities of orientation, definition, and personability have been achieved. The first level (below) and second level (above) delineate how the spaces are organized by the structural module and towers. Public and treatment areas are carefully articulated and functional conflicts avoided. The auditorium (opposite, below) exemplifies the attention given to interior detailing and finishes throughout.



FIRST LEVEL



Hennepin is, more than a model building, a virtual metabolic system with networked delivery systems for both Scheduled and Demand Delivery. The diagrams at left show how the kitchen is located throughout both Hennepin and adjacent Metropolitan Medical Center, tied into these delivery networks, which bring everything from soup, meaning it's a virtual metabolic system, and materials generally (see monorail-style conveyances, opposite) to smaller items like sutures, which come up to the stations on a computerized conveyor belt.

treatment services and which is variously managed by the staffs of both institutions, it bridges gracefully, not abruptly. In many important ways, it *fits*—those “cytoids” getting along just fine with the streetscape, and gradually being enhanced by lawns and trees. And if its design is evocative of the loft-like leeway of the warehouse genre, better that than its design being evocative of “hospital architecture.”

Inside Hennepin, the efficient and *considerate* arrangement of treatment and support space is worked out with such exactitude that one is left with a pervasive feeling of ease and tranquility, even as, in any number of areas, there are patients in dire straits and personnel in a great hurry to do something for them. Of especial functional significance is the frequent juxtaposition of so-called team centers near the patient rooms or intensive-care units. As physically expansive as these floors are, there is never a feeling of distance or frightening anonymity. It is proximity, physical as well as sensory, that called the shots as an organizing spatial principle on these floors, and the effect is one of great reassurance and personability. This planning also engendered a situation in which in-patient and out-patient services could be located on the same levels, but without functional clash. Economies of time, a crucial factor in the health-care field, are thus realized, and from all reports, personnel find this spatial configuration more conducive to both the precision and compassion of patient care. Which is saying something in a hospital, given most of them.

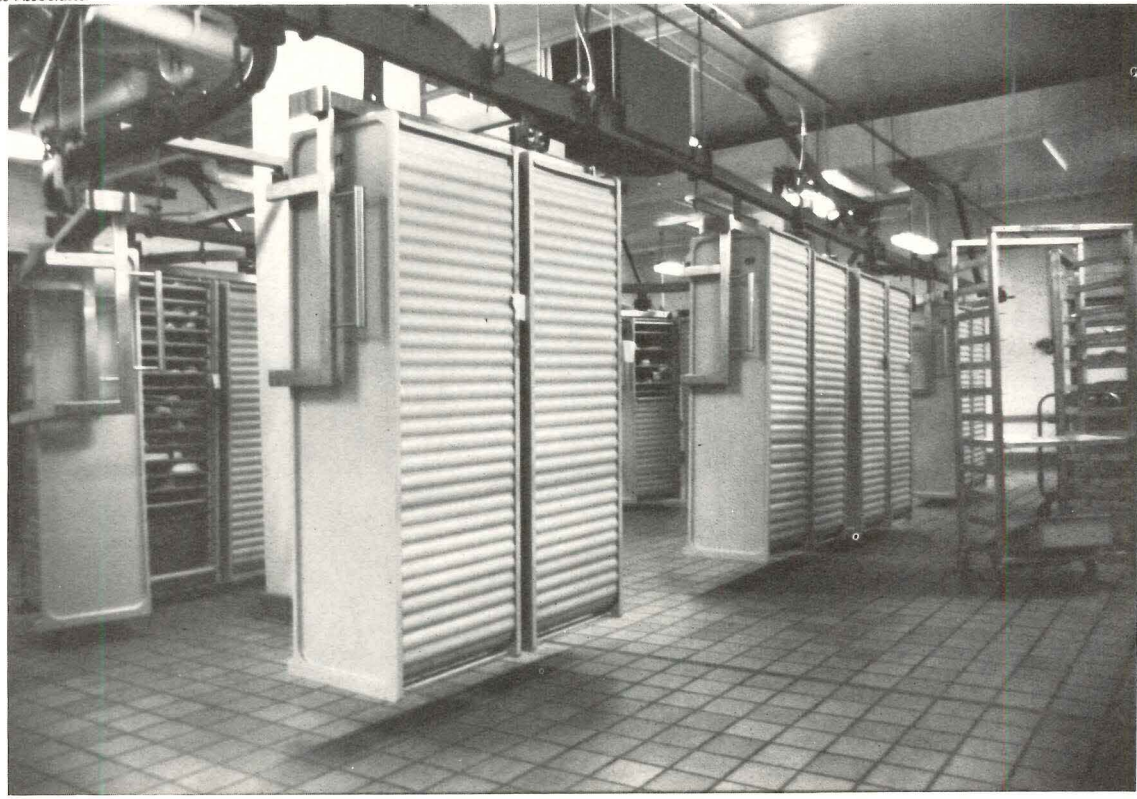
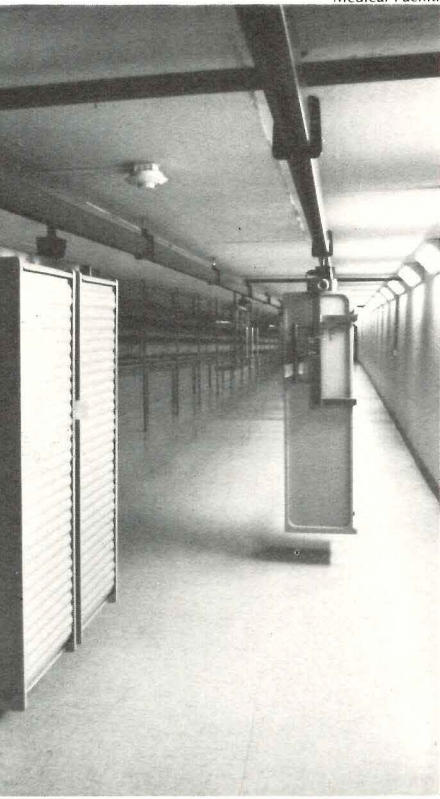
One interesting way in which economies of time are realized is the automation of delivery, and this automation is experienced on several levels of Hennepin. There are two systems, each having come with a few little bugs to be worked out (as genuine innovations invariably do). But it's smooth sailing now. For the first of these to be fully appreciated, one must go down to the lower level of Hennepin which connects with the lower level of every one of the adjacent or nearby buildings that form, or service, the over-all complex. Here one will find a monorail-style track running through the corridors and, frequently, a locker coming along. These lockers are part of the Scheduled Delivery System, carrying food and supplies, and is a major, probably the most major, installation yet of the Co/Struc system of Herman Miller and, interfacing with it is a chain conveyor network devised by American Chain & Cable Company which relates, in turn, to a second system, called Demand Delivery, and upon request, small items can be ordered up on a computerized conveyor belt. The various lockers, containers, sub-lockers, and sub-containers get conveyed all over—through, up, into, and around Hennepin. Food and files and all kinds of material and medicine are automatically injected into this dual system, transported, and ejected at the appointed station. Down on the lower level, interns and nurses have been seen to “hitch rides” on the moving lockers as they come along from the Hennepin County Food Preparation Facility, which is in a separate building across the street from the Center. So from soup to sutures, as some joker at the

admissions desk was saying recently, the Hennepin County Medical Center is reconnected together—a virtual metaphor of metabolism and a smashing functional triumph.

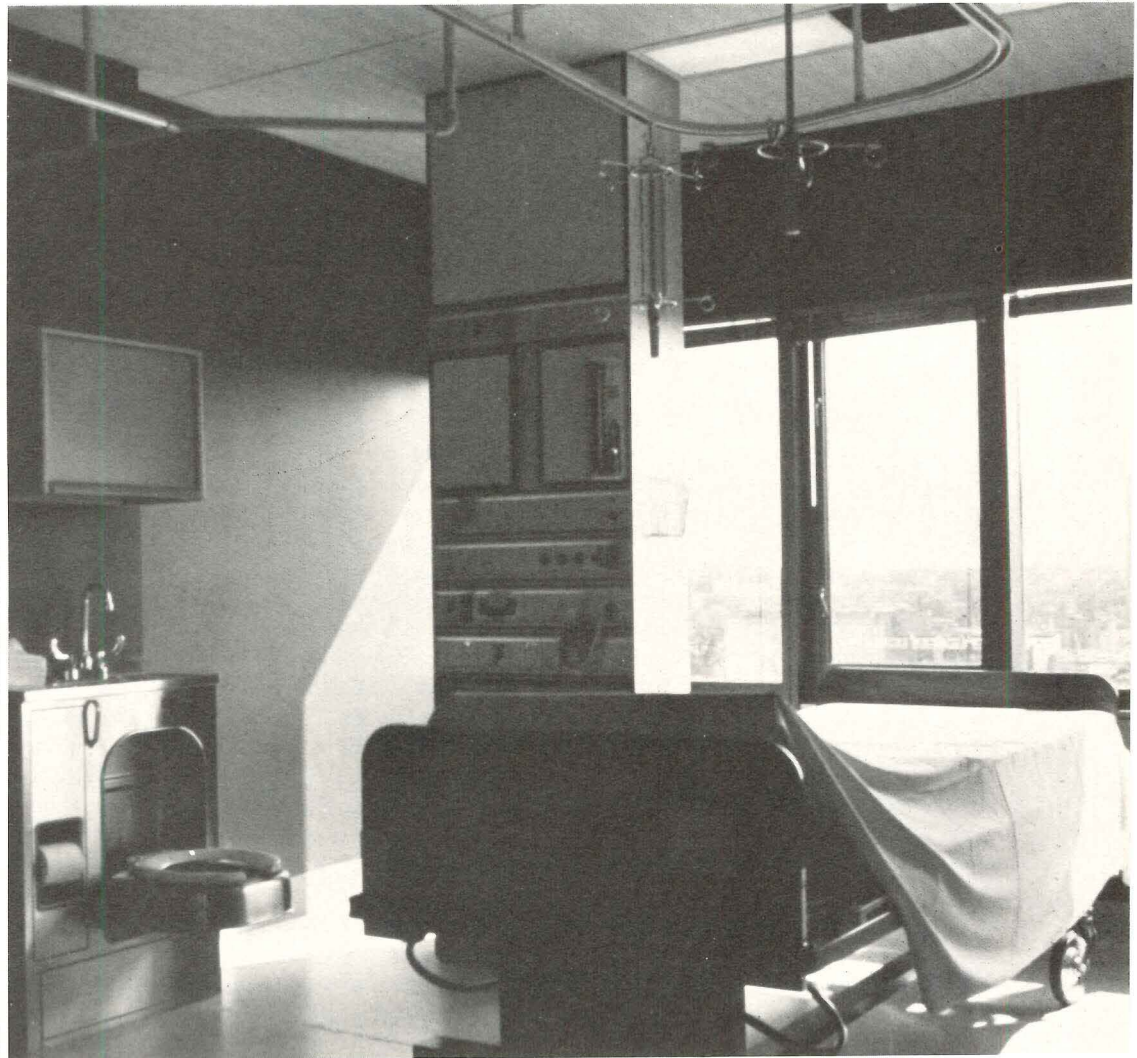
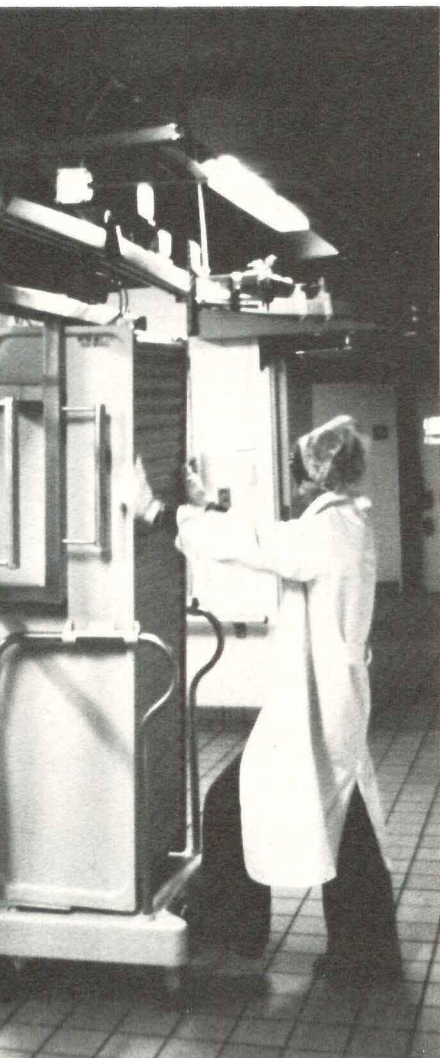
One can now walk, and an unforgettable walk it is, some 8,000 feet, from one end of Hennepin to the far end of Metropolitan—a distance of six blocks. And both teams of architects, for both of these spliced organizations, have brought off an important first. Not only in hospital architecture, either, but in hospital architecture as an instrument of urban form and city-scale growth. Instead of a massive physical intervention, this event has become another part of Minneapolis on the menu. A way of planning that was sympathetic to the reality and potential of the street as well as to the real-life needs of people needing help. Just two to four stories in height, the main part of this mending job, the Hennepin County Medical Center, is all the more cogent as a “monument” precisely because of its confined but modest quality. One can't stand taller than that, even in amazing Minneapolis.

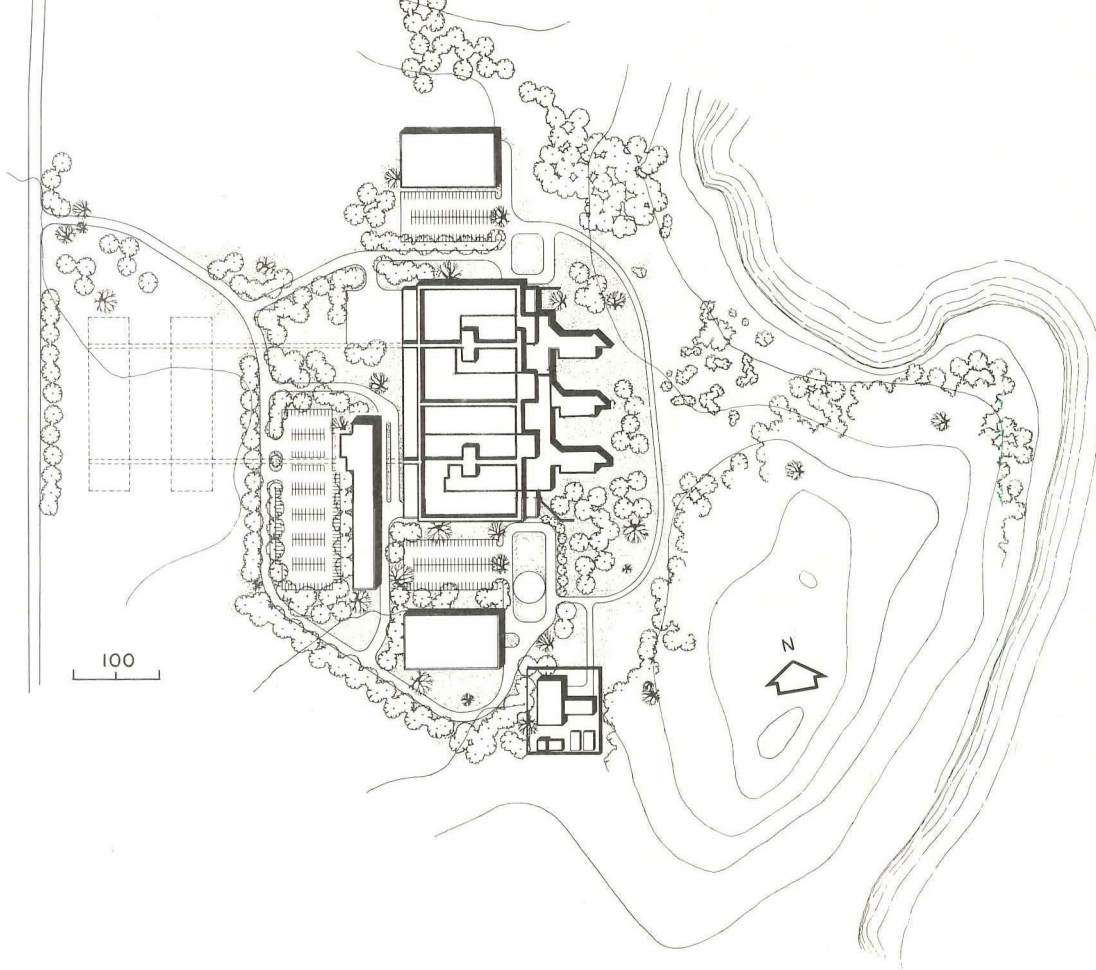
HENNEPIN COUNTY MEDICAL CENTER, Minneapolis, Minnesota. Architects: *Medical Facilities Associates-General*, a joint venture of Smiley Center Associates and Thorsen & Thorshov Associates; Engineers: Bakke, Kopp, Ballou, McFarlin (structural); Orr, Schelen, Mayeron & Associates (mechanical); Dunham Associates (electrical). Consultants: Westberg-Klaus (interior design); Knutson Construction Management (costs). General contractor: M. A. Mortenson Company.





From the delivery of food (above) to the delivery of intensive care (below), Hennepin is functionally efficient and humanistically thorough. The technology of medicine and the trappings of its support, though always near at hand, are arrayed and related with such exactness that a surprising sense of ease and encouragement pervades even the most crisis-prone precincts of the hospital.





©Steve Rosenthal photos

## PENOBSCOT BAY MEDICAL CENTER, ROCKPORT, MAINE

The firm of Shepley Bulfinch Richardson and Abbott (SBRA), based in Boston, has been around for quite some time. Which hardly keeps it from looking at architectural problems with a fundamentally fresh eye.

The Penobscot Bay Medical Center, designed by SBRA's Sherman Morss, Lloyd Acton, and W. Mason Smith—associated with Webster/Ebbeson/Baldwin/Day, based in Bangor—is very much in keeping with the natural character of mid-coastal Maine. Direct and unadorned, like the manifestations of nature itself, this building is that rare demonstration of exuberance without excess.

It is a completely new acute-care hospital, serving the Rockport region, but its validity as a work of architecture, and as a hospital "job," has as much to do with the plain-spoken Maine-like veracity of its configuration as with the skilled arrangement of complex functions inside. Certainly it exudes *vitality*, drawing upon, building with, its surroundings. And to the extent that a curative and therapeutic condition is, in no small measure, a function of congenial surroundings, the qualities of the Penobscot Center, being an environment of human encouragement, remind us that such a condition should not be aimed for in just the design of hospitals. (Were it aimed for more widely, in fact, is it conceivable that there would be a decline in the need for hospitals, as such.)

