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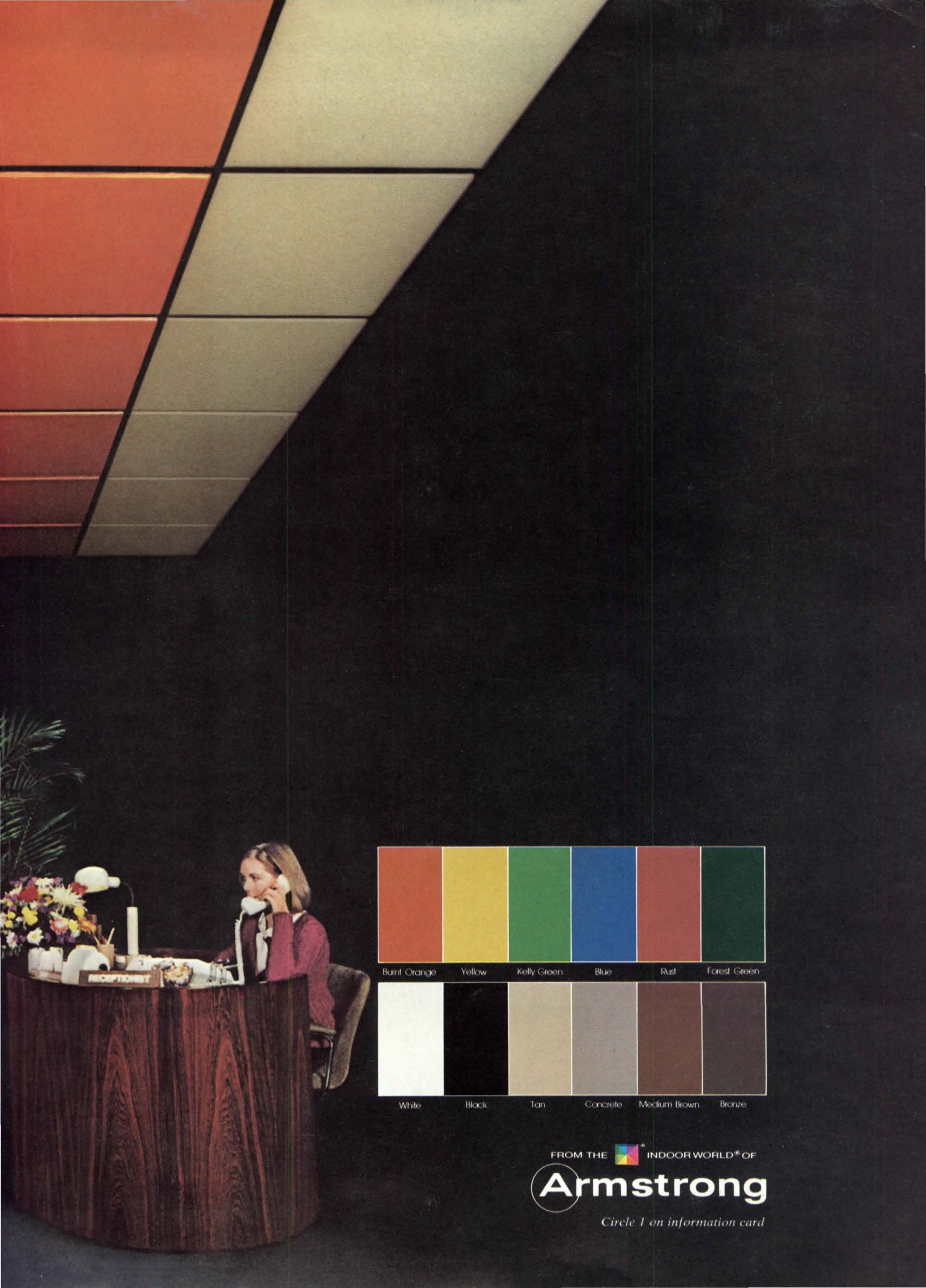
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New Era—Classic Square



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EVENTS

June 15-19: Value Engineering and Life Cycle Costing workshop, Houston. (Repeat workshops Sept. 28-Oct. 2, Las Vegas; Nov. 2-6, Mexico City, Mexico.) Contact: Professional Development and Meetings Division, The American Consulting Engineers Council, 1015 15th St., N.W., Washington, D.C. 20005.

June 16-19: National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago.

June 18-19: Course on Wind Load, Tornadoes and Building Codes, Kansas City, Mo. Contact: Henry Liu, 1042 Engineering Building, University of Missouri-Columbia, Columbia, Mo. 65211.

June 20: Course on Building Your Own Solar System, Jordan College, Cedar Springs, Mich.

June 20-25: Association of Collegiate Schools of Architecture/AIA Teachers Seminar, Cranbrook, Mich. Contact: ACSA, 1735 New York Ave. N.W., Washington, D.C. 20006.

June 22-23: Institute on Passive Cooling Systems for Buildings, University of Wisconsin-Madison.

June 22-24: Construction Specifications Institute annual convention, St. Louis. Contact: CSI, 1150 17th St., N.W., Washington, D.C. 20036.

June 22-26: Course on Fundamentals of Noise and Vibration Control, Massachusetts Institute of Technology.

June 25: Workshop on Adaptive Reuse: Opportunity for Housing, Yale University, New Haven, Conn. Contact: Alvin Dunaisky, Tri-State Regional Planning Commission, 1 World Trade Center, 82nd Floor, New York, N.Y. 10048.

June 25-27: National Back-to-the-City conference, University of Wisconsin-Milwaukee.

June 26-27: Course on Architects and Real Estate Development, Hotel del Coronado, San Diego. Contact: Betty Travis, Professional Development Coordinator, California Council/AIA, 1414 K St., Suite 320, Sacramento, Calif. 95814.

July 6-10: Course on Lighting Fundamentals for Architects and Interior Designers, Boulder, Colo. Contact: Lighting Design Institute, 2888 Bluff St., Suite 219, Boulder, Colo. 80301.

July 8-10: Workshop on Creativity in Building Design, University of Wisconsin-Madison.

July 8-10: Workshop on Specifying Automated Building Energy Control Systems, University of Wisconsin-Madison.

July 10-11: Course on Advanced Solar Energy, Jordan College, Cedar Springs, Mich.

July 13-15: Seminar on Computer Graphics: Current Technologies & Practical Applications, College Park, Md. Contact: Center for Management Development,

College of Business and Management, University of Maryland, College Park, Md. 20742.

July 20-21: Seminar on Construction Claims: How to Manage Contract Changes Profitably, College of Business and Management, University of Maryland.

LETTERS

A Case for Bruno Taut: Your editorial on "postformalism" (Feb., p. 39) is astute and makes sense. I was interested in learning that postmodernism is already finding challengers.

The thought behind your criticism to take functionalism seriously appeals to me. How far you go to be only "functionalistic" or "formalistic" is another question. You got the right word when you said that we will have to respect *both*, the natural and the man-made context. Contrary to what many esthetic critics seem to think today, architecture is neither sculpture nor outdoor museums. Actually, the early pioneers of the functional persuasion tried to achieve a comprehensive view of functionalism. Sullivan certainly did.

Let me take up your challenge to come up with the name of a "modernist hero who was deeply involved in improving techniques of programming." In this country we could name, for example, the brothers Keck who investigated human needs and the effects of solar exposure, and Richard Neutra who studied carefully psychological and user needs as well as the inside-outside environmental relationships. Since we are in the habit of thinking only of Mies and Gropius as modern heroes, we ought not to forget another Bauhaus architect, Hannes Meyer, who was a fanatic when it came to programming and scientific analysis of buildings. We could also think of Alexander Klein who scrutinized his building and planning work thoroughly with scientific-analytic methods.

In *my* book, however, the ideal example is Bruno Taut who subjected his housing design to thorough functional analysis and taught his methods at the Technical University. He warned, however, that these useful tools ought not to be taken as a means to "figure out design," as little as any of the related technical disciplines can be an exclusive tool. He cared deeply about the individual artist's creativeness. He venerated indigenous architecture. His artistry always started out from looking at the human being and his needs, ever striving for comprehensive and integrated solutions. That was one reason why he did not think that there could be one International Style that satisfies conditions in all cultures and climates.