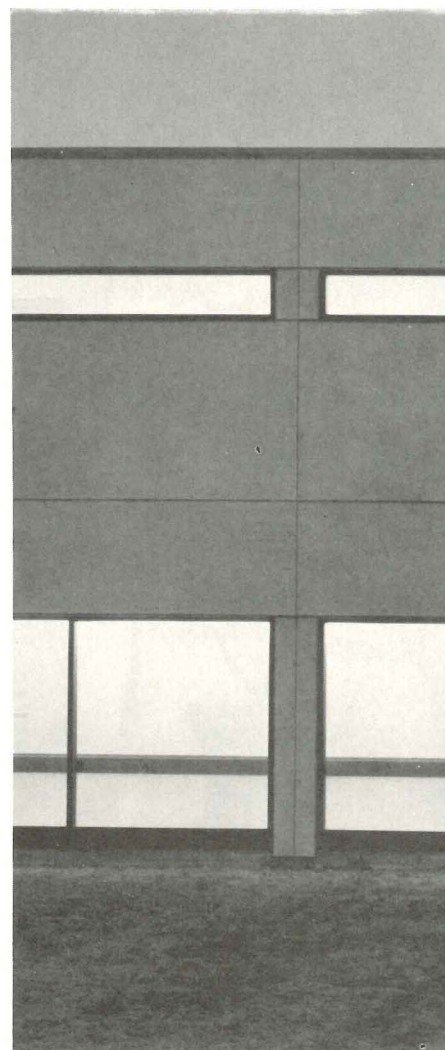
"Death's head continually shows in the present-day hospital," so Frank Lloyd Wright once observed. "Why is the hospital not as humanely practical in esthetic effect as it tries to

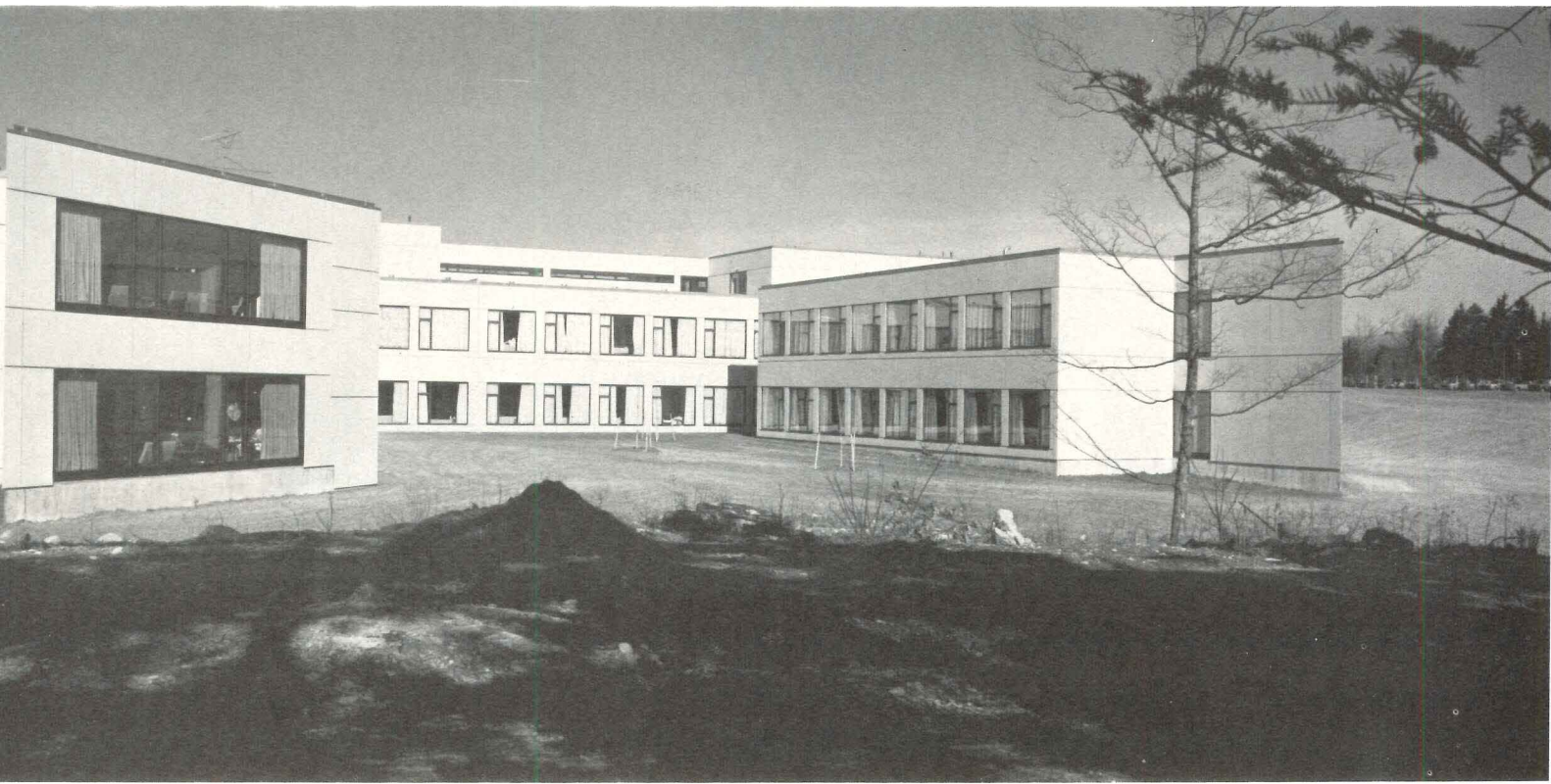
be in physical purpose?" It is a comment that these architects might have come across in designing this facility, because it is Life's head that continually shows here; and its completed first phase, with 106 beds, has a built-in resilience or, more aptly, a built-in "give" that will allow the center to expand to 300 beds, or more, as time goes on.

Organizationally, and structurally, this is a horizontal essay. Nursing, diagnostic and treatment facilities, support services, administrative areas—all are zoned horizontally, side by side. And with plenty of "give" space being adjacent to each function, any one can expand independently of the others as requirements intensify.

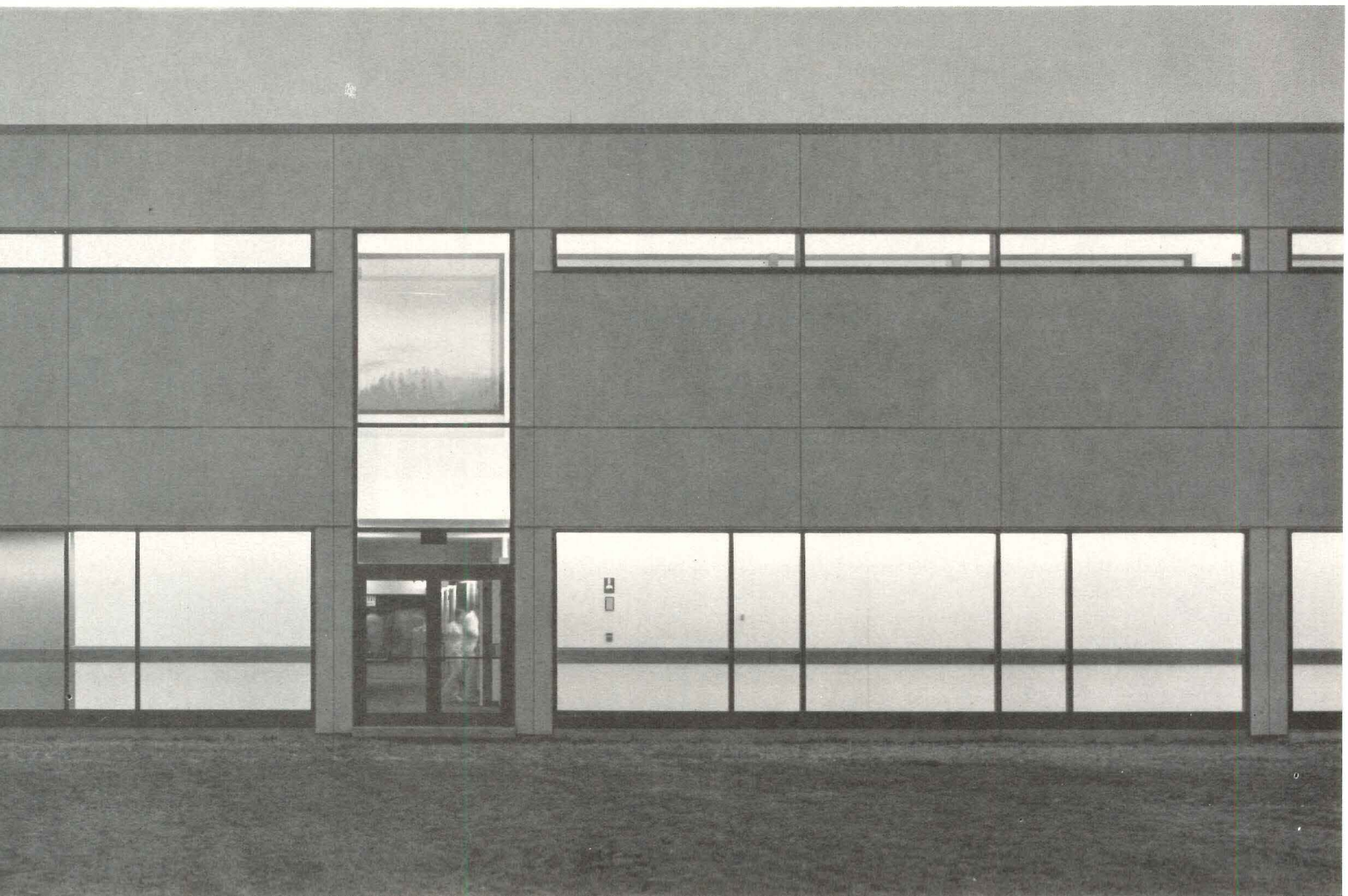
Variation in the specificity of function is also expressed by the structural system, with 33-foot-square bays denoting the treatment and support areas, while 22-foot spans denote the nursing areas. The articulation of exterior wall panels and window surfaces is impeccable. The vertical and horizontal composition of lines, delineating the panels, create a rhythmic chorus with the window mullions, and by day or night, there is a planar, pristine quality, given visual depth by way of studious proportions. There are times, actually, when one could swear that one is looking at a Mondrian, especially coming upon the main trunk of the complex which sets back in, between two flanking wings, behind a grassy knoll that slopes down to become a flat neat lawn which edges right up to the building, enhancing the crisp geometry rising out of it.

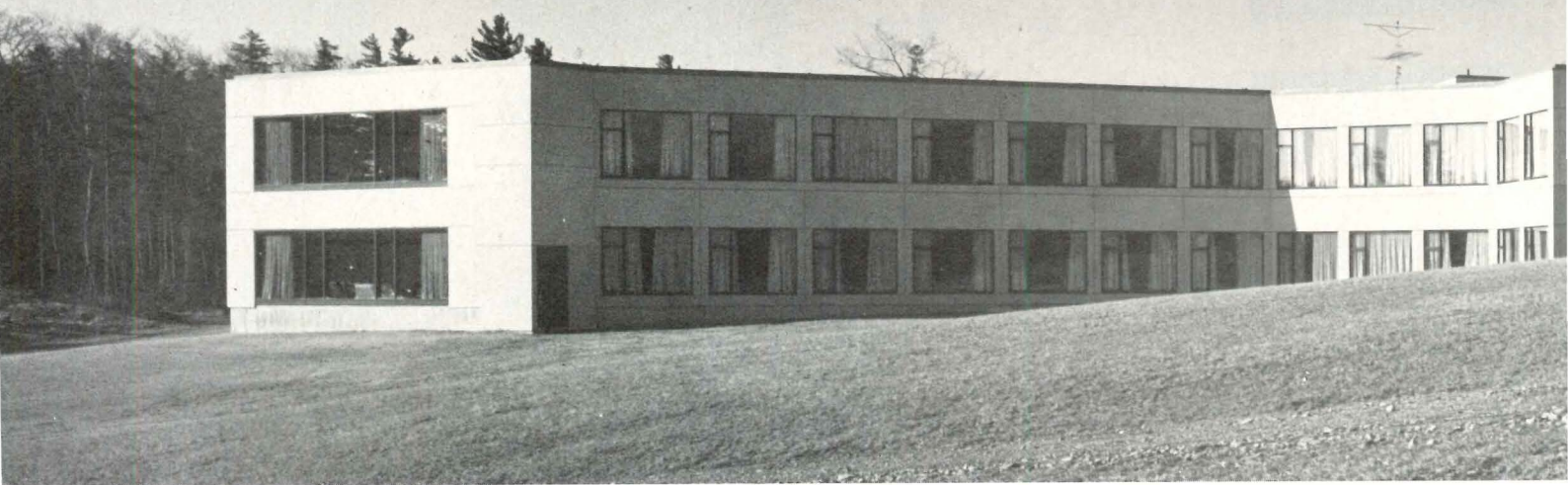
Of especial interest is the integrative, de-





The 106-bed Penobscot Bay Medical Center accommodates extensive acute-as well as diagnostic-care facilities and, zoned in a two-level horizontal configuration, can be easily expanded to 300 or more beds as requirements intensify. The double-height corridors throughout (below) read out as impeccably proportioned relationships of mass and glass—Mondrian-like.





fining function of the double-height corridors which run—no, saunter—throughout the building. Clerestory windows, expansive in some places, ribbon-like in others, infuse the innermost areas with gentle, ample light, and infuse them, too, with pleasant glimpses of the surrounding blue sky and treetops. On the window side of these corridors, a deep wood railing runs, the kind one cannot help but want to lean against, and, along the opposite wall, there is a second railing. Lighting is concealed behind two more wood runners, carried down the corridors just above the windows. The effect is really wonderful, and way overhead, even the ceiling system, with its panels and metal dividers, has been detailed to pick up on the rhythm of the exterior columns and window mullions. Where the ribbon-like clerestories give way, now and again, to deeper, wider lights in the upper sweep of these corridors, the ceiling system foregoes its routine side-by-side arrangement of panels and, pointing up the dimension of those deeper, wider openings, there is a brief counterpoint of a diagonally criss-crossed arrangement. It is subtle, spiffy detailing; but no less telling of the architects' care just because it is a detail that one does not immediately notice.

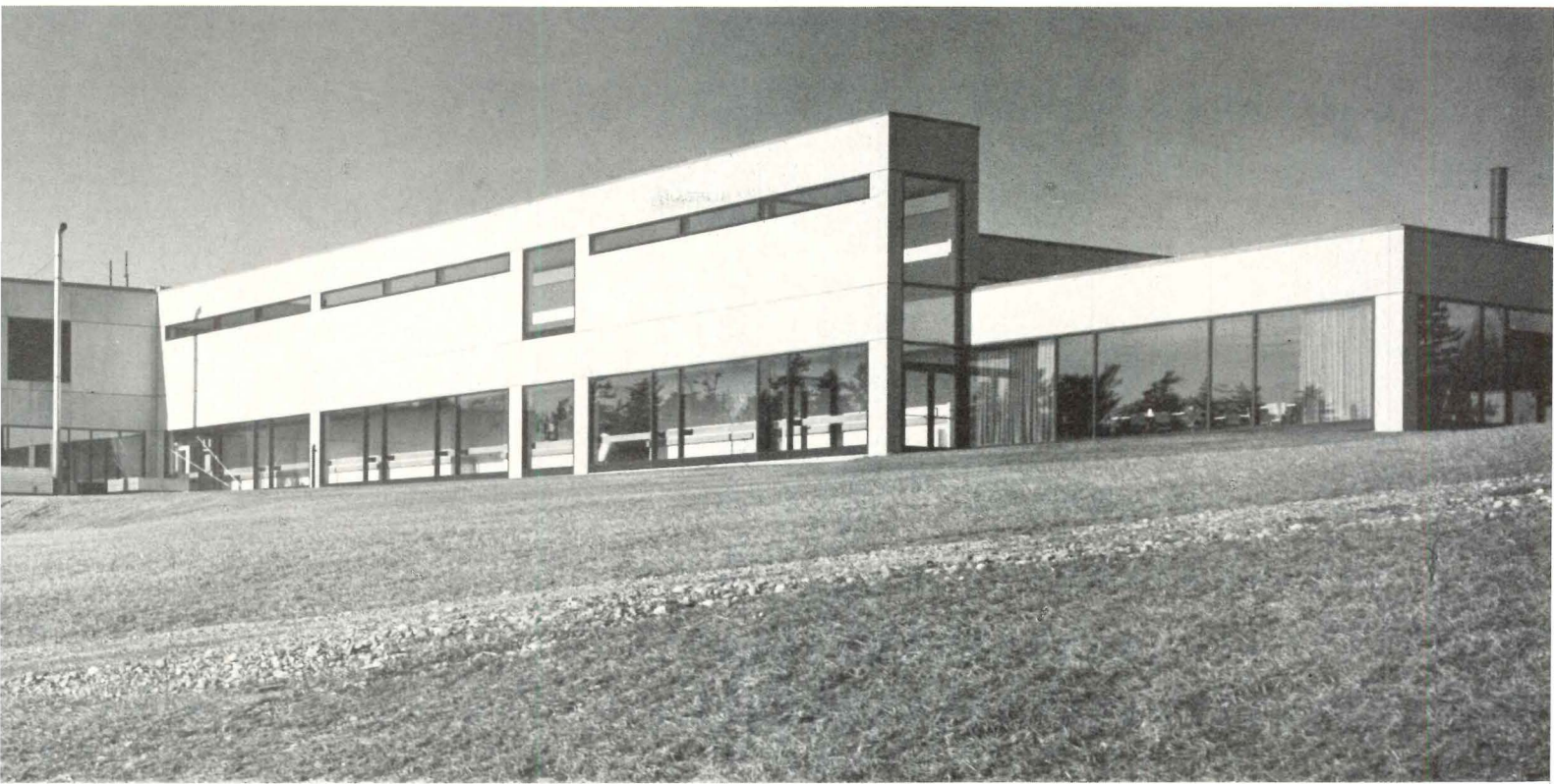
That brings up a crucial question, of course. Just what is it, exactly, that one *should* immediately notice about a so-called hospital? The paraphernalia with which people are being pulled through whatever it is that is laying them low? Or the people who are laid low? Or the people who are pulling them through? The paraphernalia is here—those 106 beds, surgical

suites, an intensive-care unit, and another for cardiology, a radiology unit, physical therapy space, a mental-health accommodation, maternity and nursery, food service.

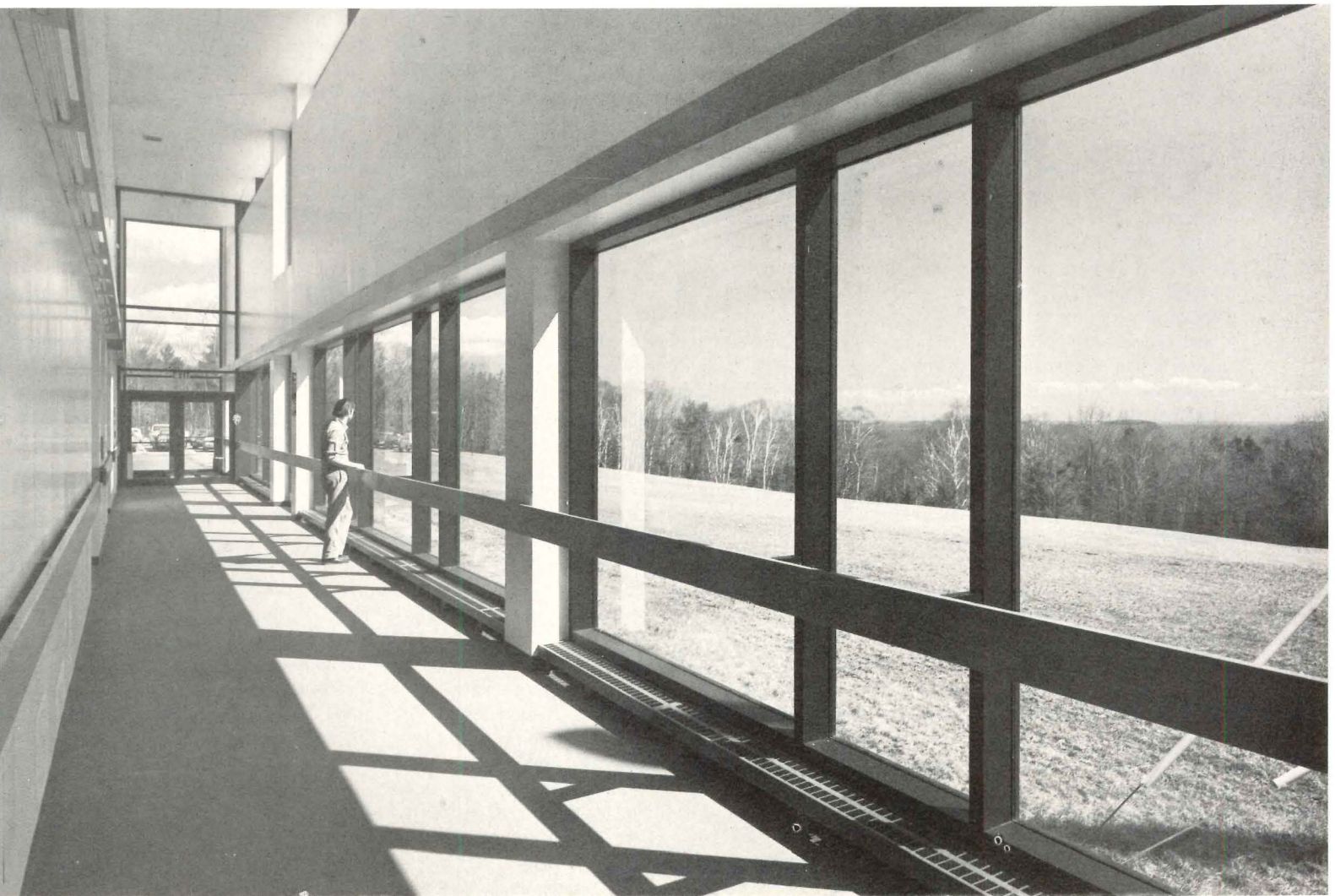
What is here, more importantly, is a perceptive architectural expression of *wellness*, even as their provisions for illness, thoroughly worked out in consultation with the firm of Ryan Advisors, Inc., permeate the inner workings of the Penobscot Center. But the paraphernalia does not jump out at one, any more than the architecture does, and that is as it should be. Medical technology and its attendant trappings need not, and should not, dominate the mood, much less the physical massing, of a curative environment. While there is no point in pretending that people who are on the mend, much less those who are fighting for their lives, spend their time thinking how wonderful it is to be laid up in a "work of art," there is pointed evidence that psychological and spiritual resolve have a lot to do with recovery. Imparting a healthy measure of that was part of the programmatic prescription at Penobscot, and it is the kind of "acute care" that architects should consciously dispense more of—whether designing a hospital or not.