His artistry was, of course, expressed in space and form, though not in formalism. Good art in architectural design must be based on good programming and analytical studies. In his own architectural theory he redefined the old term "proportion" as the essential element in architecture. What is new is that it does not only refer to matters of form but to everything that may or should enter design considerations, from conceptualization through construction, use of materials to the careful consideration and programming of all data. (Unfortunately his theory of design has only been published in Japanese, Turkish and more recently in German. It is to be hoped that an American publisher will be found. It would save us a lot of redundant discussions.) Good design, formalistic or not, must satisfy all data of the program.

This precludes dogmatism. It opens the way to asking the right questions and to recognizing the hierarchy of values. To produce valid design with this integrated process is one of the greatest challenges in our work. Environmental design, together with structural inventions and changes in availability of materials, will force us to ignore doctrinaire formalisms, nostalgia and stylistic eclecticism. Think what solar design alone will do to design. We may call this development perhaps a "Third Force," but we cannot continue with esthetic dogmas and superficial form without doing harm to the purpose of the building. It's not just a matter of "having fun" and shrugging off human needs.

H. H. Waechter, AIA
Creswell, Ore.

Mr. Waechter wrote this letter March 9. On April 17, he died after an extended illness. The JOURNAL plans to publish an obituary in a subsequent issue.

Neutra Footnote: The review of the book about Schindler and Neutra (*Vienna to Los Angeles: Two Journeys*, March, p. 88) set me to thinking about how myths are born and propagated. Esther McCoy, author of the book, certainly knew those men, but few of the young "historians" who teach the history of architecture ever saw either Neutra or Schindler.

To add to the historical trivia I must report that one time Neutra told me that he had on his desk, for signature by a client, a contract in which he stipulated that not only would the client build the building *exactly* as he, Neutra, had designed it, without changes, but also that he *would* build it. He said he was tired of having people employ him to make plans and then change them, or not build them at all.

I never learned if he was able to make that stick.
Edgar Bissantz, AIA
Santa Barbara, Calif.



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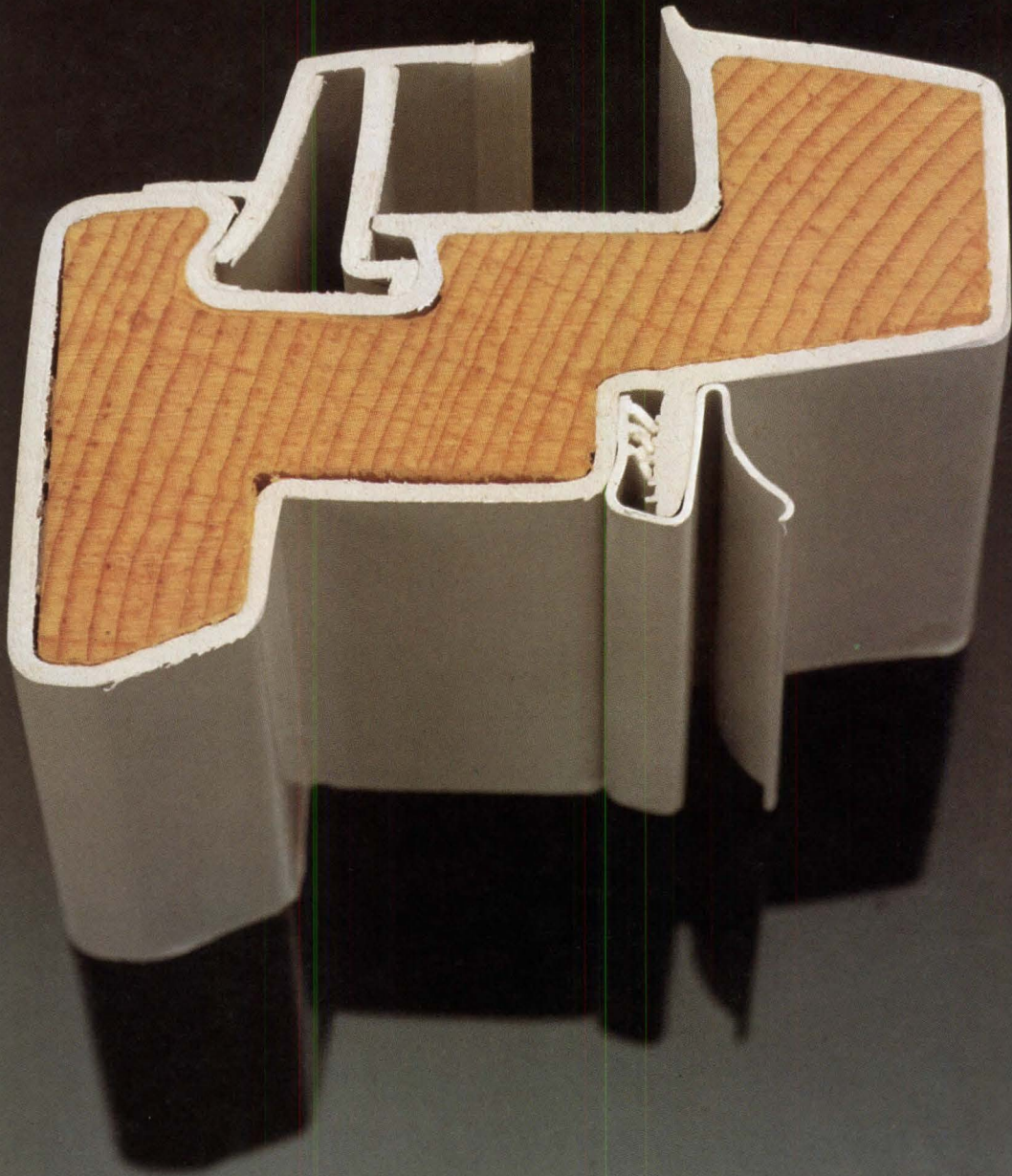
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The Fourth Annual Review of New American Architecture

- 138 The State of the Art—Donald Canty
140 'A Building of Great Integrity'—Stanley Abercrombie
148 Soaring Space Wrapped in Metal and Glass—John Pastier
158 Pert and Plainspoken Sanctuary—Andrea O. Dean
166 Clarity Behind a Projecting Facade—S.A.
175 Simple but Sophisticated Farmhouse—A.O.D.
182 Shining and Sinuous Structure—S.A.
192 Burly Presence on a Significant Site—S.A.
198 University Arena Finely Crafted of Brick—A.O.D.
201 Sleek Object in a Shaggy Neighborhood—Nora Richter Greer
204 Streamlined Bank in a Chicago Suburb—N.R.G.
208 Curving Around a Crucial Corner—S.A.
215 Glass Tower Brought to Life—and Light—S.A.

2010 Visions

A varied group of practitioners and observers looks to the architecture of the next century.

2010 The 1981 AIA Honor Awards

Eight new and seven recycled buildings premiated—N.R.G.

30 AIA Component Awards

A sampling of state and local winners—N.R.G. and Allen Freeman

119 The Year's Architectural (and Related) Ideas

From the turbulent world of words—and of paper architecture. By Jane Holtz Kay

4	Events	252	Furnishings
4	Letters	359	Books
13	News	374	Advertisers

Cover: Photograph, by Hursley & Lark/Greg Hursley, of Fay Jones' Thorncrowne Chapel, Eureka Springs, Ark. (see page 140).

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The AIA JOURNAL, publication number: ISSN0001-1479, official magazine of The American Institute of Architects, is published 14 times yearly at 1735 New York Ave. N.W., Washington, D.C. 20006. **Subscriptions:** for those who are, by title, architects, architectural employees and to those in architectural education (faculty, schools and students), and to libraries, building construction trade associations and building products manufacturers: base rate \$24 a year in the U.S., its possessions and Canada. For all others: \$30 a year in the U.S., its possessions and Canada. All others outside the U.S., its possessions and Canada: \$40 a year. Single copies, \$11 each. Publisher reserves the right to refuse unqualified subscriptions. For subscriptions: write Circulation Department; for change of address: send Circulation Department both old and new addresses; allow six weeks. Quotations on reprints of articles available. Microfilm copies available from University Microfilm, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Referenced in *The Architectural Index, Architectural Periodicals Index, Art Index, Avery Index to Architectural Periodicals*. Second class postage paid at Washington, D.C., and additional mailing offices. © 1981 by The American Institute of Architects. Opinions expressed by the editors and contributors are not necessarily those of AIA. VOL. 70, NO. 6.