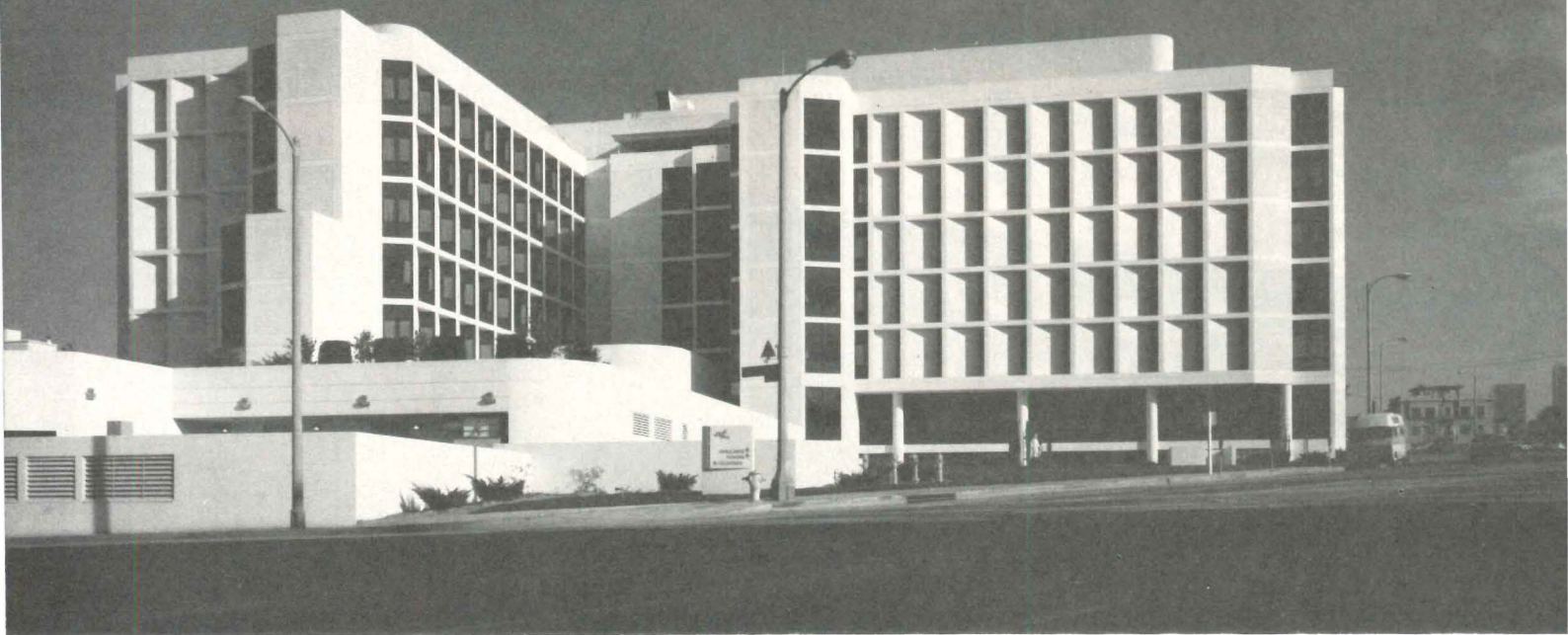
PENOBSCOT BAY MEDICAL CENTER, Acute Care Hospital, Rockport, Maine. Architects: *Shepley Bulfinch Richardson and Abbott*. Associate architects: *Webster/Ebbeson/Baldwin/Day*. Engineers: *Linenthal Eisenberg Anderson, Inc. (structural)*; *Thompson Engineering (electrical)*; *SBRA (plumbing)*; *Buerkel & Co. (hvac)*. Hospital consultants: *Ryan Advisors, Inc.* Construction manager: *Salter Corporation*.





The Penobscot Bay Medical Center makes the most of its magnificent natural setting, the crisp geometry of its surfaces and the careful orientation of its plan both enhancing the lay of the land and enlivening the interiors. The inside and the outside, as seen in the double-height corridors, are frank expressions of each other.





Wayne Thom photo

## ST. VINCENT MEDICAL CENTER, LOS ANGELES

Hospitals have not only tended to be overpowering in their visibility and scale, but they have also tended to *like* it that way. Standing out, so to speak, has been a way of dispensing solace, or a sense of it, to the surrounding neighbors, who might, at any moment, have to rush there.

The firm of Daniel, Mann, Johnson, & Mendenhall, better known to most ambiance chasers as DMJM, have minimized this symbolism in their design for the St. Vincent Medical Center—meaning that the new complex, though essentially a freestanding chunk of sculptural concrete construction, manages to come off as an empowering, samaritan-style stalwart in its neighborhood, not far from what is currently considered to be “downtown” Los Angeles. As a result, this hospital, with a century-long history, gives its surroundings a leg up by way of its congenial, cheerful scale, conveying the impression, and a valid one it is, that healthfulness is a *normal* condition that a health-care facility should radiate symbolically, and augment functionally. Too many hospitals, as suggested, seem to be sending their regrets, in one architectural language or another, that their inner workings is where healthfulness really resides. But the architecture of St. Vincent, accommodating the requirements of personnel and treatment with great efficiency and amplitude, puts its whole environment in an expectant, even optimistic frame of reference.

Working with Medical Planning Associates of Malibu (RECORD, July 1976), DMJM, with Roylance Bird, Douglas Meyer, and King Wong seeing after the job under

Cesar Pelli, then director of design and now the head of school at Yale, has gotten up two eight-story wings which, set at right angles to each other, are joined by a tower. About 353,000 square feet, and 512 beds, are accommodated—314 of those in the new hospital, being acute-care, and single-occupancy; and the others in rehabilitated sections of the old building.

The place of St. Vincent, in the health-care profile of its Los Angeles district, has been the provision of treatment for a high population of older people. So it was necessary that the old hospital keep open while the new was being readied. A carefully phased construction program ensured continuity of service, beginning with the demolition of an apartment complex, owned by St. Vincent, to make way for a parking and central utilities facility, followed by construction of the new hospital on the remaining part of the cleared site. Part of the old hospital was demolished after the new one was under full swing, but the old Doheny Wing and utilities plant were kept, fixed up, and connected to one of the new wings by bridges at each level.

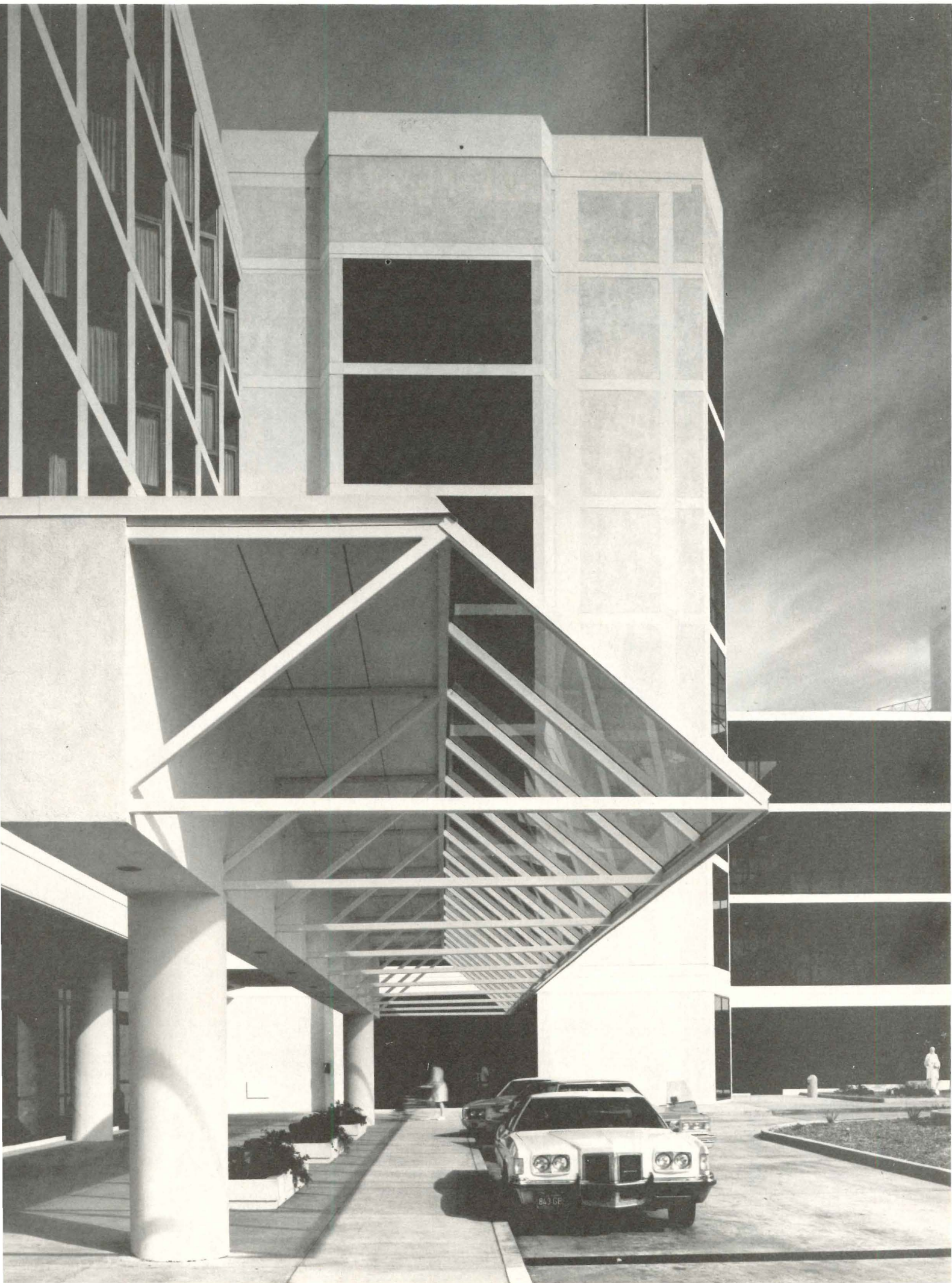
Meant to be attractive from the outside, St. Vincent is surely attractive as experienced inside—efficiency spliced with affability. For instance, there are four units, for nursing teams, on each floor, and each nursing floor, with central service cores in each wing, offer, at the end of the cores, nursing stations that service a U-shaped layout of 16 patient rooms. The cared-for and the caring are close.

The main core, where the wings converge,

is a kind of control point for everything everyone, containing, too, the elevators, pharmacy, and supervision center for the nursing stations. The L-shaped radiation of the wings from this main core also gets rid of the usual numbing lengths of corridor, and the main path, leading down the floors, comes upon a number of secondary paths, many of them ending with large light-infusing windows. The intimidating ganglia of so many institutional plans is thus avoided, as is the padded cell impersonability of so many typical hospital rooms—these offering, here, a defining, lightful view from most of the individual beds. Providing this “therapy” of sympathetic design, orienting the unwell person to the world as purposefully as to nearby health-care personnel, has produced the poured-in-place facade with a lively play of angled concrete panels.

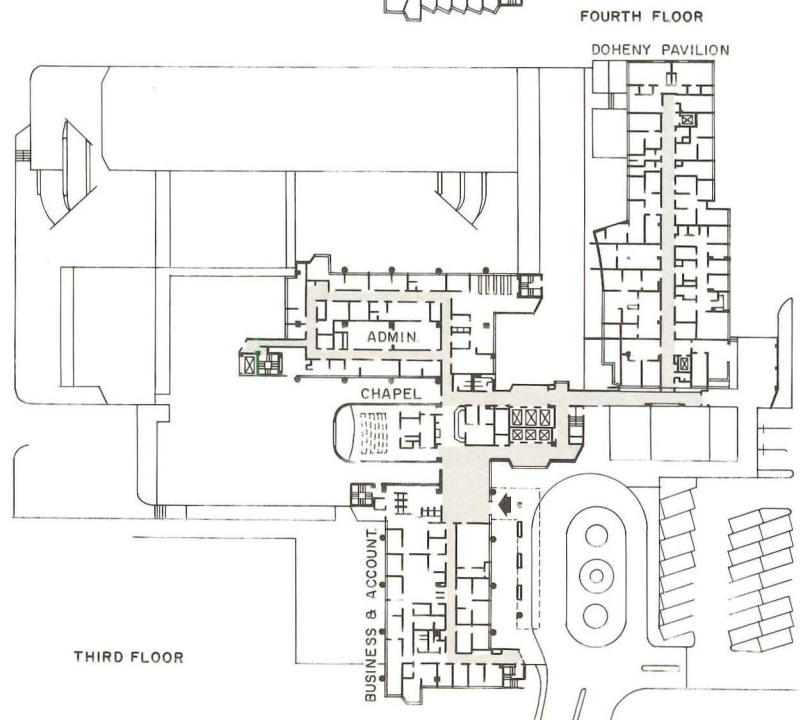
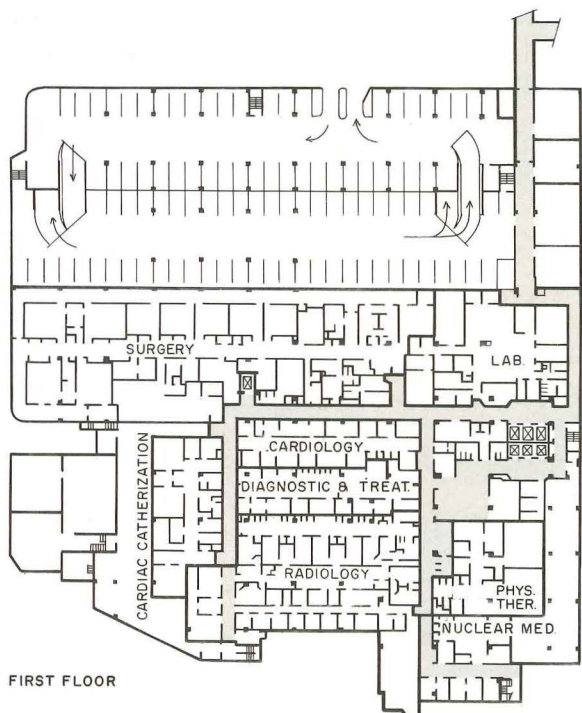
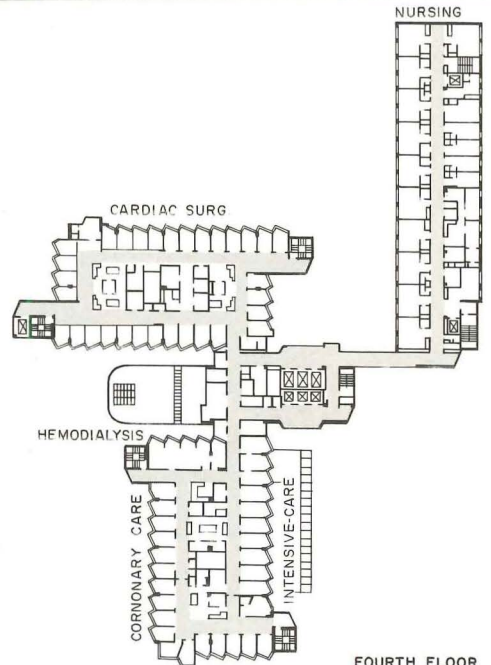
Dug into a beautifully landscaped site, St. Vincent, actually entered on the third level beneath a transparent trellis-like *portico*, is effectively poised on, and served by, a two-level plinth of services and support facilities. As the slope gives way to the loopy encircling street, this plinth, its roof made of a restful landscaped terrace, provides a pervasive sense of repose for the entire facility. Nothing belongs, combining accommodation, invitation, and a likeable urbane image.

ST. VINCENT MEDICAL CENTER, Los Angeles  
 Architects: Daniel, Mann, Johnson, & Mendenhall  
 Engineers: Daniel, Mann, Johnson & Mendenhall  
 Consultants: Medical Planning Associates, Inc.  
 Contractor: Robert E. McKee, Inc.





At St. Vincent Medical Center in Los Angeles, emphasis is placed on both efficiency and humanity of the health-care setting. Nursing units and the single-occupancy patient rooms are within eye shot of each other, and walking time is minimal as the teams and supervising centers are well distributed throughout the facility. The overall mood of St. Vincent is one of healthfulness and genuine cheerfulness, including the provision of well-lit public spaces, lobbies, waiting rooms and, for the patients as well as their visitors, plenty of landscaped spots for recuperation, conversation, or just plain reflection. The L-shaped configuration of the wings also serves to loosen and liven up the unhealthy monotony that afflicts most hospital design—and too many patients.





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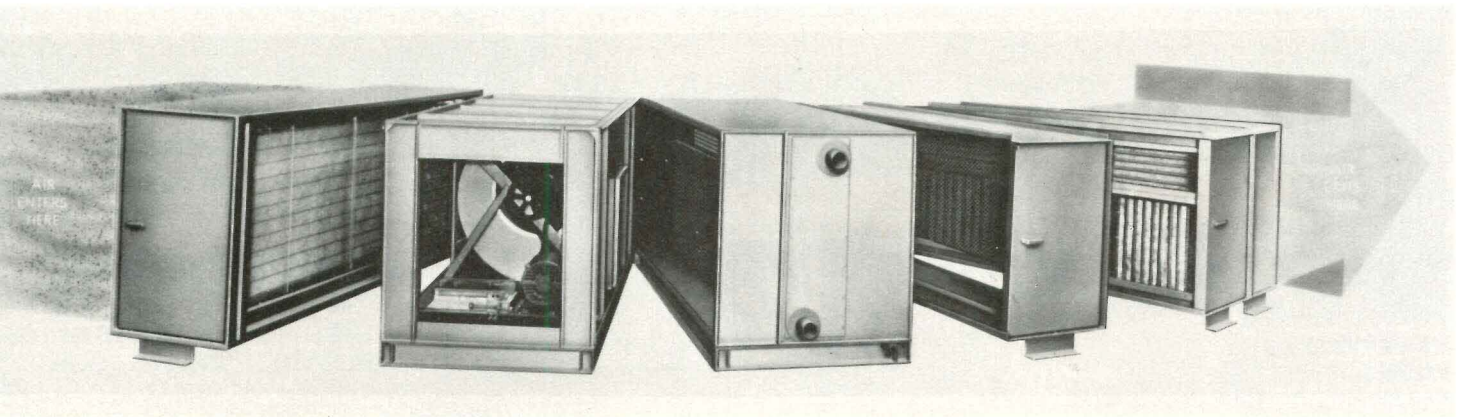
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For more data, circle 67 on inquiry card

For more information, circle item numbers on Service Inquiry Card, pages 179-180.



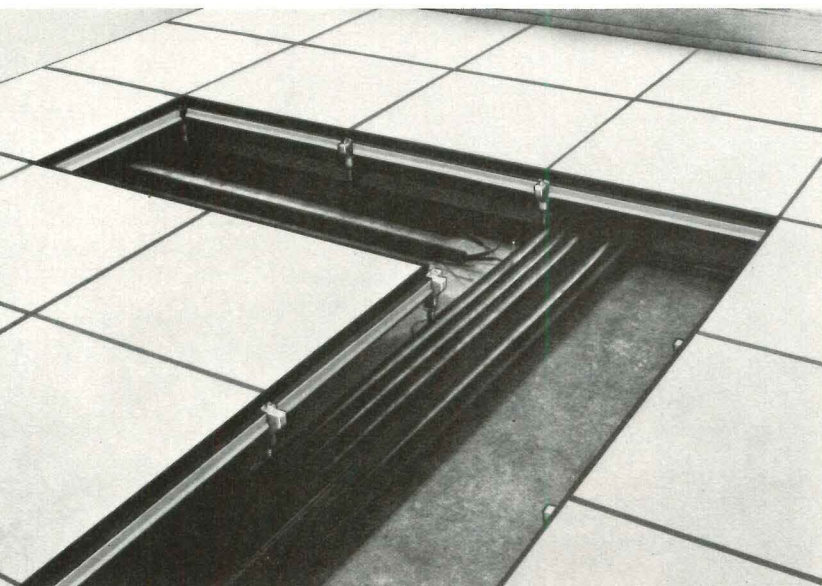
## High-efficiency air handling unit designed for hospitals

Specifically designed for health care facilities, the "Weathermaker" air handling unit, Model 39E, can provide precise cooling, dehumidification, circulation and high efficiency fil-

tration, according to the manufacturer. The unit contains two filter sections (far left and right): one upstream and one downstream in relation to the coil (center section). The up-

stream section can use roll, bag or permanent, cleanable filters. The downstream section accepts standard, commercially available bag filters; rigid-frame filters with higher filtration ef-

iciencies can also be used. The 39E hospital unit is offered in 13 blow-through sizes with capacities from 2,500 to 63,000 cfm. ■ Carrier Corp., Syracuse, N.Y. Circle 300 on inquiry card

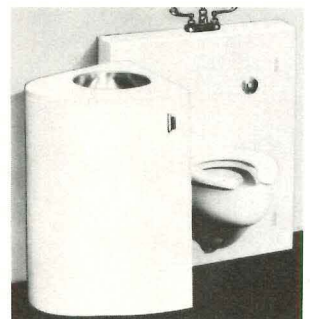


## Lightweight raised floor creates a plenum for air conditioning

Now available in the United States, the product is made by a subsidiary of Hiross International Corporation S.A. of Luxembourg, and was developed as an adjunct to the company's under-floor air-conditioning units. The floor features a galvanized steel framework. A gasket is bonded to the frames to provide an air- and dust-tight seal with the floor panels, which are available in a choice of six surface materials.

The seal assures a positive pressure in the plenum, which can be used as an all-over air-conditioning and heating supply, as well as a corrosion-resistant space for water pipes, power and signal conduits and other services. The panels are also thermally insulated. The system can be laid over a new slab or old flooring in renovation projects. ■ Hiross Denco, Lockport, N.Y.

Circle 302 on inquiry card



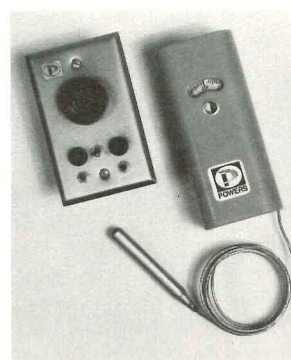
## Lavatory/toilet combination for hospitals

The "Hospital Ware Masquerader" is designed to save space in hospital rooms and nursing homes, where it gives the appearance of a compact lavatory in a vinyl-clad cabinet. However, the cabinet swings

away to reveal a stationary water closet. Measuring 30 in. wide by 19 in. deep, the product also comes in a recessed model. ■ Aluminum Plumbing Fixture Corp., Burlingame, Calif.

Circle 301 on inquiry card

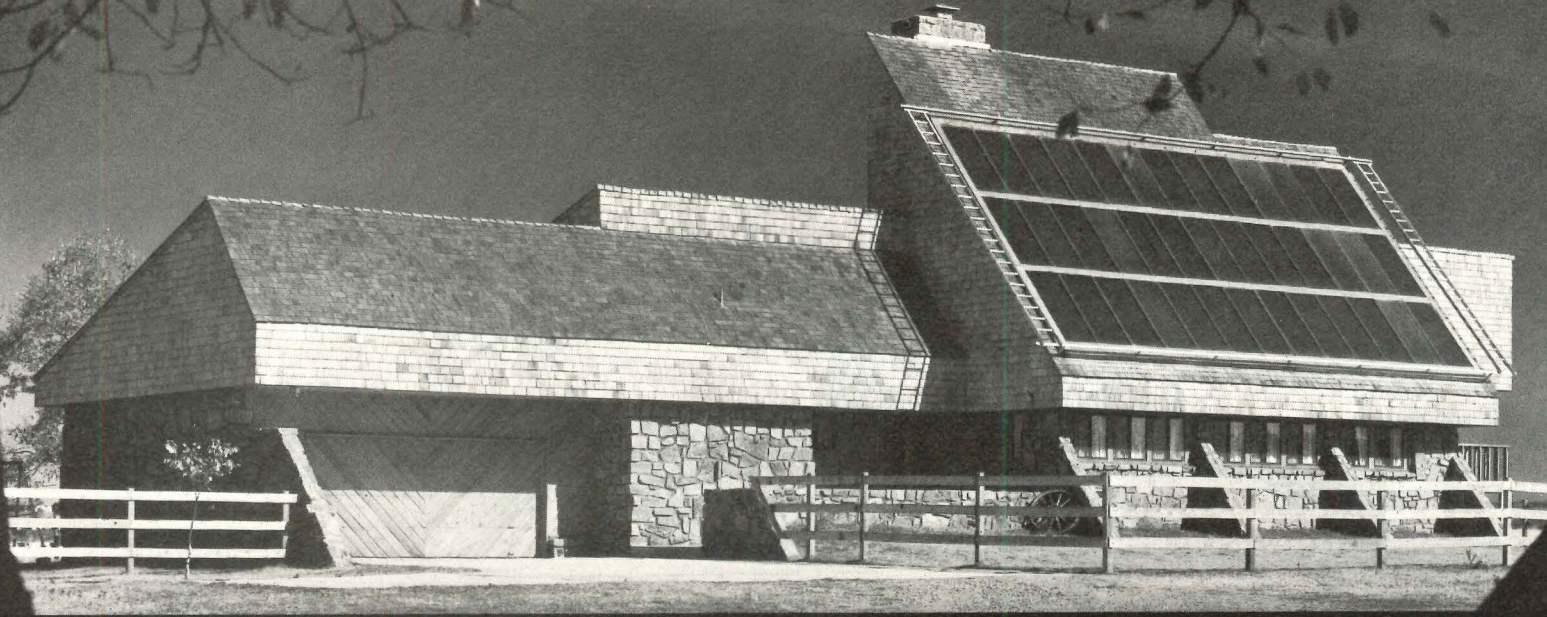
## Audible alarm for hot water systems



The "Aqua-Sentry" gives an audible and visual warning whenever the temperature of a hot water source exceeds a preset limit (usually 110 F), enabling health care facilities to comply with safety rules. The sensor can be mounted at any point in the hot water system. ■ Powers-Fiat Div., Powers Regulator Co., Skokie, Ill.

Circle 303 on inquiry card

more products on page 141



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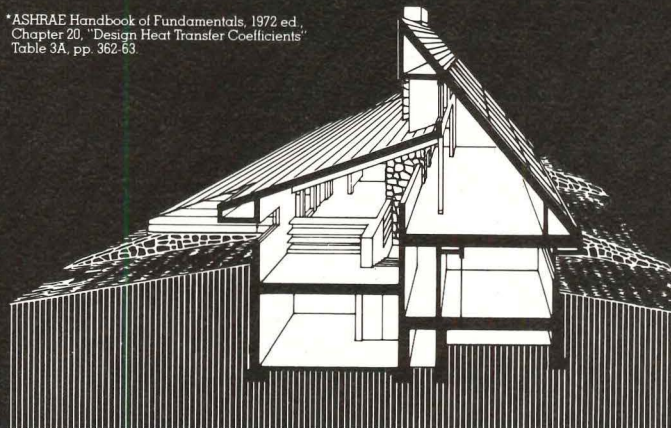
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\*ASHRAE Handbook of Fundamentals, 1972 ed., Chapter 20, "Design Heat Transfer Coefficients" Table 3A, pp. 362-63.

For more data, circle 68 on inquiry card



For more information, circle item numbers on Reader Service Inquiry card, pages 179-180.

**SOLAR HEATING EQUIPMENT** / Details of the *Sun* solar energy system are given in an illustrated fact brochure. Three types of heat storage installations are discussed, all part of complete collection, storage, and distribution systems supplied and installed by the manufacturer. ■ Sun Unlimited Corporation, Sheboygan, Wis.

Circle 400 on inquiry card

**DESK/STABLES** / Full-color catalog describes every type of modular desk, accessory, credenza, machine and desk return in the "3200 Series" of contemporary office furniture. Among desk drawer options are 17 different insert trays for index cards and other related materials. ■ Steelcase, Grand Rapids, Mich.

Circle 401 on inquiry card

**BACKSCAPE SPRINKLERS** / Illustrated booklet discusses backflow prevention in sprinkler systems, identifying the causes of backflow; examples of cross connections; and various products designed to eliminate backflow: vacuum breakers, control valves, check valves, etc. ■ Rain Bird Sprinkler Mfg. Corp., Modesto, Calif.

Circle 402 on inquiry card

**EMERGENCY LIGHTING** / Literature covers a full range of 6- and 12-volt emergency lighting units and their fixtures and heads, as well as AC emergency lighting systems. ■ Dual-Lite, Inc., Newton, Conn.

Circle 403 on inquiry card

**SMOKE/FIRE DETECTORS** / Brochure provides basic information and design features for a series of smoke-, ionization- and thermal fire-detection devices for industrial and commercial use. Ionization and photoelectric units are compatible with both alarm systems and automatic extinguishant release; *Detect-A-Fire* thermal detection devices are rate-compensated to respond to ambient temperatures reach a predetermined point—from 140 to 750 degrees F—regardless of rate of temperature rise. Literature also covers photoelectric response detectors which react instantly to the presence of flame. ■ Fenwal Inc., Ashland, Mass.

Circle 404 on inquiry card

**FLUORESCENT LAMP** / Product data sheet explains advantages of *Ultralume* fluorescent lamps, said to produce colors brighter with high visual clarity, but with less ultra-violet energy generation. Technical data includes color chromaticities, spectral responses, lifetimes and lamp life. ■ Westinghouse Electric Corporation, Lamp Commercial Div., Bloomfield, N.J.

Circle 405 on inquiry card

**INDIRECT LIGHTING FIXTURES** / Color brochure presents the lighting theory behind the *Fountain* of light line of HID fixtures. Said to combine a high lumen output with good color rendition, these fixtures feature a utopic optical chamber to eliminate hot spots and other problems of indirect lighting. Literature gives details on a line of portable standing fixtures for offices, schools, etc., as well as permanently-mounted wall and ceiling units for classrooms, supermarkets, and other dedicated space lighting needs. ■ Specified Products, Inc., Milwaukee, Wis.

Circle 406 on inquiry card

**CONTRACT FURNITURE** / Color photos, product dimensions, and prices for the *Everywhere Series* of desks, chairs and lounge seating are given in an 8-page catalog. This recently-introduced line of oak contract furniture includes a number of general purpose seating units, an all-wood stacking chair, lounge furniture, and trestle-style tables. ■ Green Furniture, Boston, Mass.

Circle 407 on inquiry card

**VINYL UPHOLSTERY** / A looseleaf binder is intended to act as a comprehensive reference, specifications and samples manual for *Boltaflex* vinyl upholstery material for contract applications. Eight different patterns, with a total of 139 colorways, are grouped according to material formulation, construction, and adherence to Federal, state and local safety code requirements. Code test procedures are explained. Swatches may be cut from the sample strips provided; replacement pages are free. Product information such as facing gauge, nominal thickness, resistance to oil and mildew, etc., are given. The registered binder will be automatically updated with new pattern additions. The "Boltaflex Upholstery Specifications Manual" is available for \$10.00 from The General Tire & Rubber Co., Contract Furniture Group, P.O. Box 875, Toledo, Ohio 43696.

**RANGE HOOD/HEAT EXCHANGER** / Furnished with air-to-air heat transfer equipment, the *Heatrader* packaged heat recovery range hood uses heat exhausted from commercial kitchens to warm hvac supply air to design condition. These commercial ventilating units meet NFPA standards and are UL-listed; a 28-page product brochure provides full technical information, dimensional data, lists options such as evaporative cooling, and gives warranty details. ■ Air Systems, Wheeling, Ill.

Circle 408 on inquiry card

**SAFETY COLOR COATINGS** / An eight-page brochure describes and illustrates safety colors conforming to OSHA standards. Literature explains the basic principles of color coding, the significance of each color, and the necessity for safety colors to follow traditional and easily recognizable patterns in marking hazards, pipes, etc. Various coating products available in OSHA colors are shown. ■ The Sherwin-Williams Co., Cleveland, Ohio.

Circle 409 on inquiry card

**GLAZING** / "Glass in Architecture" contains information on types of flat glass offered by the manufacturer—clear float glass, tempered safety glass and heat-absorbing float glass in bronze, gray and *Sun-X*—as well as data on sizes, applications and technical characteristics. ■ Ford Glass Div., Dearborn, Mich.

Circle 410 on inquiry card

**CAULKING/WEATHERPROOFING** / A four-page sealant selector chart provides quick reference to performance characteristics, specification ratings, joint application sizes, surface types, life expectancies and color availability for a full line of glazing and caulking sealants. Three types of glazing systems—*Vision Strip*, *Poly-Wej* compression, and *Wej-Grip* structural gasket—are illustrated and described. ■ Tremco, Cleveland, Ohio.

Circle 411 on inquiry card

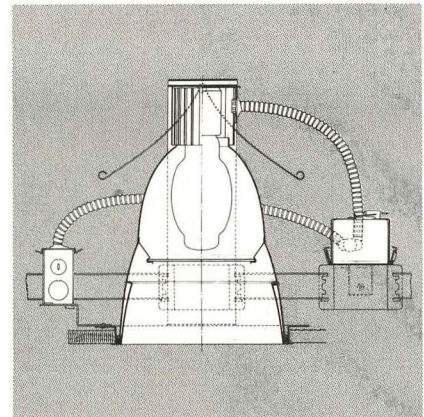
**METAL PANEL SYSTEMS** / Product brochure introduces a series of interlocking metal panels that can be used for roofs, canopies, walkways, ceilings and subfloors. The system's high strength-to-weight ratio is said to virtually eliminate the need for secondary structural supports. ■ Parkline, Inc., Winfield, W. Va.

Circle 412 on inquiry card

**COMPUTERIZED HVAC** / An illustrated application summary describes how the manufacturer's desktop "9831" basic-language computer may be used with an "HVAC Program Pack" for quick solution of building management calculations. The "HVAC Program Pack" consists of an operating manual, a prerecorded program cassette and six keyboard overlays which define special keys on the "9831" computer. ■ Hewlett-Packard Co., Palo Alto, Calif.

Circle 413 on inquiry card

## Gotham 3000 series H. I. D. Efficiency, Incandescent Compatibility



Now you can have the best of both: the long life, energy-saving benefits of H.I.D. lamping ... and the color compatibility with incandescent. The Gotham 3000 Open Reflector Downlight Series is an aesthetically pleasing, precision engineered answer for a variety of applications. For mercury vapor or metal halide lamping, each in the series offers low brightness; broad beam distribution; high efficiency; and the option of specially finished baffles to give the light its incandescent compatibility. Each benefits from the recognized quality of Gotham engineering.

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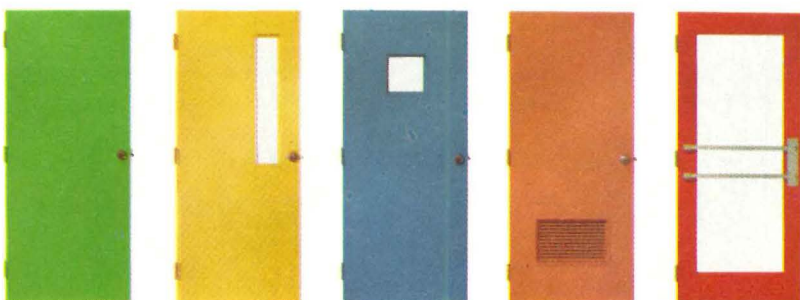


## Colorstyle steel doors catch the pulse of Pittsburgh

Style and beauty plus ruggedness make Ceco steel doors attractive to architects in Pittsburgh and throughout the country. Ceco doors meet every functional need. Use them as a creative system to accent your design. Ceco doors and frames are prepared for simple erection in minutes. And both are prepared for quick and solid attachment of hardware. Ceco doors and frames are tough and stable—won't warp, swell, shrink or rot. You gain the advantages of durability and trouble-free performance. Our Colorstyle doors have factory-baked quality finishes, kept fresh in poly bags. See Sweet's files or consult your local Ceco office.



### Steel doors satisfy architects' needs better



The Ceco Corporation  
5601 West 26th Street • Chicago, IL 60650

"The door people"

For more data, circle 71 on inquiry card

**COURT GAMES PANELING** / An illustrated data sheet describes a proprietary, highly structured composite thermosetting plastic building panel, reinforced with glass fibers. Available in seamless panels up to 10- by 40-ft, the material is said to be ideal for construction of racquetball, squash and handball courts: its *Tedlar* surface needs no paint and will not peel; the panels themselves have good playing resiliency and will not shrink, warp or delaminate. ■ Xentex Co., Div. of Exxon Enterprises Inc., Londonderry, N.H.

Circle 414 on inquiry card

**AIR DISTRIBUTION PRODUCTS** / A four-page folder provides basic performance characteristics of a variety of sidewall, baseboard and floor registers; return air grilles; and floor, wall, baseboard and ceiling diffusers. ■ Leigh Products Inc., Coopersville, Mich.

Circle 415 on inquiry card

**PRACTICE ROOM ACOUSTICS** / Acoustical test reports, summarizing the results of manufacturer-sponsored independent research, document the noise reduction and noise isolation ratings, and ambient sound pressure levels, of the Music Practice Rooms designed and manufactured by the firm for schools, conservatories, etc. Literature details testing standards, describes the test environment, and lists acoustic results. ■ Industrial Acoustics Co., Inc., Bronx, N.Y.

Circle 416 on inquiry card

**PAINTS** / Fifty-five white and nearly-white pastels are shown on the "Echo Near Whites" color card. Colors are available in a range of interior and exterior latex and alkyd coatings. ■ Glidden Coatings & Resins, Cleveland, Ohio.

Circle 417 on inquiry card

**LAMINATED PLASTICS** / Color brochure displays "Design Group 1 Solid Colors" for high-pressure laminated plastics. New additions to woodgrain, slate, and marble patterns are also shown. ■ Wilson Art, Temple, Tex.

Circle 418 on inquiry card

**STEEL CONSTRUCTION PRODUCTS** / A color brochure briefly introduces the manufacturer's variety of products for the construction industry, ranging from heavy structural steel fabricating, acoustical walls and ceilings, and pre-engineered building systems to stainless steel corner guards. References are given to more detailed literature for each product. ■ Inryco, Inc., Melrose Park, Ill.

Circle 419 on inquiry card

**REPLACEMENT WINDOWS** / Replacement window pitfalls and how to avoid them is the topic of an illustrated brochure, pointing out common mistakes made in selecting windows for renovation and modernization projects. Also discussed are the benefits claimed for custom-engineered single-, double-, triple-hung and slider windows. ■ Graham Architectural Products Corp., York, Pa.

Circle 420 on inquiry card

**REPROGRAPHICS TECHNIQUES** / Reprints of articles originally appearing in "The Kodak Compass" are available for design professionals interested in photofabrication reprographics. Included in the collection is information on light source emission and spectral sensitivity, how to make better original drawings and why they are important in photoreproduction and microfilming, and the advantages of making film intermediates. The 24-page booklet, the first in a series, is available for \$2.50 (prepaid) from Eastman Kodak Co., Dept. 454, 343 State St., Rochester, N.Y. 14650.

**AUTOMATIC WASHING EQUIPMENT** / Brochure outlines a full line of design, manufacturing, and testing services available to specifiers of automatic washing equipment for food processing and service industries, as well as users of metal pre-finishing and parts cleaning machinery. ■ Metalwash Machinery Corp., Elizabeth, N.J.

Circle 421 on inquiry card

**HEALTHCARE MATERIALS HANDLING** / Features of the *Cart-Matic* and *Tote-Matic* automatic material handling systems are outlined in an eight-page brochure. Dimensional data is given for units designed especially for hospitals and health-care facilities. A typical service level plan illustrates the use of a *Cart-Matic* system; optional accessories and recent installations are listed. ■ Courion Industries, Inc., Security Fire Door Div., St. Louis, Mo.

Circle 422 on inquiry card

**ROOF DRAIN** / Data sheet explains the *Flex-I-D* as a two-part system, providing flexible neoprene bellows connection to the interior drainage cover which compensates for normal vertical and lateral pipe and deck movement. Information is given on drain's basic application, composition and material sizes, properties, and installation and maintenance details. ■ Johns-Manville, Denver, Colo.