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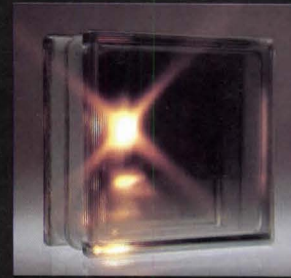
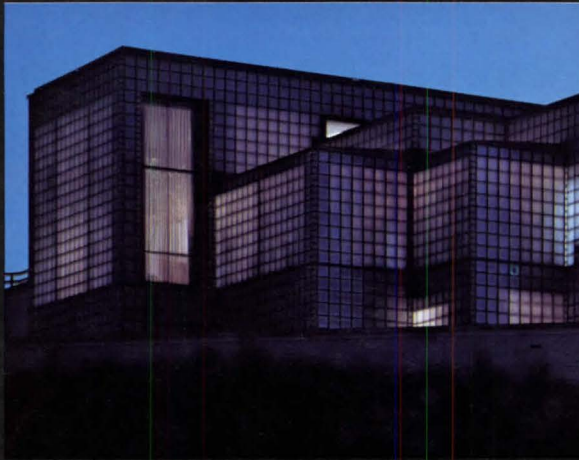
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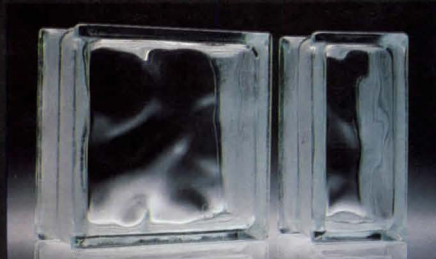
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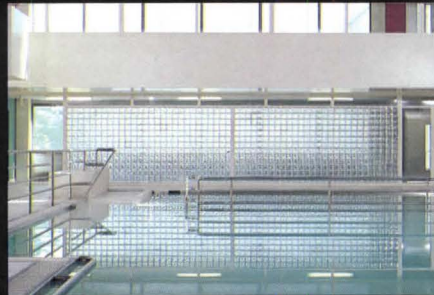
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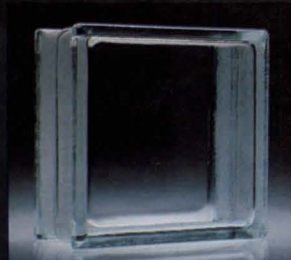
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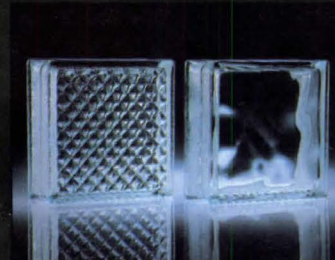
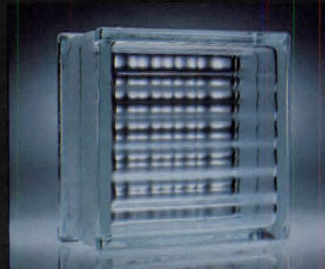
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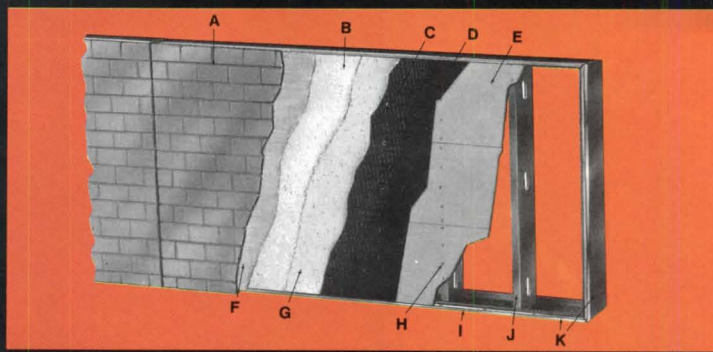
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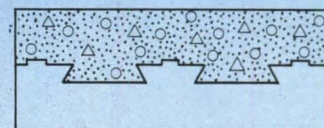
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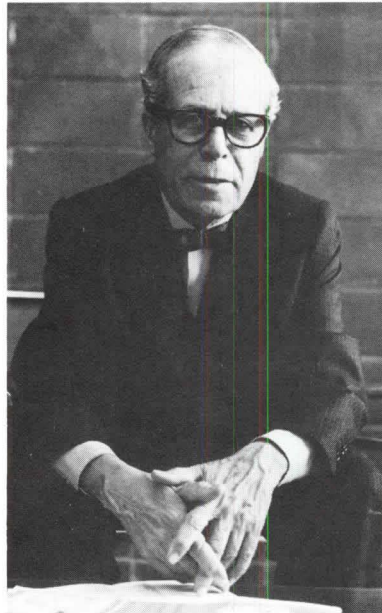
The Year's Architectural (and Related) Events

The following is a summary of some of the major events within or affecting the profession of architecture in the year between publication of the 1980 and 1981 editions of this annual review, starting with a recapitulation of the year's major awards and competitions. The summary is the work of Kevin W. Green, a Washington, D.C., writer who specializes in architecture.—Ed.

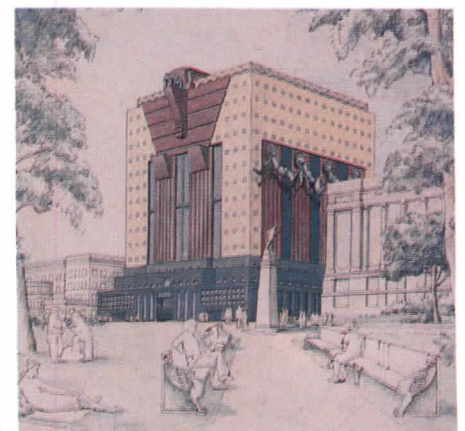
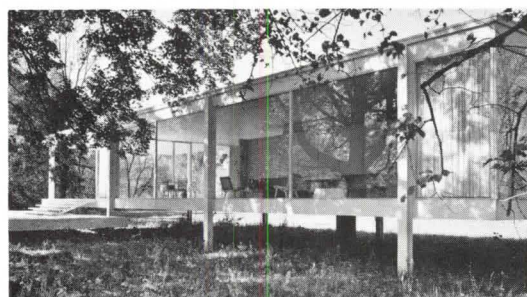
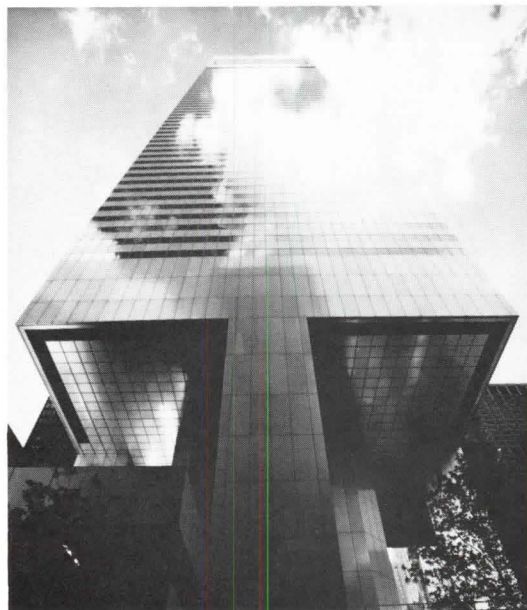
Architect and urban planner Josep Lluís Sert, FAIA, native of Spain and founder of Sert, Jackson & Associates, Cambridge, Mass., was selected by AIA's board of directors to receive the 1981 AIA gold medal, the highest honor the Institute can bestow. Called "one of the founders of today's architecture" by gold medalist Philip Johnson, FAIA, Sert was born in Barcelona and studied under Le Corbusier before coming to the United States after the collapse of Republican Spain. The Cambridge firm he eventually founded has been the recipient of five AIA honor awards (including one this year) and the AIA architectural firm award. Sert was to receive the Institute's 42nd gold medal in ceremonies attended by fellow gold medalists I. M. Pei, FAIA, and R. Buckminster Fuller, FAIA, at AIA's 1981 convention in Minneapolis.