Circle 423 on inquiry card

**WOOD MOLDING** / Wood molding pattern catalog contains full-size illustrations of most of the patterns available, with English/metric standard size to which they are produced. Also included are the weight and bundling schedules for the different patterns. ■ Northern Wood Moulding & Millwork Producers, Astoria, Ore.

Circle 424 on inquiry card

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**HOSPITAL FURNISHINGS** / Subdivided by product category, a 36-page color catalog gives details on the manufacturer's complete hospital furnishings line. Included are beds, overbed tables, furniture, chairs, gurneys, and cribs. Several pages depict actual hospital settings to suggest furnishing possibilities, color schemes and accessories. ■ Simmons Commercial Products, Munster, Ind.

Circle 425 on inquiry card

**SURGICAL LIGHTING** / Product brochure describes several models of the *Rotoflex* 22-in.-head surgical light fixture for use in emergency and exam rooms: a suspension mounted light with 360 degree rotation capability; a fixture designed for track mounting; and a portable ceiling suspension-proof unit. Accessories such as low ceiling ceiling stage assemblies, I.V. hangers, and trolleys are also available. ■ AMSCO/American Sterilizer Co., Erie, Pa.

Circle 426 on inquiry card

**OVERHEAD DOORS/OPERATORS** / Said to be an easy-to-use guide in the selection of overhead doors and rolling steel doors and operators, a 20-page catalog includes steel, wood, fiberglass, labeled fire, and aluminum doors. Information is given on construction types; hardware and safety features; trajectory; space conditions and track systems; and electric and manual operators. ■ McKee Door Co., Aurora, Ill.

Circle 427 on inquiry card

**EPOXY COATINGS** / *Acripoxy* water-base, two-coat enamel is said to combine easy application with a shiny, tile-like finish over iron, steel, concrete block, masonry, wood, etc. A product brochure explains how its low odor characteristics permit application of *Acripoxy* coatings in high service areas without shutdown. ■ The Sherwin-Williams Co., Cleveland, Ohio.

Circle 428 on inquiry card

**FIRE-RATED ROOF SYSTEM** / Data sheet describes a roof-ceiling system, incorporating perlite insulating concrete and polystyrene insulation board, that has a 2-hr UL fire rating. ■ Perlite Institute, Inc., New York City.

Circle 429 on inquiry card

**SITE FURNISHINGS** / An illustrated series of data sheets update all items in this line of planters, benches and site accents. Furniture is predominately redwood construction, tongue-and-grooved to fit without nails or glue. Bench options include custom sizes, special finishes and pedestals. Trash receptacles are available round or square with various top configurations including steel, aluminum and wood. ■ Sitecraft by Rosenwach, Inc., Long Island City, N.Y.

Circle 430 on inquiry card

**CONCRETE FLOOR TOPPING** / Color brochure covers the on-site installation of selfpolishing *Absorption Process* concrete floor topping for industrial and warehouse applications. Photos and text show how 5,000 to 15,000 sq ft of abrasion-resistant floors are mass produced each day right on the job, in new construction as well as resurfacing of old floors. ■ Kalman Floor Co., Inc., White Plains, N.Y.

Circle 431 on inquiry card

**CONSTRUCTION RESEARCH** / The first 50 units of a projected 300+ "Technical Aid Series" of documents are now available to the professional seeking construction information on a single building material or component. Each TAS unit follows the Uniform Construction Index, and includes manufacturers, standards, specification aids, publications, and regulations. Among the subjects in the first 50-unit set are Soil Compaction Control, Concrete Admixtures, Brick Masonry, Standard Steel Joists, Asbestos Cement Shingles, and Built-up Bituminous Roofing. ■ The Construction Specifications Institute, Washington, D.C.

Circle 432 on inquiry card

**CONTRACT FURNITURE** / Furniture for office, conference, classroom, reception, cafeteria and institutional use is displayed in a four-color, 64-page catalog. All dimensional and other data is grouped with product photograph and description for easy reference. ■ Howell, Div. of Burd, Inc., St. Charles, Ill.

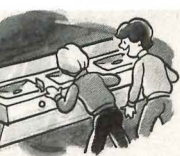
Circle 433 on inquiry card

**SANITARY FLOOR SINKS** / Drains designed to convey liquids from floor areas where a high degree of sanitation must be provided are presented in a 20-page catalog. Included are floor sinks with shallow, medium and deep bodies, and with both round and square tops. Featured is the *Flo-Septor* unit with an acid-resisting porcelain enameled interior and internal aluminum dome. Catalog shows a typical floor plan indicating drain placement for hospitals, food processing plants, laboratories, etc. ■ Josam Mfg. Co., Michigan City, Ind.

Circle 434 on inquiry card

**HOSPITAL/WASHROOM ACCESSORIES** / Over 2,000 products are featured in this 40-page catalog of accessories, grouped in four sections: washroom; hotel/motel; hospital; and janitorial items. Also discussed are the firm's "Prototype Department" services, intended to assist the design professional in the development of functional new products to meet specialized needs. ■ Accessory Specialties, Inc., New York City.

Circle 435 on inquiry card



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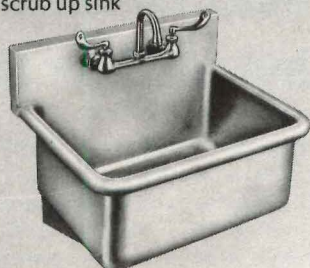
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drinking fountain



EWS-2520-W-6  
Single station  
scrub up sink



4820-W  
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sink



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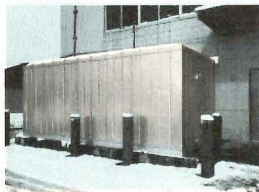
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your energy cost.



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- Increased refrigerated storage space.
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**AIRWAY ELEVATORS** / Designed for especially narrow stairways, the *Wheelchair Lift III* folds away, or remains parked at the bottom of the stairs, providing clear passage. Lift controls function only with constant pressure: if the operator releases the control for any reason, the

automatically stops. Send and call buttons are installed at both top and bottom of the stairs so the lift can be used by wheelchair patients without assistance. *Wheelchair Lift III* travels at 25 ft per second, carries up to 350 lbs., and comes with a 3-year warranty. ■ The Cheney Co., New Berlin, Wis.

Circle 304 on inquiry card

**CERAMIC COUNTER TRIM** / Contoured to prevent dripping, these ceramic tile counter trim pieces are designed to be used in either thin-set or conventional mortar installations. Stretcher 6- by 2¼-in. mitered in- and out-corners, and one-piece out-corners are available in 34 bright and matte, and 13 crystalline colors. ■ American Ceramic Tile Co., Lansdale, Pa.

Circle 305 on inquiry card

**PARTITIONS** / The "Trendscape" freestanding panel for space division in offices is available in widths to 60-in., and in heights up to 72-in. A number of colors are offered in *Videne*, carpet or fabric. The "Trendscape" panel may also be ordered with partial glazing. ■ Trendway Corp., Modern Partitions Div., Farmington, Mich.

Circle 306 on inquiry card

**STRAIGHT EDGE GUIDE** / The "Glide-Guide" is a drawing board accessory designed for use with a horizontal straight edge. Tacked into position on the board, the two smooth vinyl surfaces are said to eliminate the need for sandboard strips, strings and powders. "Glide-Guide" lifts the straight edge above the drawing to keep it clean and eliminate feathering. The product features right or left hand use. To inspect drawings or replace the sheet, remove the lower guides and swing the guides away. ■ Glide-Guide, Inc., Venport, Iowa.

Circle 307 on inquiry card

**MOBILE CHART CARRIER** / "Beam Model 26-681" is a two-tier, mobile chart carrier said to be especially suited for use in hospitals, nursing homes, and at nurses' stations. A rotating lever locks chart holders in place for noiseless movement. For use at a desk, the two back casters are equipped with locking brakes. ■ Vernitron Medical Products, Inc., Gladfield, N.J.

**CHAIR LIFTS** / Engineered for outdoor or indoor pit installation, the *Hydraulic Chair Lift* permits persons in wheelchairs to raise or lower themselves from one level to another, such as from a parking lot to an elevated walkway. Various chair lift models will raise 500-lb. loads from 2- to 7-ft; platforms with nonskid decks are available in sizes from 42- by 60-in. to 42- by 80-in. Life safety features include fail-safe hydraulics; completely enclosed under-deck area; constant-pressure pushbutton controls; and 6-in.-high automatically-operated metal safety guard and bridging plate at the bottom of the platform open end. ■ American Mfg. Co. Inc., Tacoma, Wash.

Circle 309 on inquiry card

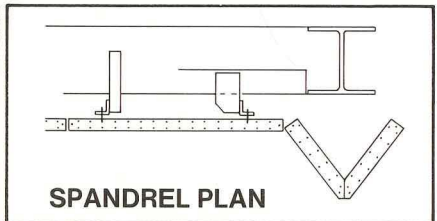
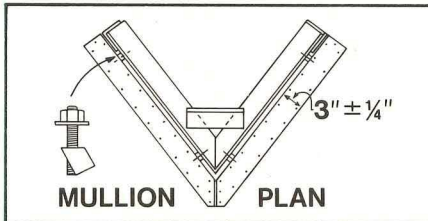
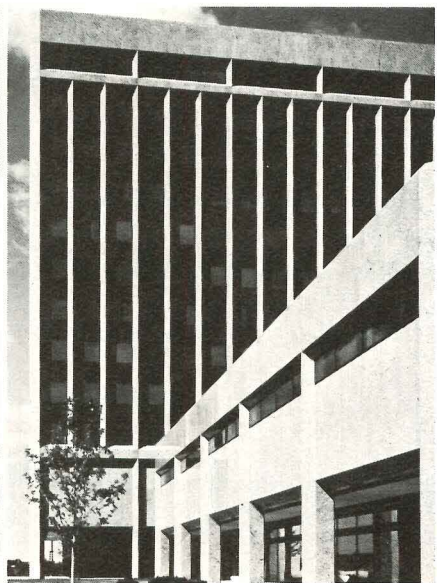
**FIRE-RATED STEEL PANELS** / These open office panels carry a Class A fire rating to provide fire hazard protection in areas where such protection may be required or specified. The steel panels are available in straight as well as curved surfaces, and are interchangeable with this manufacturer's office panel system. Straight panels come in four widths and four heights: 40-, 48-, 60-, and 80-in. The curved panels have a 24-in. radius and come in the same four heights. Panels have a baked enamel finish in soft white. ■ Westinghouse Electric Corp., ASD Group, Pittsburgh, Pa.

Circle 310 on inquiry card

more products on page 143

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**OFFICE COMPONENTS** / *Concept II* office provides work stations, acoustical and sound control, and both task and ambient lighting. Options include materials and sizes of work surfaces, cabinets, and hard surface and upholstered acoustic panels permit a variety of arrangements for different management level operations. ■ Conwed, Office Furniture Div., St. Paul, Minn.

Circle 311 on inquiry card

**OFFICE SEATING** / Shown is the Responsive Group, one of four types of chair within the *Function Formula Seating* line developed and manufactured in West Germany. "Synchron" mechanism coordinates adjustment of seat and back to accommodate forward or reclined positions; seat and back height, tilt, etc. Adjustments can be made from the seated position concealed pneumatic mechanisms. Other units in the *Function Formula* line include leather-upholstered executive chairs; a two-piece-shell chair; and an upholstered chair with adjustable lumbar support for long-term tasks. Almost all models in the line meet the standards of the American Industrial Norms for office seating, designed to give workers freedom from fatigue and other problems. ■ Haworth, Inc., Holland, Mich.

Circle 312 on inquiry card



**OFFICE SEATING** / The *Babar* series, designed by Herman Miller, comprises 14 office chairs, 10 of which are shown here in a representative grouping. Chairs are available with either a five-point base, with or without casters; with a tubular sled base; or with tubular steel legs. Chair height, support and tilt are adjustable on many models. All parts of the *Babar* chairs are designed to provide comfort to the user and minimize damage to floors, other furniture and walls. ■ Atelier International, Ltd., New York City.

Circle 313 on inquiry card

**AMBIENT/TASK LIGHTING** / Using an enclosed indirect optics chamber surrounding a 400-watt HID lamp, the *ESP* indirect lighting fixture is said to operate at efficiencies as high as 75 per cent. Luminaires are available either as a 72-in. free-standing optics unit, or as a panel post-mounted fixture integrated with the manufacturer's *ESP* open office furnishings. Light is spread in an even pattern, eliminating "hot spots." The freestanding light shown is available in two chamber sizes, one handling lamps up through 250 watts; the larger luminaires accommodate lamps up through 400 watts. A 1 3/4-in.-dia chromed steel tube supports the chamber, covered by a glass lens; remote, detachable ballasts are in the base. ■ Office Furniture Systems, Youngstown, Ohio.

Circle 314 on inquiry card



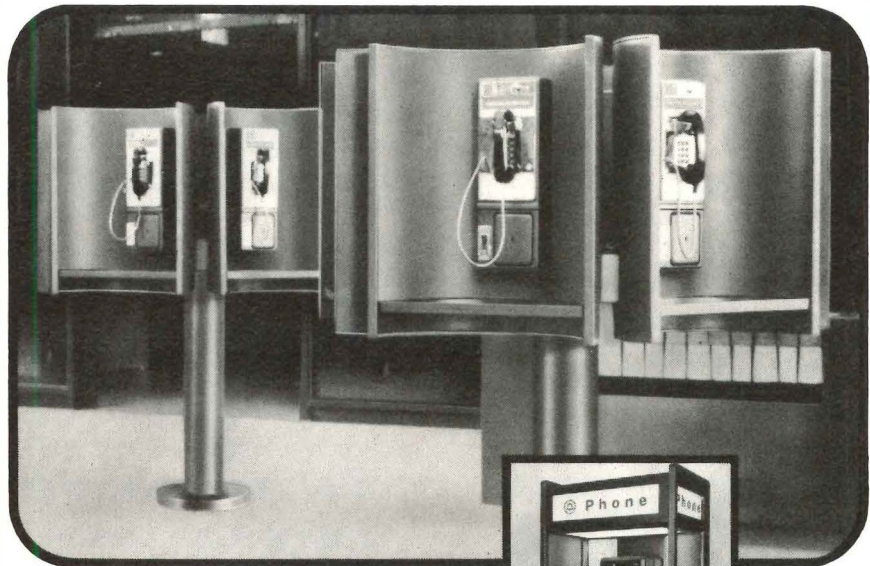
**DESKS** / Offered in rift-cut oak veneers, the "SK7 Desk Series," designed by William Sklaroff, includes this full panel, plinth desk, featuring *Accuride* suspended drawers with oak interiors. Also shown is the "T-Back" executive swivel chair and "Profile" bent ply guest chairs. ■ The Gunlocke Co., Inc., Wayland, N.Y.

Circle 315 on inquiry card

more products on page 149

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The **ADCO 90-S Acousti-Call® Booth**. The ultimate in contemporary appearance with quiet noise-absorbing interior walls. Unlimited mounting options. Unlimited color combinations.



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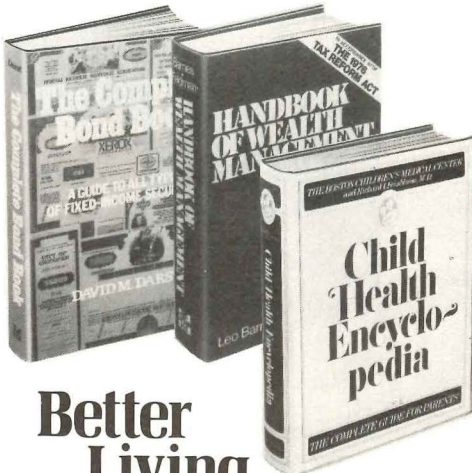
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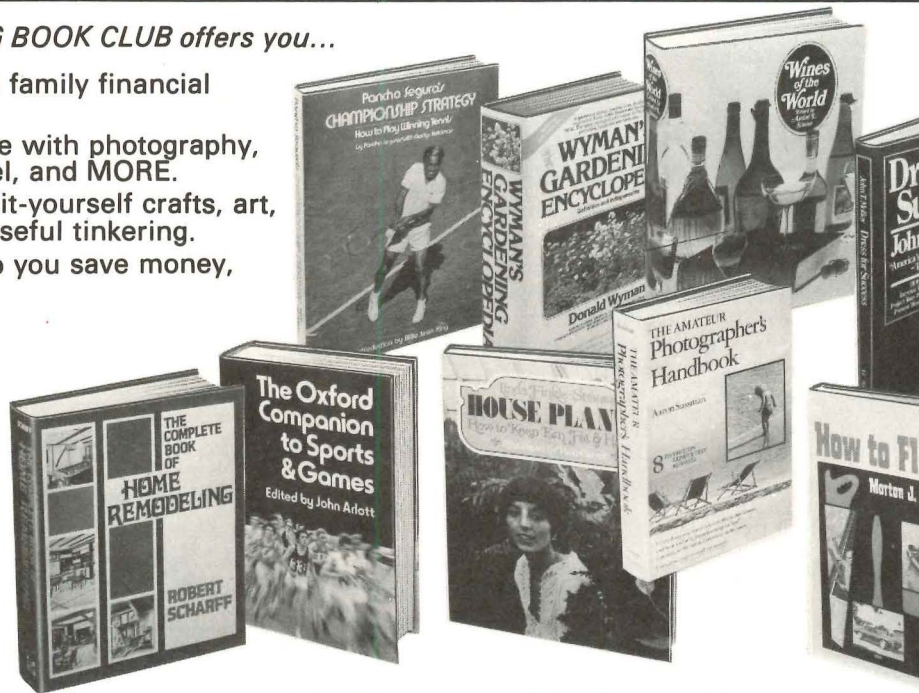
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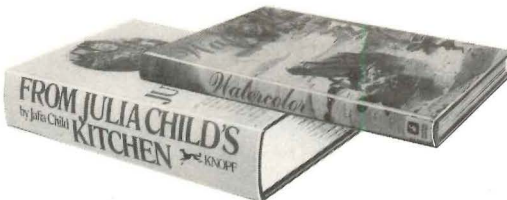
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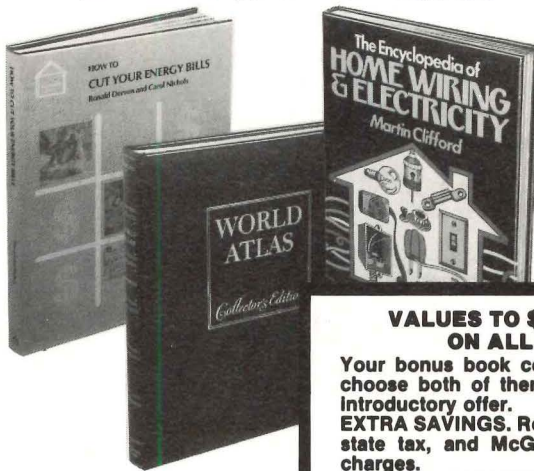
By JOHN T. MOLLOY. 245 pp., 72 diagrams, color photos.  
 The author, who Time magazine calls "America's first wardrobe engineer," has spent 15 years working with some 15,000 executives and professional leaders, and every idea in this book is based on tested, proven facts. His clients pay him \$600 a day to show them how to choose clothes that reflect their financial and social positions, how to match clothes with physical characteristics, and how to pick clothes to create a precise impression.

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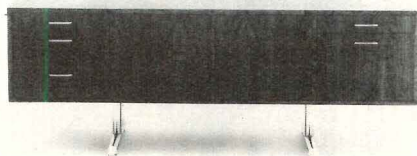
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**CREENZA/CABINET** / The Omega storage cabinet for the executive office consists of a single shell with four equal-size compartments, each of which can be specified to receive a number of components. Among these are file drawers for both letter and legal size hanging folders; shallow or deep box drawers with adjustable dividers; and hinged door compartments fitted with an adjustable shelf or dictation machine slide. Finishes range from hand-rubbed wood veneers to plastic laminates. Legs are chromed steel tube, mirror polished with adjustable height glides. ■ Stendig, Inc., New York City.

Circle 316 on inquiry card

**PULL-UP SEATING** / Designed by Don Albinson with



an oval-shaped chrome-plated steel tubing frame, this pull-up chair comes in two sizes—medium and large—to offer comfortable seating for people of varying sizes. Seat and back provide support; cushion covers may be

removed for cleaning. Other, adjustable, office chairs in this manufacturer's line also come in small, medium or large sizes. ■ Westinghouse Electric Corp., ASD Group, Pittsburgh, Pa.