British architect James Stirling, Hon. FAIA, and Mexican artist and architect Luis Barragán were respectively named the 1981 and 1980 winner of the International Pritzker Prize. Established in 1979 and sponsored by the Hyatt Foundation, the prize is granted annually to a "living architect or architectural group whose work demonstrates those qualities of talent, vision and commitment that have produced significant contributions to humanity and the environment through architecture." Jury member and winner of the 1979 prize Philip Johnson, FAIA, proclaimed that Stirling "is in the vanguard of the new movement, which includes historic allusion and contextual considerations." Barragán was honored for "his commitment to architecture as a sublime act of poetic imagination."

continued on page 16



Among the year's winners are, clockwise from left: Josep Lluís Sert; Hardy Holzman Pfeiffer (pictured, their Best Products headquarters); James Stirling; Michael Graves' Portland public service building; Farnsworth house, and Citicorp.



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Awards from page 13

Stirling was also the 1980 recipient of the royal gold medal for architecture presented by the Royal Institute of British Architects. The annual award is conferred "for work of high merit, or on some distinguished person or persons whose work has promoted either directly or indirectly the advancement of architecture."

The New York firm of Hardy Holzman Pfeiffer Associates was chosen to receive the 1981 AIA architectural firm award. The Institute's 25-year award, given in testament to lasting architectural excellence, was bestowed on Mies van der Rohe's Farnsworth house in Plano, Ill., Mies' last residential design. Chaired by Arthur Cotton Moore, FAIA, the award jury described the house as a "paradigm of the Miesian idea that has so profoundly influenced American architectural thought and design during the last quarter century."

Hugh Stubbins & Associates' Citicorp Center in Manhattan was named winner of the 1981 R. S. Reynolds memorial award, given annually to a "permanent, significant work of architecture in the creation of which aluminum has been an important contribution." The design for a cultural center in Cyprus by Frederick Taberner, a student at Pratt Institute school of architecture, won the Reynolds aluminum prize for architectural students.

Shozo Uchii's Minobusan Kuonji Temple treasury building for a forested site in central Japan won the 1980 R. S. Reynolds memorial award. J. Rodgers Critz, fifth year student at the University of Arkansas, received the 1980 Reynolds student prize for his design of a passive solar wall incorporating aluminum shading louvers.

Marcel Breuer, FAIA, educator of a generation of architects at Harvard, was selected by AIA and the Association of Collegiate Schools of Architecture to receive the sixth joint award for excellence in architectural education.

Past AIA President Robert L. Durham, FAIA, of Seattle won the Institute's 1981 Edward C. Kemper Award, which honors a member "who has contributed significantly to the Institute and to the profession."

The 1981 Whitney M. Young Jr. citation, which recognizes "significant contributions . . . toward meeting the architectural profession's responsibility to the social issues of today," was given to Robert Traynham Coles, AIA, of Buffalo.

The 1981 AIA medals for those "who have inspired and influenced the architectural profession" were given to lighting consultant Edison Price, educator Colin Rowe and furniture manufacturer Herman Miller Inc.

Chosen to receive the AIA medals for "artists and craftsmen whose work is re-

lated to architecture" was sculptor Kenneth Snelson, acclaimed for his work in aluminum and steel.

The AIA medals for "illustrators and recorders of architectural accomplishments" went to *New York Times* architecture critic Paul Goldberger and historian Sir Nikolaus Pevsner.

The Reynolds Metals Co. and the Smithsonian Institution's Smithsonian Associates program were chosen to receive the 1981 AIA medals for "individuals or organizations responsible for a specific project related to architecture."

Named as honorary members of the Institute in 1981 for their "distinguished contributions to the architectural profession or its allied arts and sciences were television commentator David Brinkley; California Council/AIA attorney Gordon Fleury; Doris Chanin Freedman, president of New York City's Municipal Arts Society; architectural historian Arthur A. Hart; Mabel Krank, executive secretary of the Oklahoma Chapter/AIA and Oklahoma City Section; Public Buildings Service Commissioner Albert Rhodes "Mike" Marschall; Terry B. Morton, vice president of the National Trust for Historic Preservation; Mary E. Osman, senior editor of the AIA JOURNAL, and Martin Schaum, New York State Association/AIA legislative counsel for the past 10 years.

Eight foreign architects of "esteemed character and distinguished achievement" were named honorary fellows of the Institute in 1981. They are Elissa Makiniemi Aalto, wife and collaborator of the late Alvar Aalto; Polish architect and educator Jerzy Buszkiewicz; South African Hans Heyerdahl Hallen; David H. Hambleton, president of the Royal Architectural Institute of Canada; Vienna architect Hans Hollein; metabolist Kisho Kurokawa of Japan; Serapio Perez Loza, president of the Federation of Colleges of Architects of the Mexican Republic, and Canadian architect Eberhard H. Zeidler.

One of the year's major design competitions came to a close when the Australian government selected the partnership of Philadelphia's Mitchell/Giurgola and Australian-born New York architect Richard G. Thorp to design its new Parliament Building at the hub of Walter Burley Griffin's 1912 Canberra city plan. Said Australian Consul-General Sir Robert Cotton, "The winning design appears to meet Griffin's desire to keep Canberra's hills free of buildings, but at the same time make the Parliament Building a focal point. This has been brilliantly achieved by having the Parliament Building set into Capital Hill."

The other major design competition of the year, for the Portland Public Service Building in Portland, Ore., was captured with Michael Graves' massive and multi-

hued postmodernist design after a protracted and controversial city-sponsored invitational competition for the commission. The winning scheme marks Graves' debut as an architect of public buildings.

Graves also won the competition for design of a library in the town of San Juan Capistrano, Calif. The library will be sited a few hundred yards from the grounds of the fabled old Spanish mission to which the swallows annually return.

In other significant design competitions, a soaring aviary design by sculptor Robert Irwin and landscape architect Ace Torre won the experimental competition—an AIA R/UDAT team suggested pairing artists and landscapers into design teams—for Duncan Plaza, a neglected triangular greenspace fronting New Orleans' city hall. And Sydney architect John Andrews International won the invitational competition to design the Washington, D.C., headquarters of the International Telecommunications Satellite Organization. Andrews' design places offices, conference areas, an operations center, a satellite control tower and other facilities in a series of 85x85-foot "pods," each four or five stories tall.

Government: A Year of Change That Presaged Still Further Change

The political platforms on which John Anderson, Jimmy Carter and Ronald Reagan ran for President last year made no mention of architecture. But they did discuss such issues of interest to the profession as energy, urban affairs and the environment.

On energy, the Democrats gave conservation top priority and embraced implementation of the proposed federal building energy performance standards. The Republicans called conservation "vital" but rejected conserving "through government fiat," believing that "every Btu of genuine energy 'waste' in our economy would rapidly disappear if we immediately and completely dismantle all remaining energy price controls and subsidies." Anderson urged "a renewed look at conservation in all its varied forms."

On urban affairs, Anderson called for "changes in federal urban policy aimed at facilitating local self-reliance and initiative and restoring America's cities to their rightful position as vital centers of community and culture." The Democrats focused on jobs, pledging public works programs and a policy aimed at increasing private sector jobs "by attracting and strengthening business in cities." The GOP promised to "restore sound money and stimulate capital investment to cre-

continued on page 20

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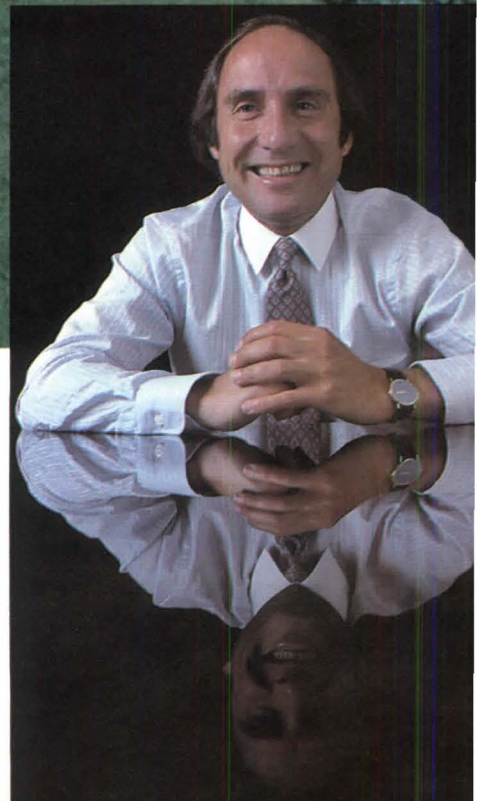


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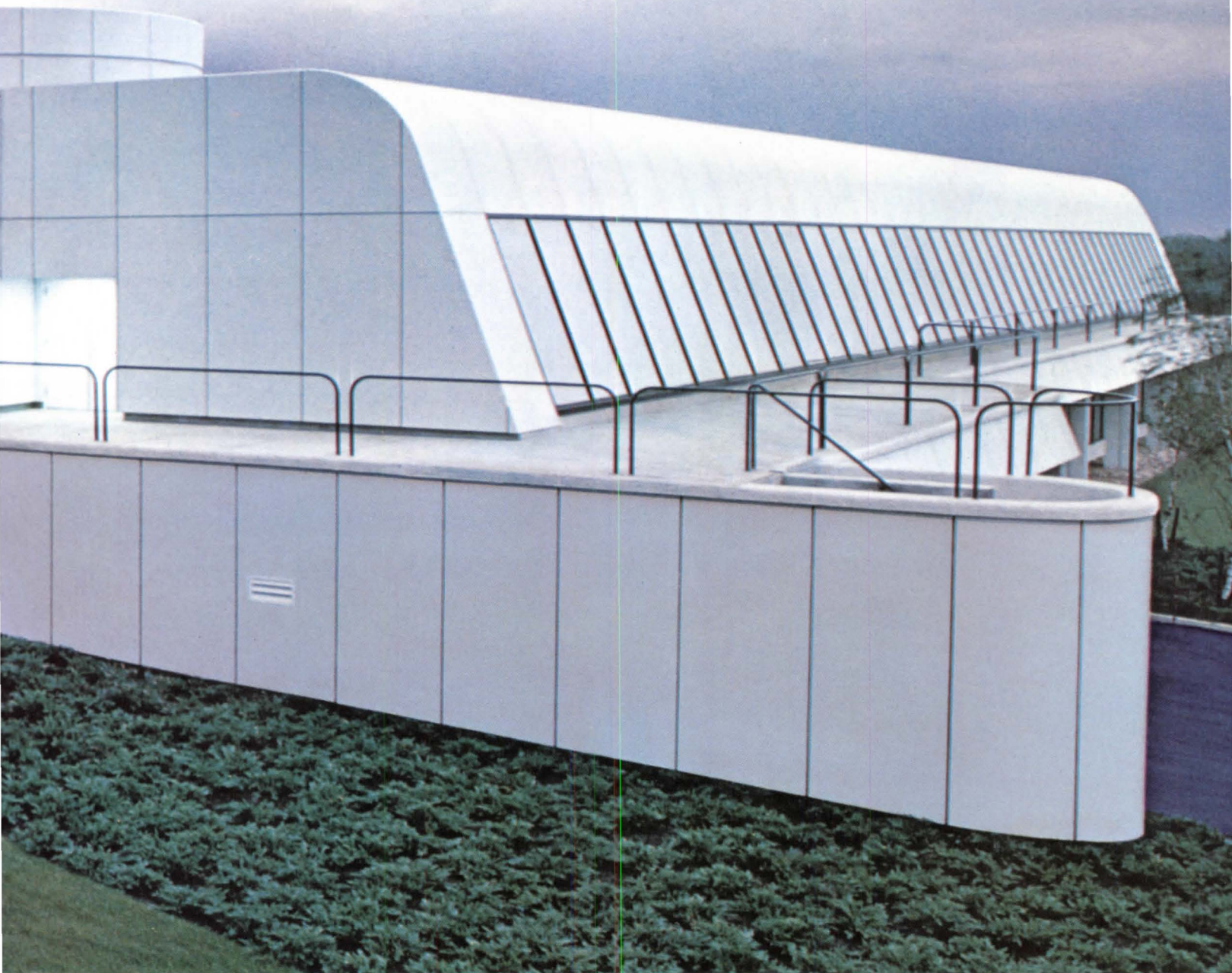
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Government from page 16
ate jobs, which will in turn help revitalize neighborhoods and cities."

On the environment, Ronald Reagan called it "imperative that environmental laws and regulations be reviewed and, where necessary, reformed to ensure that the benefits achieved justify the costs imposed." John Anderson warned that "we simply cannot automatically relax clean air, clean water and other pollution standards." Jimmy Carter pledged continuation of existing environmental policies but promised to hold costs down and eliminate "waste, duplication and delay."

After Reagan's victory, he wasted little time in announcing an "economic recovery plan" to reduce the federal budget for fiscal year 1982, calling for cuts in the fields of energy, housing and urban development, the arts and humanities, land conservation, historic preservation and transportation, among others.

Proposing to rely on market forces to achieve national energy goals rather than on "bureaucratically administered programs," Reagan called for a 60 percent reduction in solar energy spending and cuts in federal support relating to all other energy sources except nuclear.

Reagan proposed that HUD's urban development action grant and community development block grant programs be

integrated "into a more efficient and flexible grant mechanism" to save an estimated \$1 billion by 1986.

He recommended reductions of roughly 50 percent for the National Endowments for the Arts and Humanities. Said the former actor, "Reductions of this magnitude are premised on the concept that federal policy for arts and humanities support must be completely revamped" with "more emphasis" on "private philanthropy and state and local support."

Reagan said the Interior Department's programs in land conservation and historic preservation would be "refocused," and proposed a reduction in preservation support from \$32 million to \$5 million in 1982. Not long after, the Administration abolished the Interior Department's heritage conservation and recreation service, overseer of the National Register of Historic Places.

As for transportation, the President proposed a phase-out of mass transit operating subsidies by 1985 and reductions in mass transit capital grants and highway construction grants.

Initial statements from the President's cabinet-level appointees echoed the austerity line.

HUD Secretary Samuel R. Pierce Jr., the only black Cabinet appointee, said the Administration's budget cuts wouldn't

"inflict pain" on the poor and the elderly. He added that the best tonic for housing and cities would be reduced inflation and lower interest rates.

Energy Secretary James B. Edwards, an oral surgeon and former governor of South Carolina who considers himself a "problem-solver" rather than an energy expert, testified at his confirmation hearing that "the only answer we have to the U.S. energy shortage is nuclear energy," which he described as safer than oil, coal or natural gas.

James G. Watt, controversial secretary of the interior, an outspoken critic of the government's public land administration policies before his nomination, pledged to "strike a balance between the development and protection of our natural resources." He will promote the orderly development of coal, oil, gas and minerals on federal land, he said, while taking a more moderate stand than he has in the past.