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**HOSPITAL BED/EXAMLIGHT** / The "Series 500"



lamp uses a 20-w halogen bulb operating on 24-v to provide high-intensity light for patient convenience and medical examinations. The fixture's low power requirements and rugged construction are said to eliminate shock

and fire hazards. The red plastic lamp housing protects the recessed bulb and remains "cool" to the touch. Operating arms provide a 44-in. reach; spring-loaded friction joints are guaranteed for 10 years. The fixture has a universal mount, which permits either horizontal or vertical mounting on wall, or directly on bed headboard as shown. ■ Sunnex, Inc., Needham, Mass.

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**HANDWASHING UNITS** / Built into the child-level



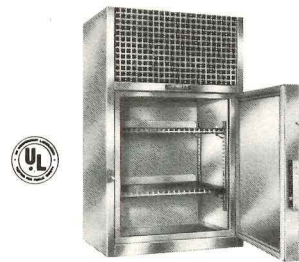
work counters at Irvine, California's Los Naranjos School (Porter-Jensen & Partners, architects), these "Washfountains" are activated by means of electronic tape switches secured to the floor. When

stepped on, water preset to a comfortable temperature begins to flow, ceasing when pressure is removed from the tape. More than six children may use the basin at one time, yet the "Washfountains" are said to require as little as 20 per cent of the water as the same number of conventional lavatories. The "Washfountain" bowl resists abrasions, acids and corrosives, and will not chip, peel or flake. ■ Bradley Corp., Menomonee Falls, Wis.

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## STAINLESS STEEL WALL MOUNTED REFRIGERATORS, FREEZERS



**WM-CW\*** series eye-level, wall mounted refrigerators are offered in 4 sizes featuring cold wall cooling systems with push-button defrost and automatic reset. Two removable, adjustable stainless steel shelves are provided. Front mounted grille removes easily for servicing.

**WM-1-CW** Capacity—1.5 cu. ft. (45 ltr.)

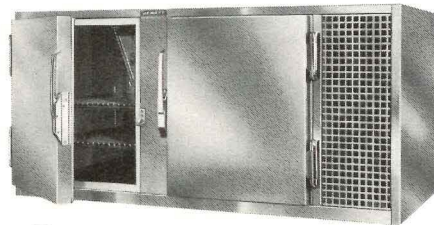
**WM-2-CW** Capacity—2.3 cu. ft. (65 ltr.)

**WM-3-CW** Capacity—3.2 cu. ft. (95 ltr.)

**WM-4-CW** Capacity—4.3 cu. ft. (125 ltr.)

**WM-3-F-CW** freezer is available only in a 3 cu. ft. (85 ltr.) capacity and has a manual hot gas defrost.

Capacity—3.0 cu. ft. (85 ltr.)



**WM-BC** series space saving, double-door, wall-mounted refrigerators are available in 2 sizes. Furnished with 4 stainless steel shelves, they have a blower-coil cooling system with automatic off-cycle defrost and a condensate evaporator. Condensing unit is easily serviced by removing front mounted clip-on grille.

**WM-7-BC** Capacity—6.6 cu. ft. (190 ltr.)

**WM-10-BC** Capacity—9.6 cu. ft. (275 ltr.)

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Jewett also manufactures a complete line of blood bank, biological, and pharmaceutical refrigerators and freezers as well as morgue refrigerators and autopsy equipment for world wide distribution through its sales and service organization in over 100 countries.



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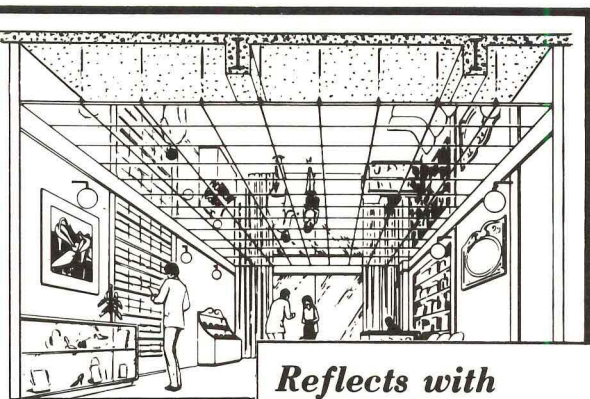
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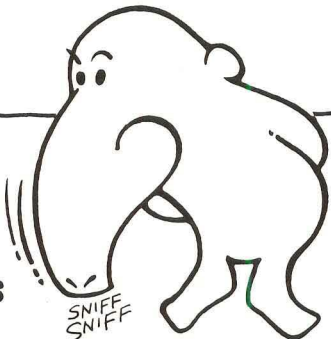
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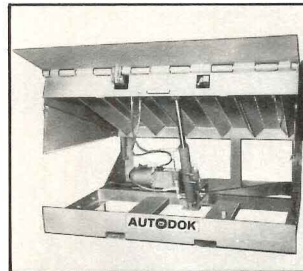
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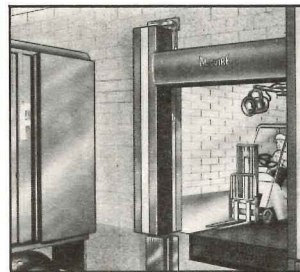
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# HOWARD JOHNSON'S DESIGNERS

## No way! Under the orange roof even



Every Howard Johnson's restaurant and motor lodge is site adapted, structurally different and varies in number of tables and beds. Each facility expresses its regional character while retaining the Howard Johnson's family resemblance. The corporation spends more per table, more per bed than most of its competitors to accomplish this dichotomy of design.

Creating this diversity within corporate uniformity is the task and problem of the Howard Johnson's Architectural Design and Construction Department. For example, when outside architectural firms are retained they are given a wide selection of fabrics, interior finishes and furnishings to choose from, but the way the Department ensures visual consistency is by placing standard signs in each facility.

The 40-person Howard Johnson's Architectural Design and Construction Department (6 architects, 4 engineers, a Manager of Signs and 31 support personnel) will plan and watchdog about 30 million dollars worth of new building and remodeling this year. Some years have seen budgets of over 40 million.

Beyond the orange roofs, these architects and engineers are responsible for the Johnson Corporation's other service chains: Ground Round Restaurants, Three-Penny Inns, Red Coach Grills. Here, the design approach is geared to reflect contemporary tastes—from atmospheric Tiffany-lamp-lit restaurants to discotheques and mod boutiques.

From the inception of planning to working drawings the department works hand in hand with outside architectural firms retained by Howard Johnson's licensees.

The Howard Johnson's Architectural Design and Construction Department's primary role is protecting its parent company's success image and carrying forward its plans for growth. And thousands of architects and engineers are now performing similar functions for hundreds of America's largest commercial, industrial and institutional organizations.



### the billionaires

A relatively small group of architects and engineers in hundreds of America's largest commercial, industrial and institutional organizations wield a whole lot of influence.

These architects and engineers act as "owners" of hundreds of billions of dollars worth of buildings and real estate for their parent organizations. They control billions of building dollars through design and specification. They engage in projects encompassing virtually every building type, employing almost every known building product. And they know what's best for their organizations so they keep tight rein on the flow of building products that go into their organizations' buildings.

#### Some representative subscriber organizations with building departments

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### corporate specifications and the Tower of

The architects and engineers who control design and specification within corporate building departments for America's commercial, industrial and institutional organizations are a hard-to-reach group. They are known by many and confused by titles that signify levels of responsibility.

In a recent Architectural Record study of its subscribers in corporate building departments, 305 respondents listed 183 separate titles. The common bond is that the building professionals—architects and engineers.

#### Some representative subscriber titles

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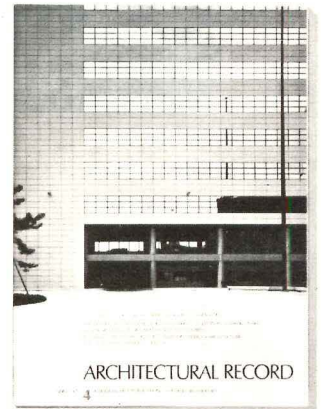
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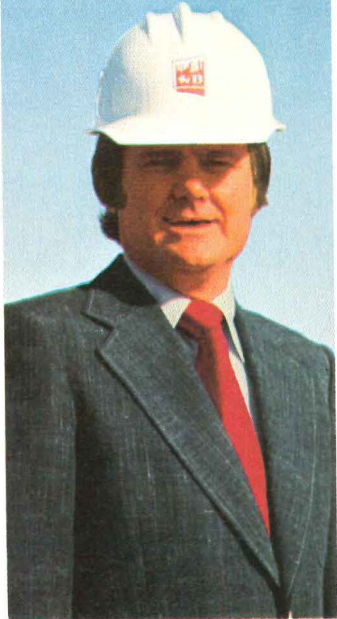
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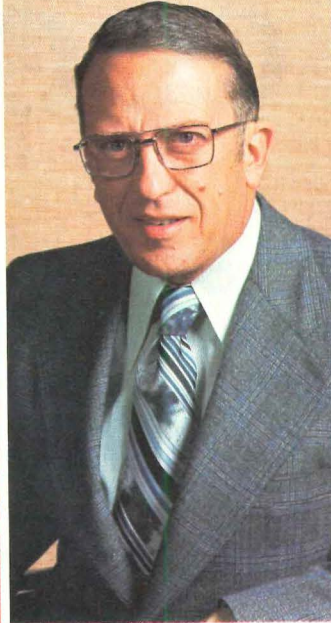
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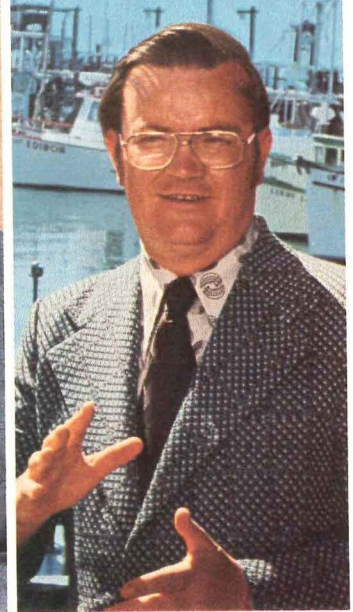
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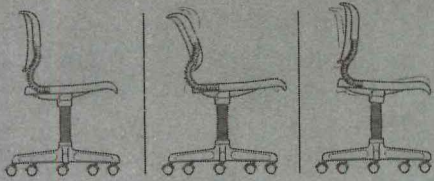
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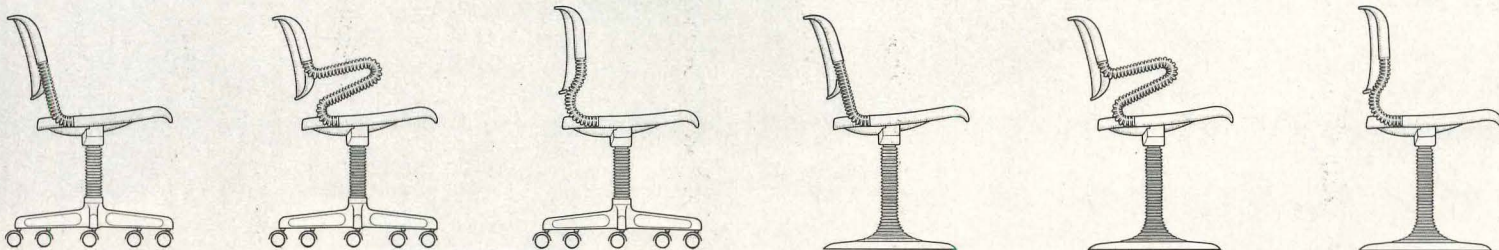
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ough precast concrete panels  
selves are fire-resistant, you  
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ut if joints are properly  
ned and sealed, they can  
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ute. (See note.)

ne result: an exclusive joint  
g system for precast concrete  
s that is fire-resistive as well  
atherproof. A system that can  
ve required fire endurances  
o to four hours at the joint.

### Start off: Right materials.

became clear during the  
g that fire endurance is  
nced by the type of joint,  
width, panel thickness and  
oint sealing system.

f all the materials tested,  
est results were provided  
Ymeric® sealant and  
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(Figure 1)

A two-stage shiplap joint  
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(Figure 2)

A two-stage joint with air  
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panel, ½-inch DYmeric sealed  
joint and 1¼-inch depth of  
Cerablanket-FS. (Figure 3)

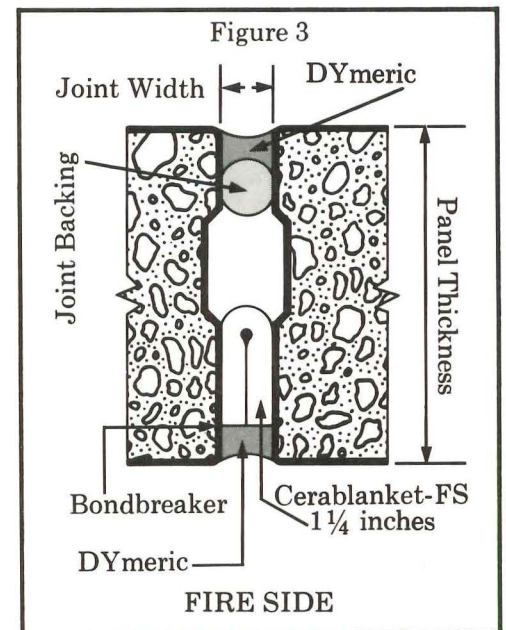
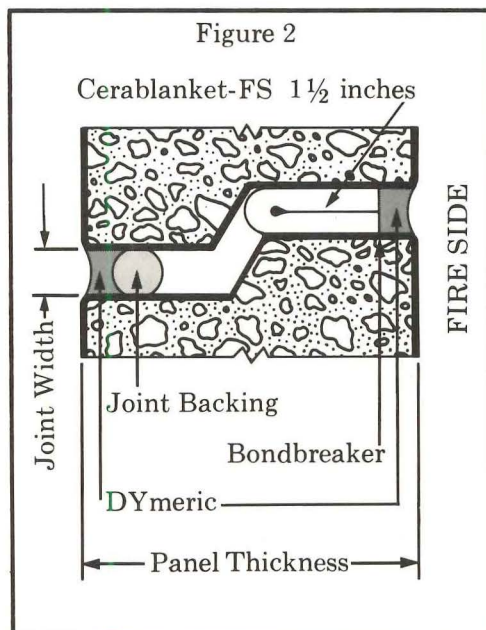
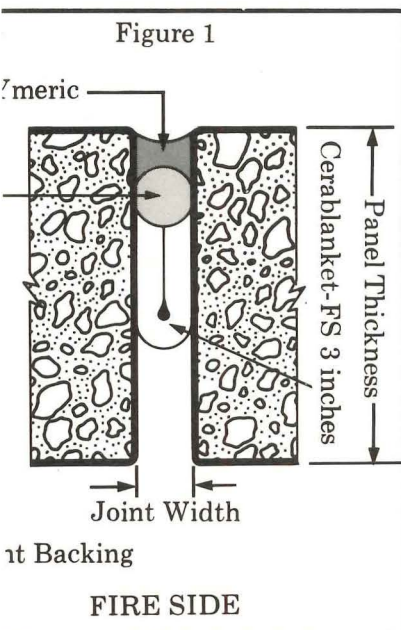
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Note: The details of these tests are reported in a paper  
co-authored by Engineer Armand H. Gustaffero, of  
The Consulting Engineers Group, Inc., Glenview,  
Illinois, and Manager, Melvin S. Abrams, Fire Research  
Section, Portland Cement Association, Skokie, Illinois.  
The paper is entitled, "Fire Tests of Joints Between  
Precast Concrete Wall Panels." It was published in  
PCI Journal September-October 1975 issue and  
reprinted as Portland Cement Association Research and  
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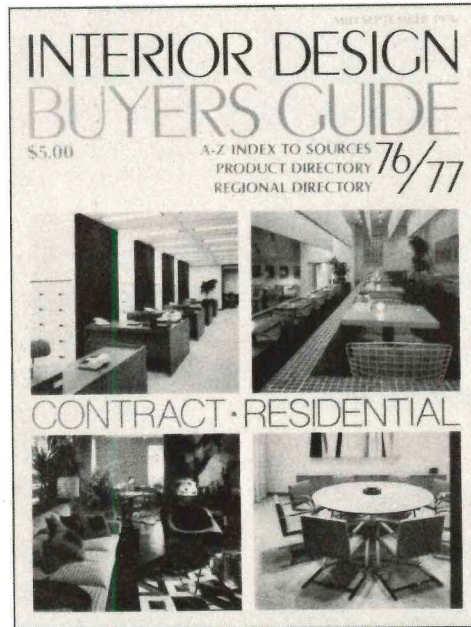
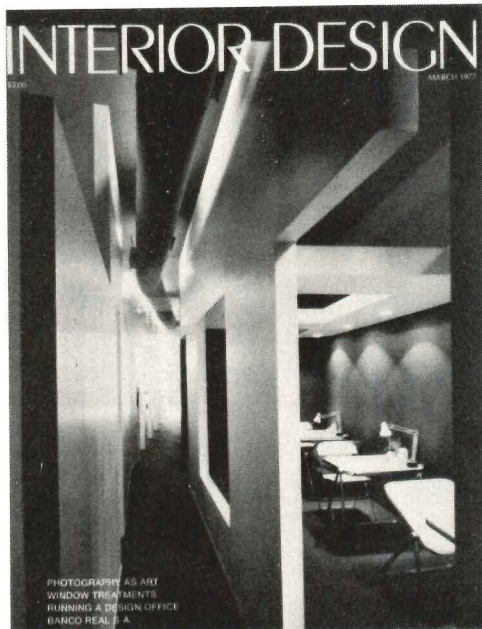


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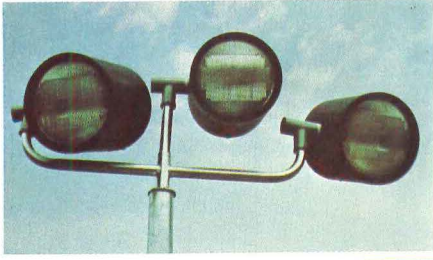
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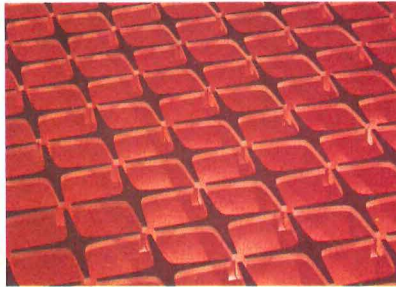
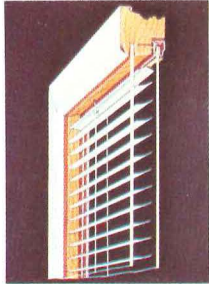
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See sweet's section 8.26/GU



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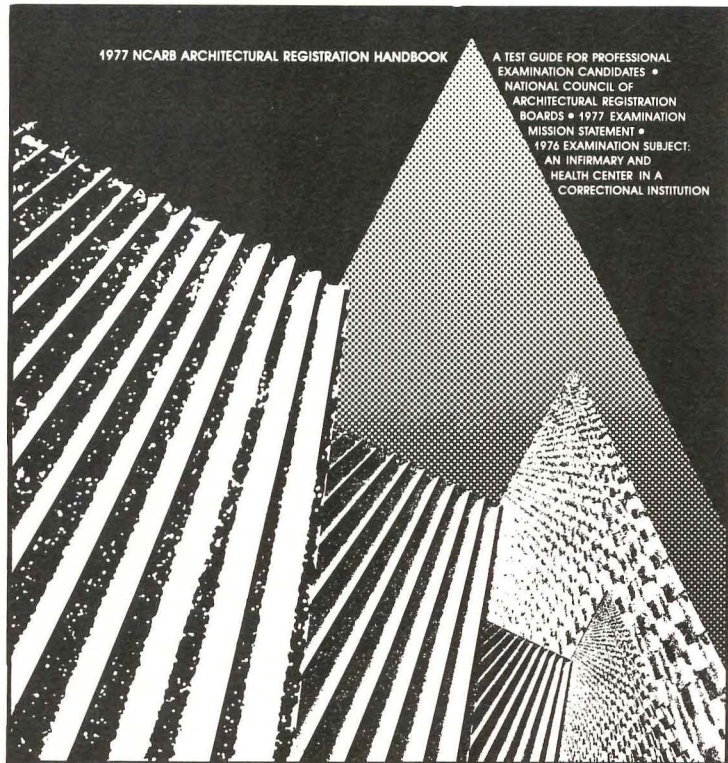
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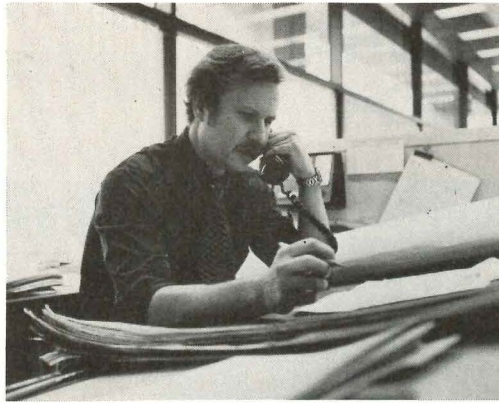
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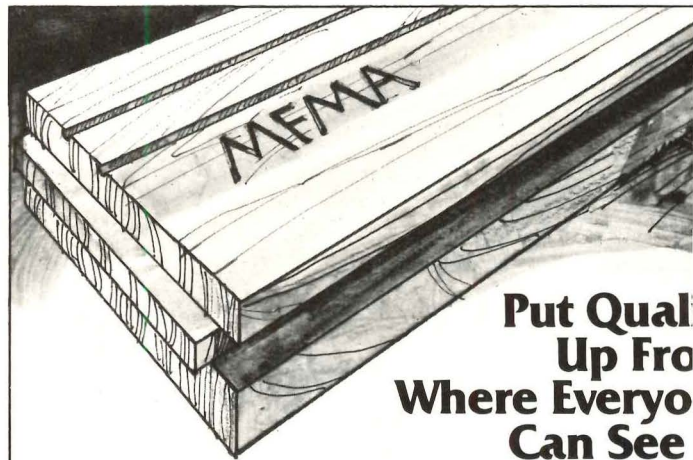
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# THE FACTS ABOUT STAGGERED TRUSS— THE LOW-COST, HIGH-RISE, STEEL FRAMING SYSTEM.

any high-rise residential buildings have been built with the Staggered Truss steel framing system. In fact, in recent years over fifty apartment and hotel type structures have taken advantage of the Staggered Truss.