A letter to President Reagan from AIA President R. Randall Vosbeck, FAIA, sent shortly after the budget-slashing proposals were announced expressed the Institute's support for the Administration's overall goals to bring federal spending under control, reduce the tax burden and streamline the regulatory process.

continued on page 24

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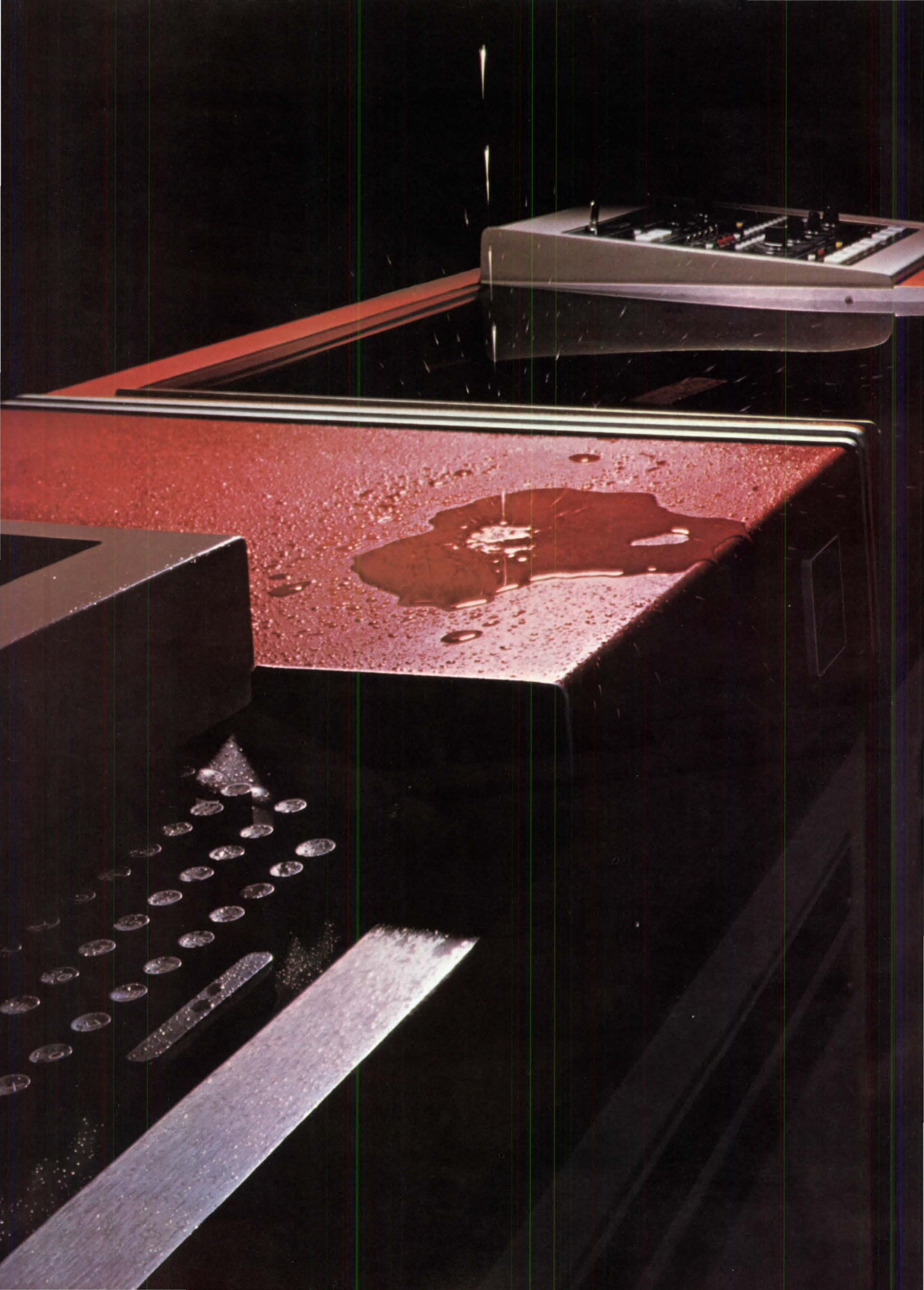
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Government from page 20

However, AIA members testifying before Congressional committees on Capitol Hill voiced the Institute's objections to specific cuts in federal preservation and energy programs.

On preservation, the Institute believes that the proposal to abolish the historic preservation fund would "decimate historic preservation efforts nationwide." On energy, AIA supports "well-conceived program cuts" for the Department of Energy and the consolidation of the department's conservation and solar programs into a "more streamlined building program." However the Institute "sees little to be gained from severe reductions in those programs that increase private sec-

tor capacity to design and construct energy efficient buildings."

The White House proposals also received mixed reactions from the housing, construction and planning sectors. Two organizations involved with public housing—the National Housing Conference and the National Association of Housing and Redevelopment Officials—strongly attacked the proposed budget cuts for HUD, contending that they are not "even-handed," "fair," "equitable" and not shared as much as possible with other federal programs.

The president of the American Planning Association asked the Administration and Congress to examine new and existing programs before final budget de-

isions are made. He also requested that the Administration "immediately begin fashioning its urban policy, long before the 1982 deadline required by Congress." The National Organization of Minority Architects criticized the possible cutbacks of affirmative action programs, especially for the Department of Transportation, which the organization called "an affirmative action model."

Preservation groups also had a mixed reaction to the proposal to eliminate Department of Interior matching grants for state historic preservation programs. Some viewed this with alarm, arguing that removing the states from the program would result in dismantling the preservation program. Others see it as continuing the trend to divert responsibility for preservation from the federal government to states, localities and private citizens.

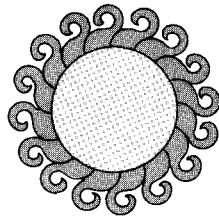
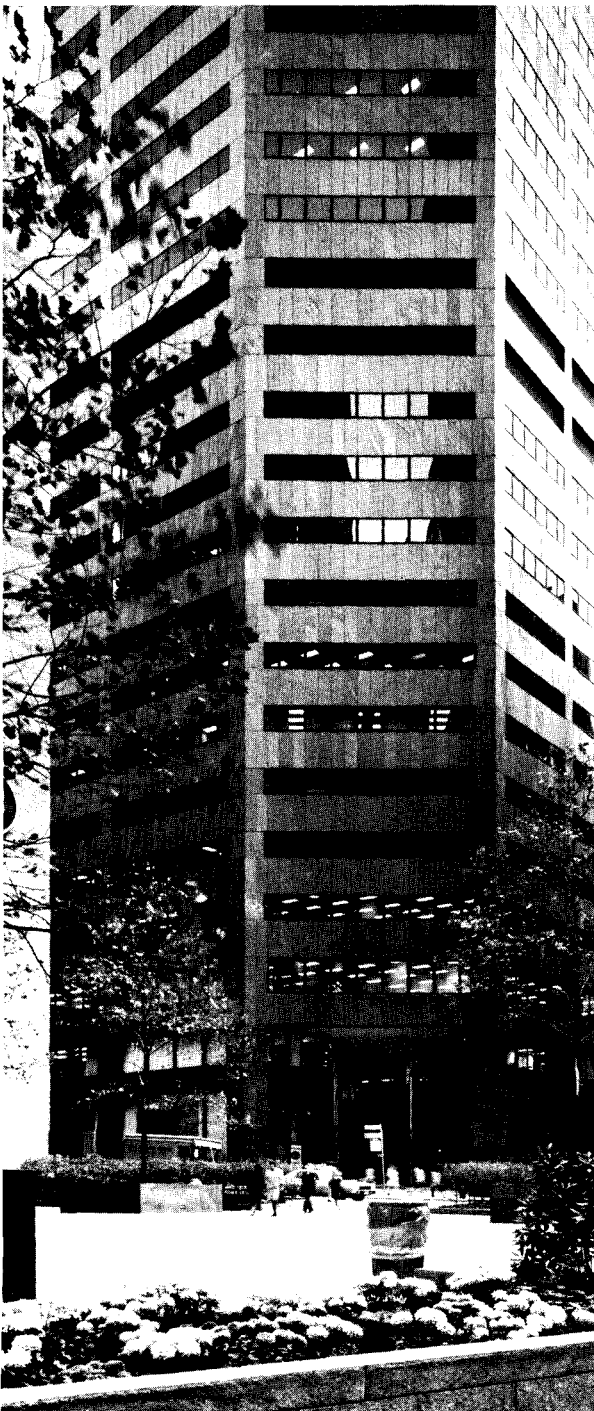
Meanwhile, late in 1980, the General Accounting Office reacted to the results of a survey of 745 A/E firms by recommending to Congress that computer capabilities be evaluated when A/Es are selected for projects on which computer-aided design methods—energy analysis, for example—can be used.