This system for high-rise structures affords an efficient and economical use of structural steel, with far greater flexibility than is possible with other portal framing systems.

## HOW THE STAGGERED TRUSS WORKS

The innovative Staggered Truss Steel Framing System consists of story-high trusses that span the full building width at alternate floors of each column line. The trusses are supported only on two rows of exterior columns and are arranged in a staggered pattern on adjacent column lines.

## ARCHITECTURAL FLEXIBILITY

Since columns are needed only at the exterior of the building, the full width of the building is column-free, providing the maximum useable floor space. And with trusses starting at the second floor level, large clear spans are available at ground level. As a result, the ground level can be more efficiently utilized—for parking, promenades and playgrounds. Also, construction within air-rights over existing facilities is made more simple.

Complete architectural units can be placed between trusses, and by varying truss spacing the number of unit sizes within the spacing can be varied.

For example, in apartment house construction, one, two or three bedroom units can be arranged on a single floor by varying truss and column spacings. And the Staggered Truss system is not only applicable to the basic rectangular configuration: it can also be applied to curvilinear or circular building, or to combinations of offset rectangles.

Trusses can be constructed with any practical distance between chords, so any floor-to-floor height can be met—which might present difficulties with conventional framing methods.

## WHY IS STAGGERED TRUSS ECONOMICAL?

To start with, foundations are only needed for the exterior column lines. This means savings in excavation, concrete costs, and the time spent for foundation construction.

High-strength steel can be used economically, because strength rather than deflection controls the truss design.

With minimum types of truss members, important savings can be made in shop fabrication—which in itself accommodates the maximum use of mass-production. And with fewer pieces to handle in the field, erection time and costs can be cut.

All this helps make Staggered Truss more economical than other systems. For example, in a typical twenty story apartment building, we might expect that the steel requirement for a staggered truss frame is only about 60% of

that required in a conventional framed structure. A possible saving of up to 40%!

Naturally, shorter erection time results in faster occupancy—and this means lower-cost construction loans and earlier rental income for owners.

## THINK ABOUT IT

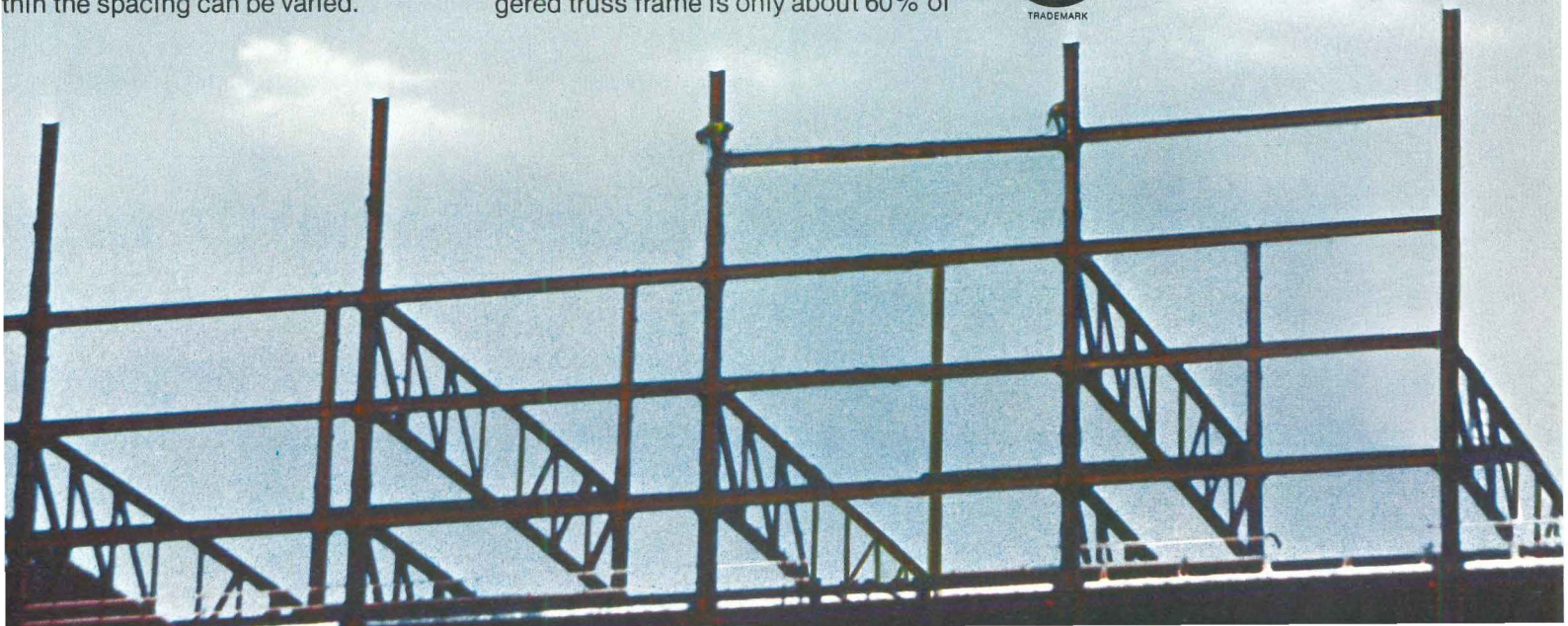
The benefits of the Staggered Truss system are many, but its biggest advantage is the ability to resist lateral loads. So the value of the system increases as the building becomes higher, and this is why it has been so successful for high-rise residential buildings such as apartments, condominiums and hotels.

Staggered Truss is worth thinking about. In many recent projects, when evaluated against other systems, it has proved to be the fastest, the most practical and the most economical. You'll be surprised how easy it is to work with.

For more information on the design of Staggered Truss structures, contact a USS Construction Representative through your nearest U.S. Steel Sales Office. Or write for our booklets, "Staggered Truss for High Rise Building" (ADUSS 27-5227-02), and "Staggered Truss Framing System-Design Considerations and Commentaries" (ADUSS 27-7165-01), to U.S. Steel, Box 86, (C777), Pittsburgh, Pa. 15230.



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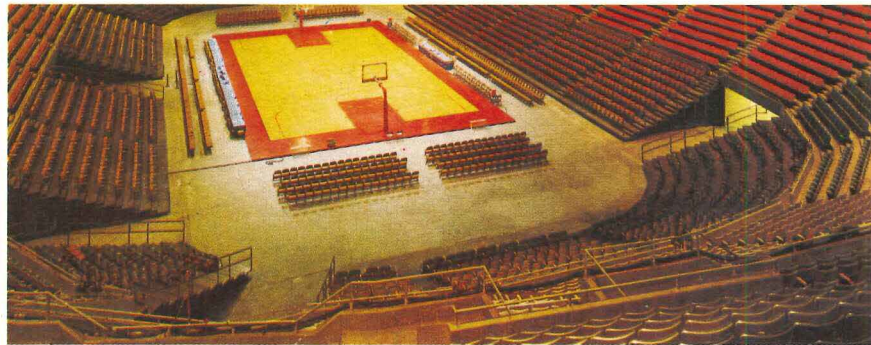
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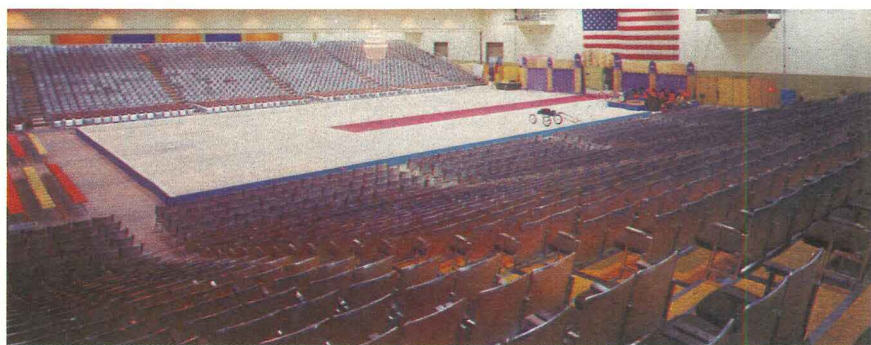
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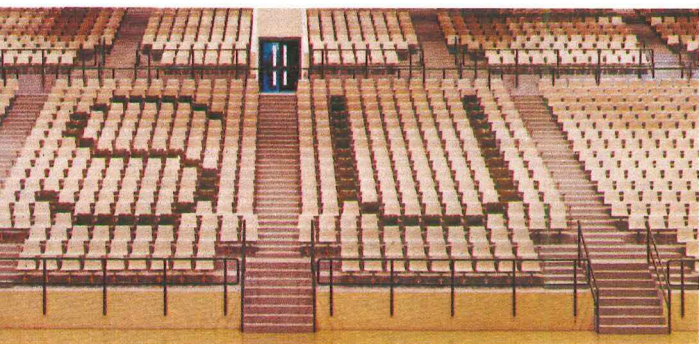
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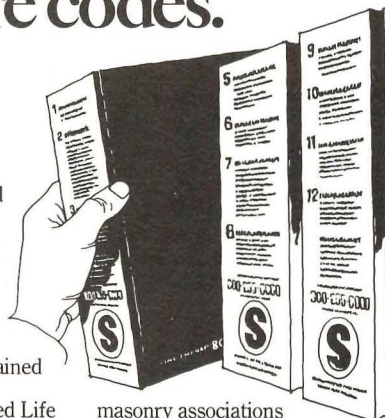
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Aiken Community Hospital, Aiken, South Carolina  
Owner: Hospital Corporation of America  
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General contractors: Joe M. Rogers and Associates, Nashville



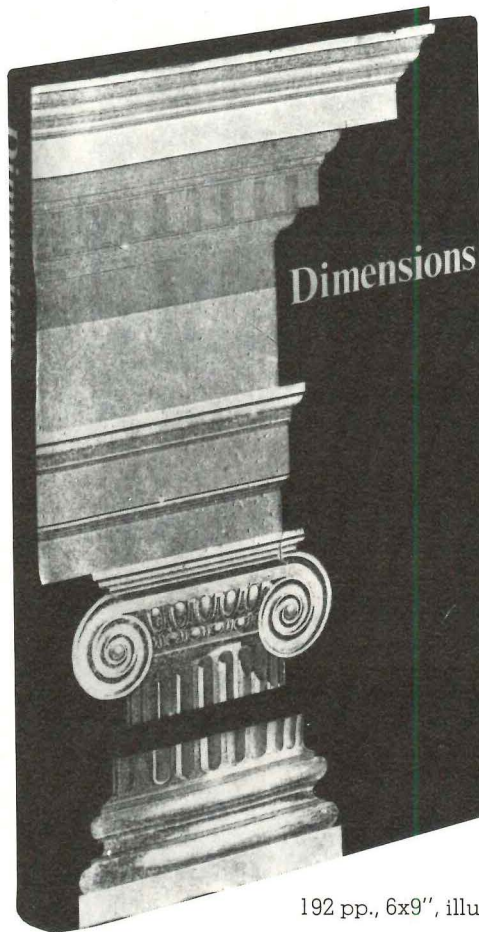
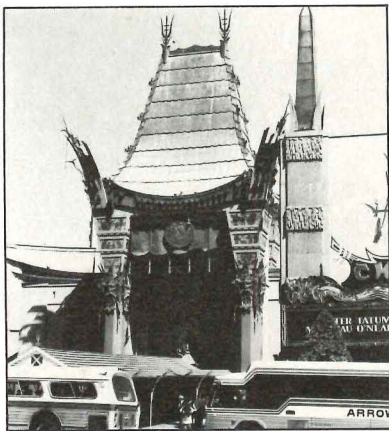
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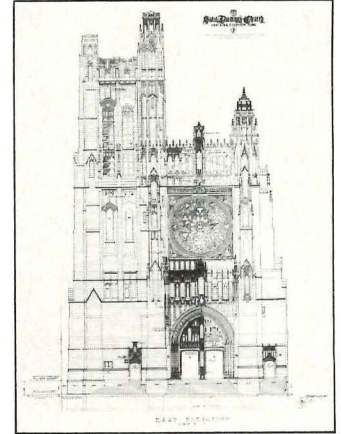
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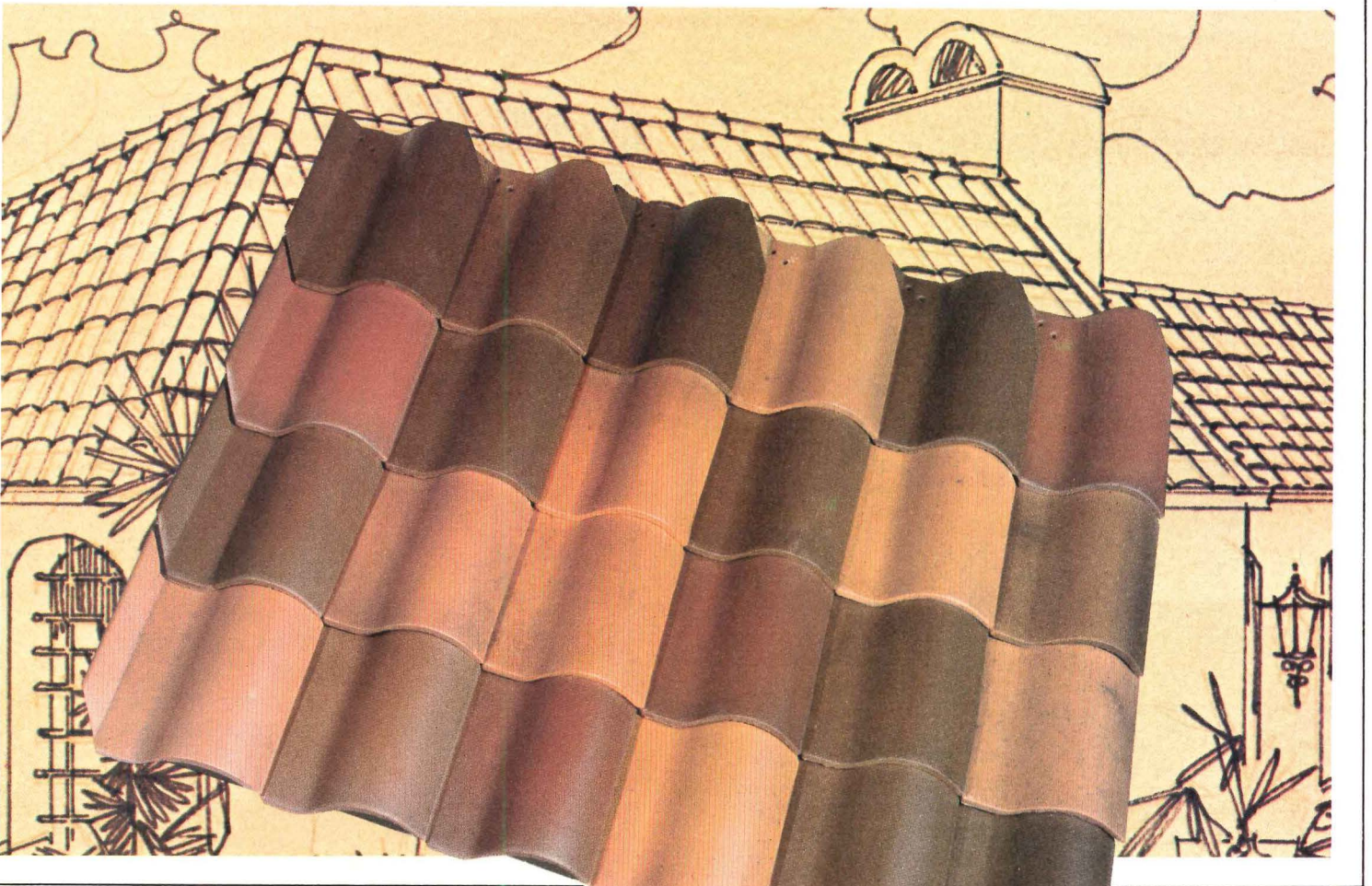
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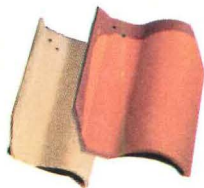
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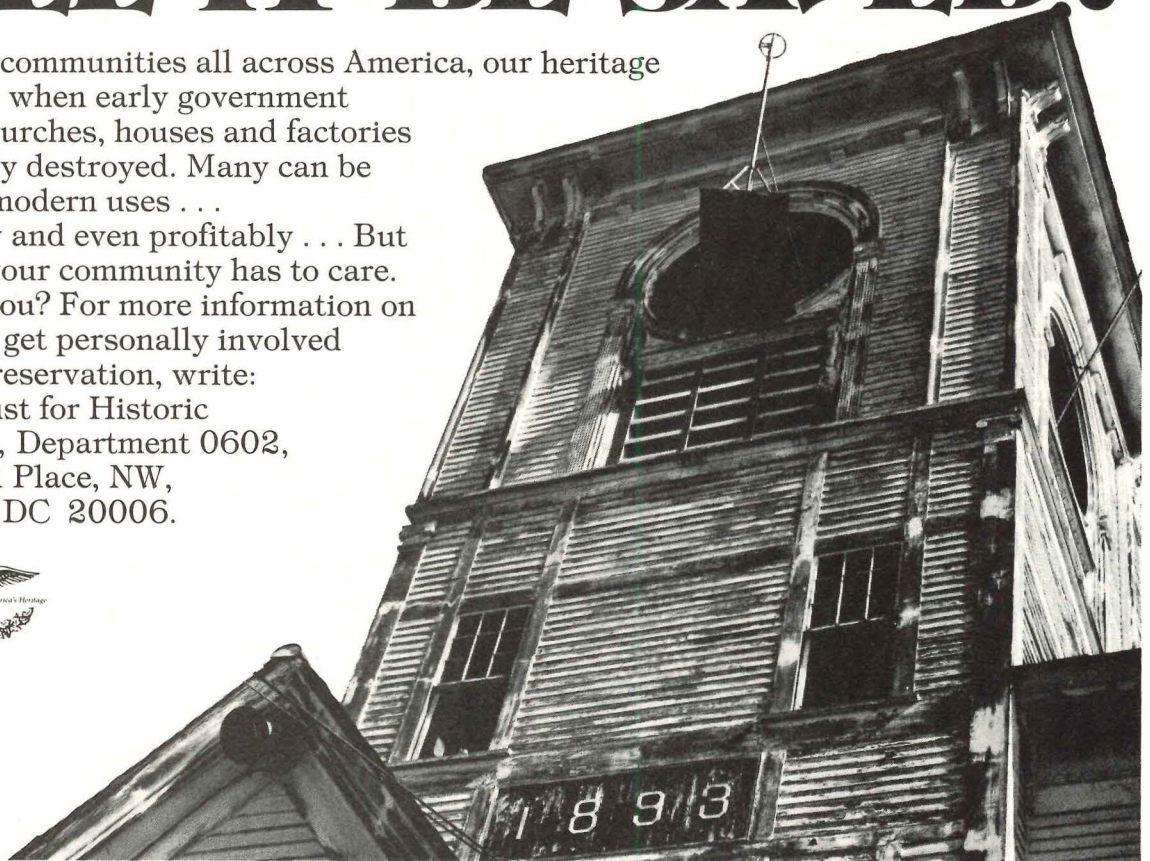
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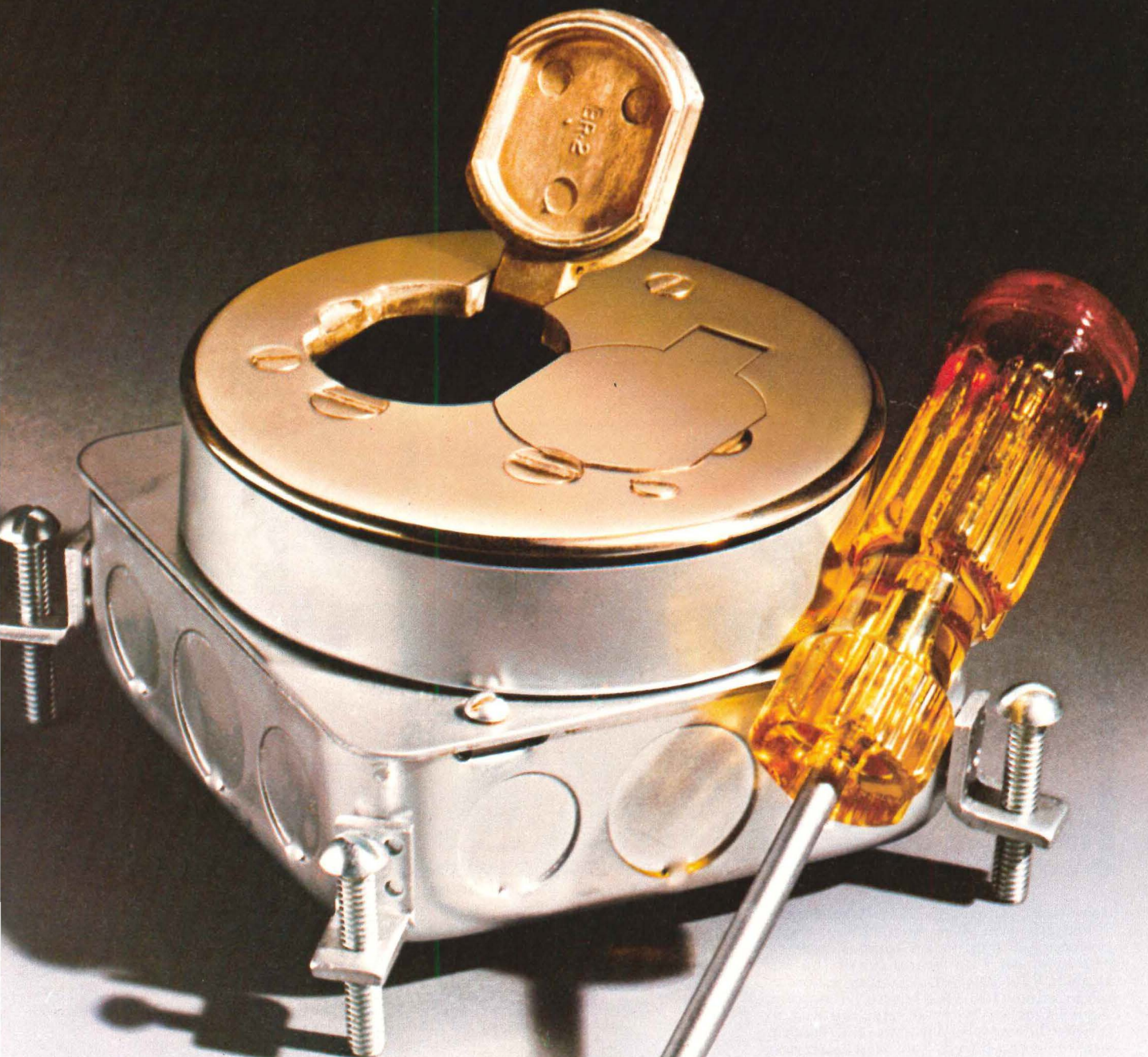
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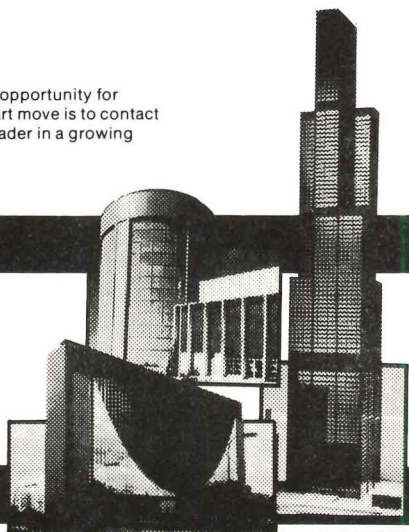