GAO also recommended that federal department and agency heads be instructed to require computers "in all areas when the quality of design or the structure to be built can be improved when computer aids are used," and that the criteria used in evaluating "the overall qualifications of firms for design contracts include computer capability and expertise."

GSA modified its procurement regulations to promote opportunities for small A/E firms. Under the change, all A/E contracts for construction projects "with an estimated construction amount not exceeding \$2.5 million shall be set aside for small business," unless the contracting officer determines that such a set-aside is "not feasible." Of all the architectural firms registered with GSA, 85 to 95 percent are considered small business enterprises, defined as firms whose annual gross receipts have averaged \$2 million or less over the last three fiscal years.

Projects budgeted at \$2.5 million to \$25 million were addressed in the Public Buildings Act of 1980, the controversial bill introduced by Sen. Daniel Patrick Moynihan (D-N.Y.). The Moynihan bill called for limited design competitions on large federal projects. When the 96th Congress ended its session the bill had not been passed by Senate/House conferees. Both House and Senate agreed on the bill's requirement that GSA establish one-year and five-year plans listing building projects in order of priority. But agreement couldn't be reached on the proposal that an annual authorization bill for gov-

continued on page 28



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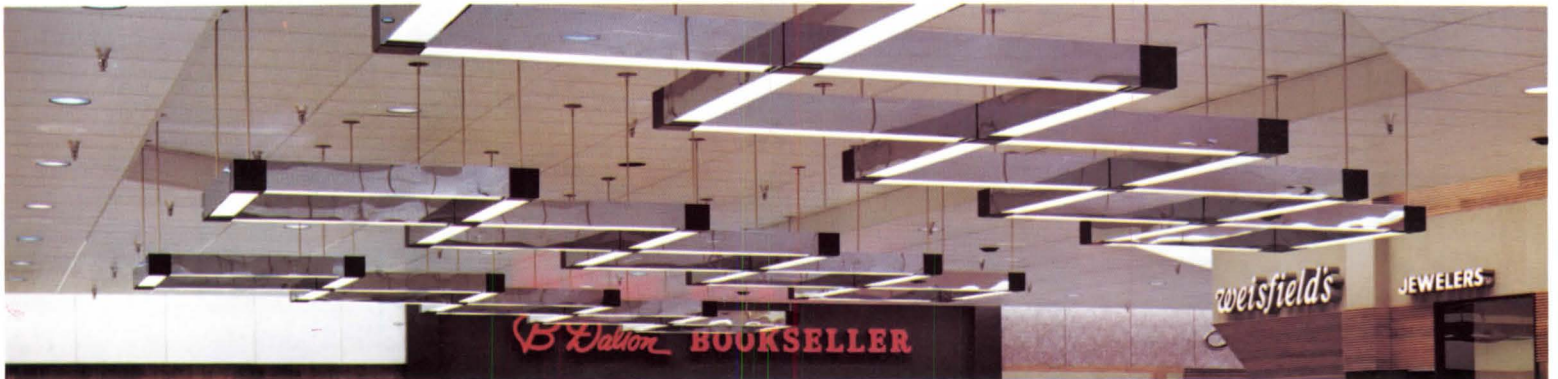
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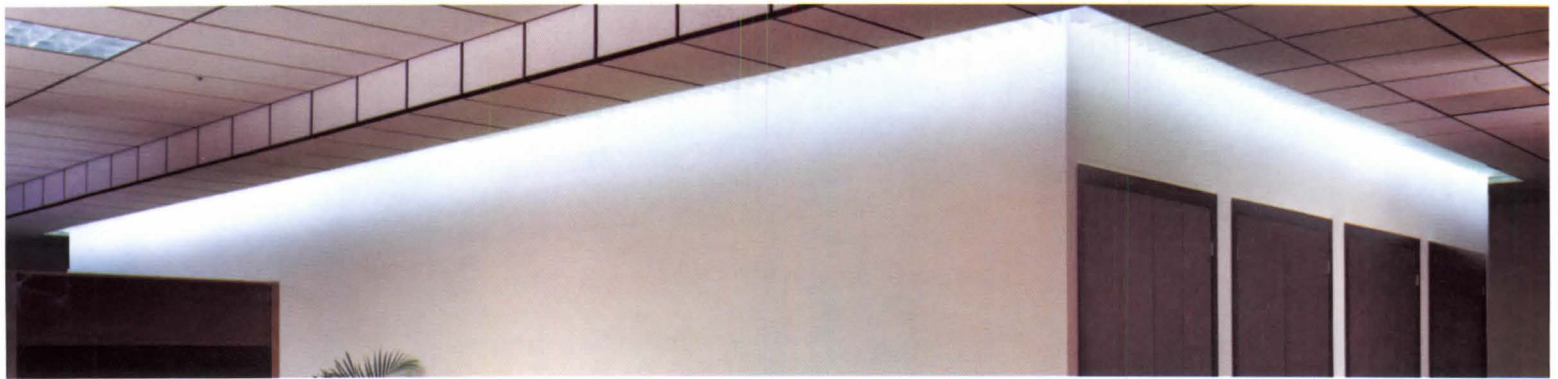