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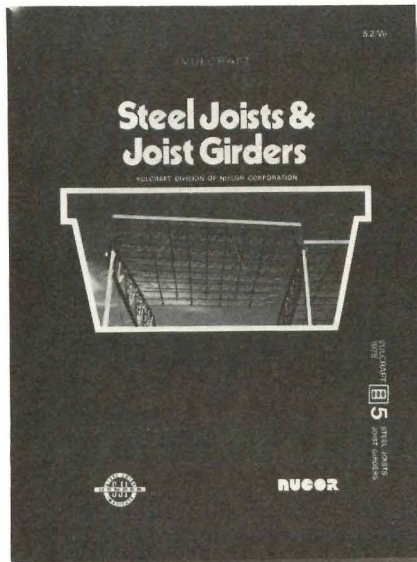
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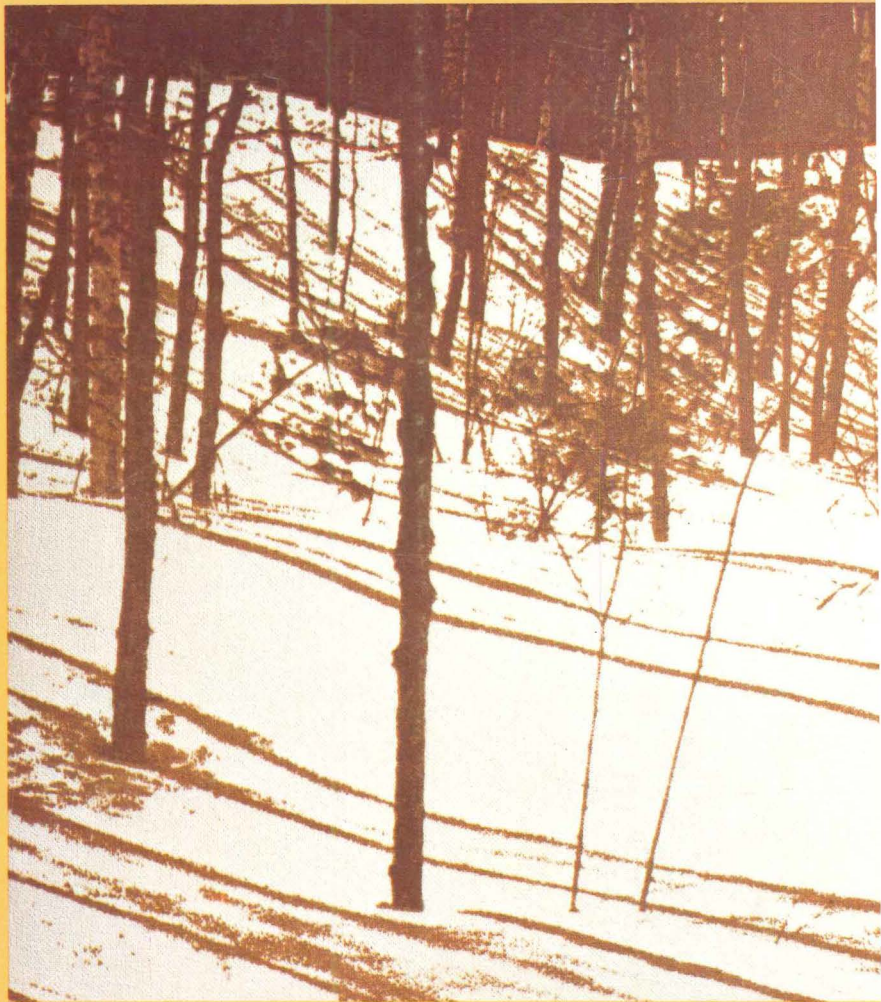


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## task force recommends preservation of FHA

...s for any radical restructuring of the Department of Housing and Urban Development seem just about inevitable. A high-level industry-study task force has told Secretary Harris to keep the Federal Housing Administration just about as it is. The FHA, oldest housing agency in the Department, has more than half a million employees and is responsible for the Federal housing income programs and the housing conservation programs.

The high-level 23-member task force headed by former HUD Secretary Robert Weaver, was told to come up with recommendations on "the future of FHA" that Secretary Harris would use in appearances before the subcommittee of the Congress. In a report, the task force concluded, "FHA should not be phased out, should not be reduced to its original role of insuring low-risk mortgages in the secondary market and should not become solely a mortgage insurer of last resort. Instead, they said, Mrs. Harris should create an FHA that would "aggressively participate in both subsidized and unsubsidized markets while continuing to innovate."

The task force was loaded with members from public-interest groups, lawyers, professional consultants, and economists—and present and former government housing officials. The former Secretary Weaver, and members of the task force included former Commissioners of FHA—W. Brownstein and Neil Preston Martin, a former member of the Federal Home Loan Board.

The report spells out how FHA reached its present low state, stemming from "three major reorganizations" during the Nixon years, the "faulty organization, combined with maladministration of FHA (under HUD's direction)" leading to "operational chaos and lowered morale." "Scandals that did occur" were of such "alarming volume" that they "served to damage seriously the image of FHA." The final blow was the Nixon-Romney freeze of 1973, which "was as devastating to FHA as it was to the nation's housing producers."

The task force said FHA should continue to insure mortgages for the secondary mortgage market, and continue to provide insurance "to those households" which cannot get a mortgage from private sources without FHA's mortgage insurance.

The agency should "once again take an active role in the provision of credit in the nation's cities..." for rehab and revitalizing neighborhoods, and it "must play a major role in the provision of multifamily rental housing in all areas."

Mortgages on subsidized rental housing are "sound investments" for FHA to insure, the task force said—and FHA "should be fully and actively involved in subsidized programs."

A major reorganization recommendation was that Assistant Secretary Simons be given "line authority" to the field offices, which would have "one individual... empowered to make a final determination on all credit, economic worthiness and management criteria."—Donald Loomis, *World News, Washington*.

## headquarters retrofit will cut energy use 52 per cent

The Board of Directors of the American Institute of Architects has approved a budget of \$143,640 for detailed construction to reduce energy use in the Institute's Washington headquarters building. The total cost of the project is estimated at \$191,000. Energy saving projected in this report is a hard-to-believe 52 per cent, with projected savings of 9.4 Btus per year, and dollar savings of \$89,000 in the first year (1978) and \$504,000 over the next five years—and an estimated payback of 2½ years.

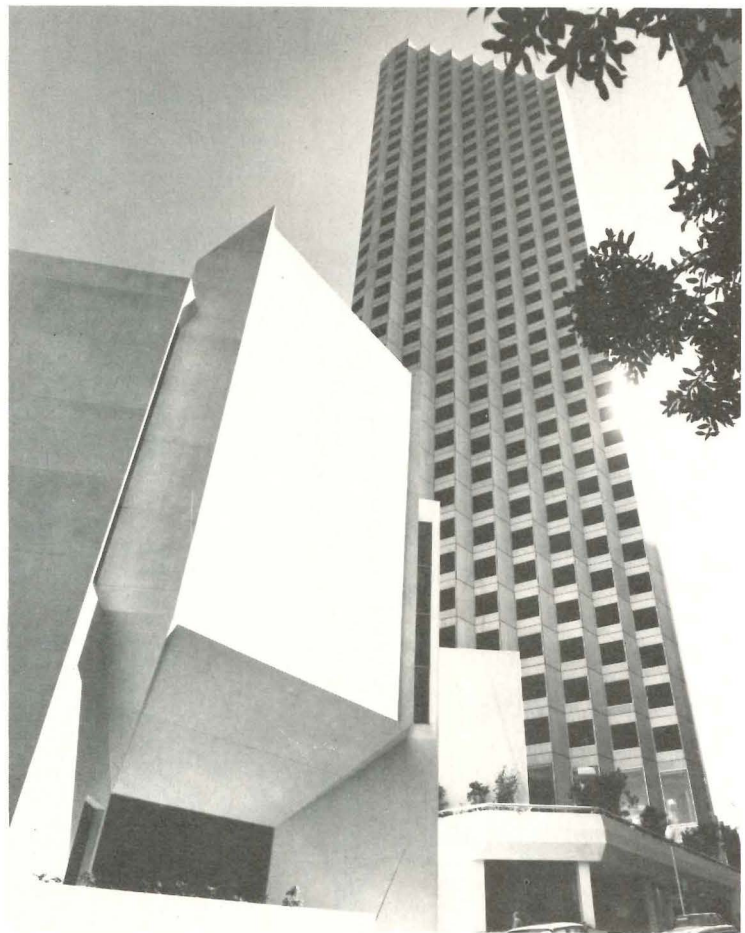
The project architect is Michael Sizer and Associates, with Newcomb and Boyd as consulting engineers. Special consultants include The Architects Collaborative of Cambridge, Massachusetts designed the AIA headquarters building and Cosentini Associates, Boston, of Marvin, Massachusetts.

Techniques to be used, as explained by AIA President John M. ... ty at the Institute's recent San Francisco convention (see photo at right), including daylight glare and solar shading of the dominant glass wall of the building by using a specially designed blind; matching operation



hours to building use; redesigning the lighting system; reducing cooling; and increasing the use of outside air.

Phase III of the program calls for working drawings to be completed later this year. In Phase IV, the results of the program will be carefully monitored, according to Institute officials, and—as a last step—a performance model report will be issued, with the redesign process detailed, in hopes that this job will prove a useful prototype for architects engaged in similar work.—W.W.



## Office tower in Perth, Australia, takes Alcoa award

The Australian architectural firm Cameron, Chisholm and Nicol received the 1977 Alcoa Award for Architecture for Allendale Square in Perth. The \$5,000 prize is awarded annually by Alcoa of Australia Limited, in conjunction with the Royal Australian Institute of Architects, to "encourage the beautification of Australian cities through their buildings," and the "innovative use of aluminum in advancing the bounds of building technology."

The Allendale Square complex comprises a 31-story aluminum-clad office tower and lower "boundary buildings" for commercial use, all linked by a street-level plaza covered by an aluminum space frame with transparent acrylic roof. In its report, the jury "welcomed an active city plaza... which is inclusive of the pedestrian movement in the city," and commented further on the building's

"detailed refinements and urban environmental fit."

The building's natural-colored anodized aluminum skin wraps a square plan which presents flush windowless walls to the east and west but which is serrated on its other sides, increasing wall area to allow office floors views of surrounding suburbs and the countryside.

The comprehensive jury report said that "the aluminum curtain wall and the solar glass windows are technically and efficiently refined in detail to cope with the high wind, rain and thermal loads. The sheer and bright surface of the tower is elegantly designed with pressure-equalizing vent lines, determining the pattern of solids and voids, which again presents a variety of geometric arrangements to the viewer. The tower's expression is understated, diminishing the building's presence to meet the street."

## Congress gives NIBS \$1 million to get under way

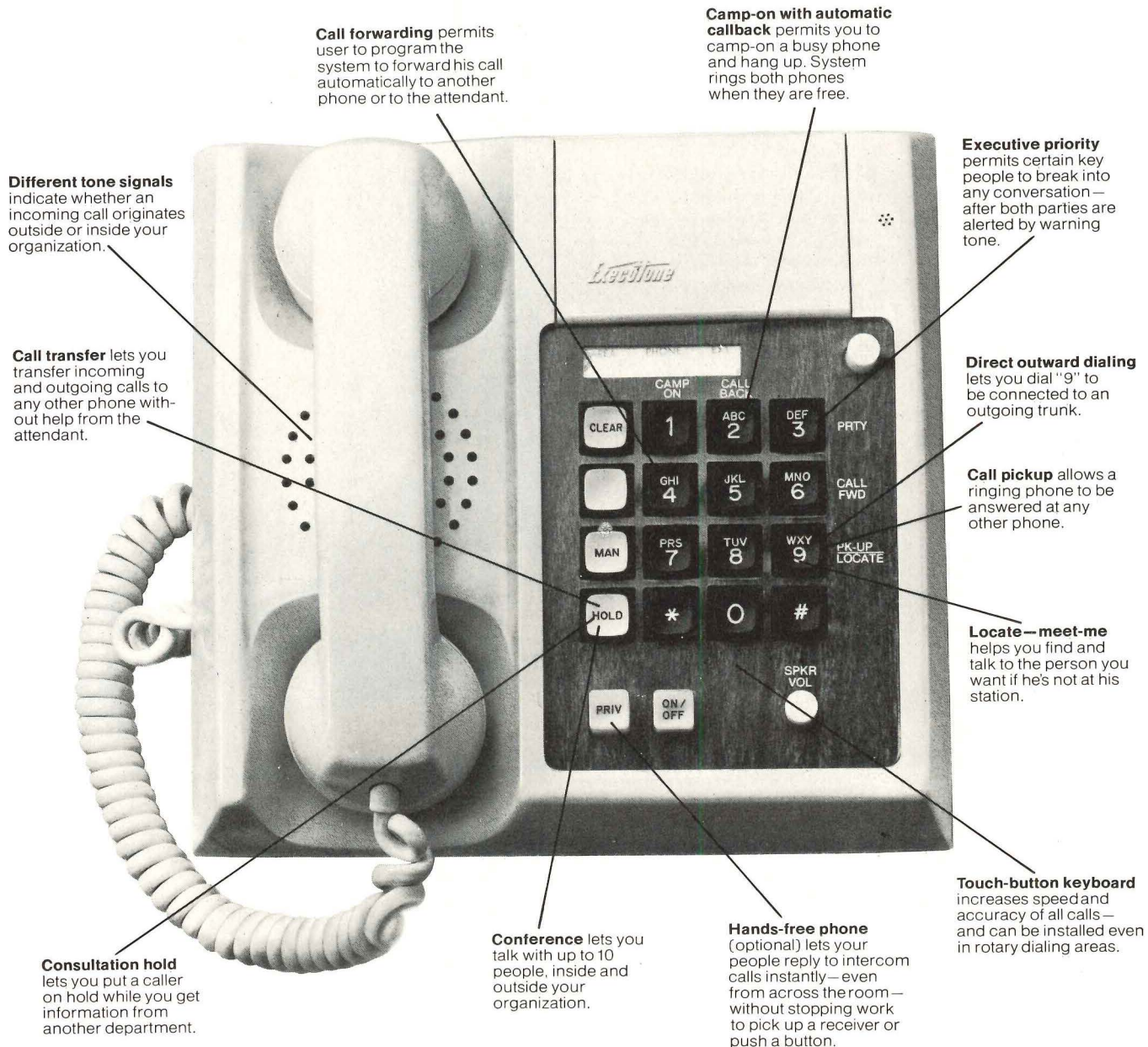
Congress has provided \$1 million in start-up funds for the National Institute of Building Sciences, and has suggested that the sum should allow the organization to begin hiring a permanent staff.

Even before the money was voted, the Institute's Board of Directors hired a part-time consultant, Gene C. Brewer, a former building products company executive. He is expected to be named NIBS's full-time president.

In approving funds for the Institute, Congress made it clear that NIBS should be independent from the De-

partment of Housing and Urban Development. Many industrial boosters of the organization have worried that appropriation of the funds via HUD would lead to its subservience to the giant Federal agency.

Originally, the NIBS board had sought a \$5-million appropriation from Congress. The lower amount they received reflects a Congressional desire that NIBS become financially independent more quickly. So far, NIBS has received \$140,000 from HUD.—William Hickman, *World News, Washington*.



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