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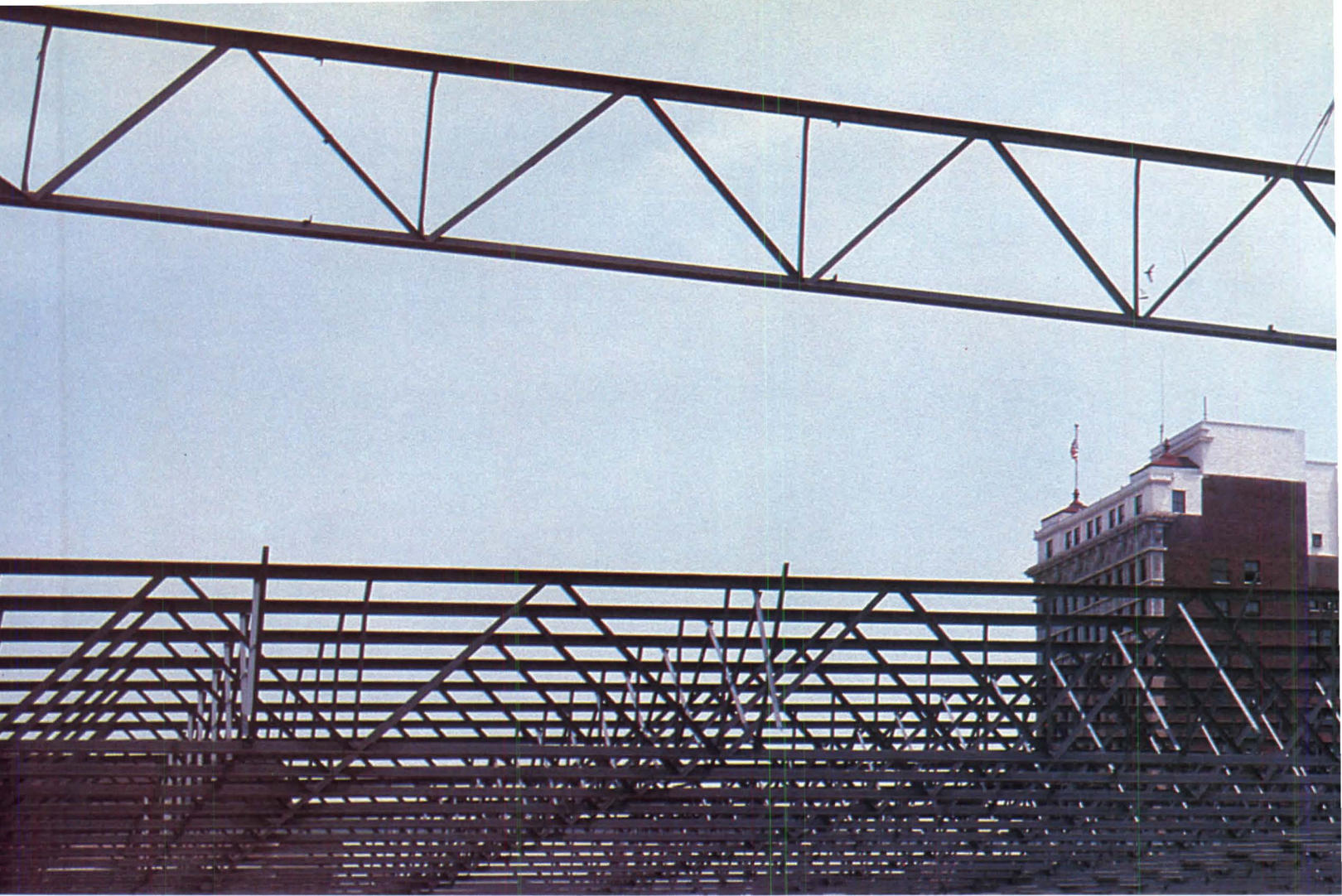
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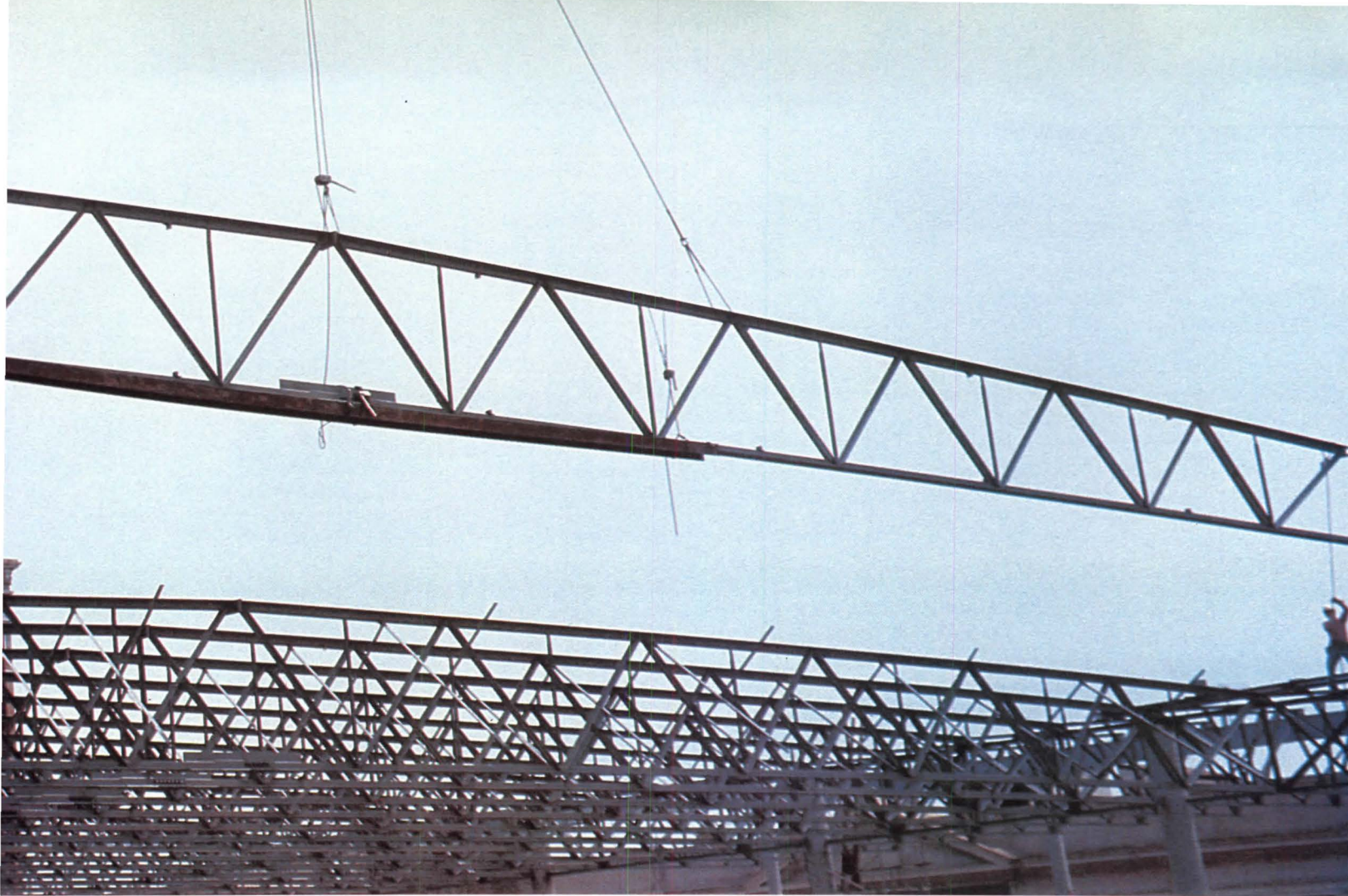
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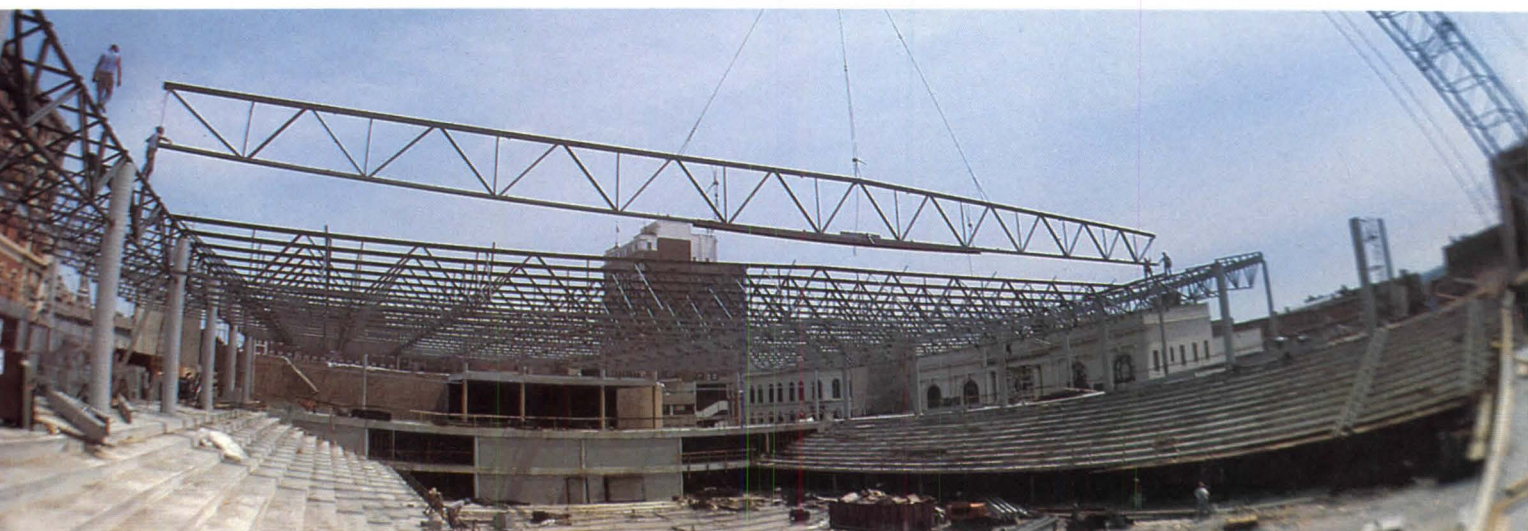
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Architects: Patty Berkebile Nelson Associates General Contractor: Wm. Grace Construction Inc. Structural Engineers: Stevson-Hall & Wade
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Government from page 24

ernment properties be required. As a result, controversial provisions on the use of design competitions in A/E selection, quota limitations for leases and accessibility standards for federal buildings were never resolved.

This year, bills almost identical to last year's versions were reintroduced in the House and Senate. Both bills favor building over leasing but disagree on such controversial issues as mandatory design competitions and increased design responsibility for government agencies. While the House bill does not mention design competitions, the Senate bill called for design competitions among no fewer than three qualified architectural firms for at least half of the public building construction and renovation projects expected to cost more than \$5 million. The bill was recently marked up by the Senate committee on environment and public works. The mark-up revisions call for design competitions for a "substantial portion of the building construction and renovation projects each year."

The Senate legislation says that design professionals employed by GSA shall prepare plans, drawings and specifications

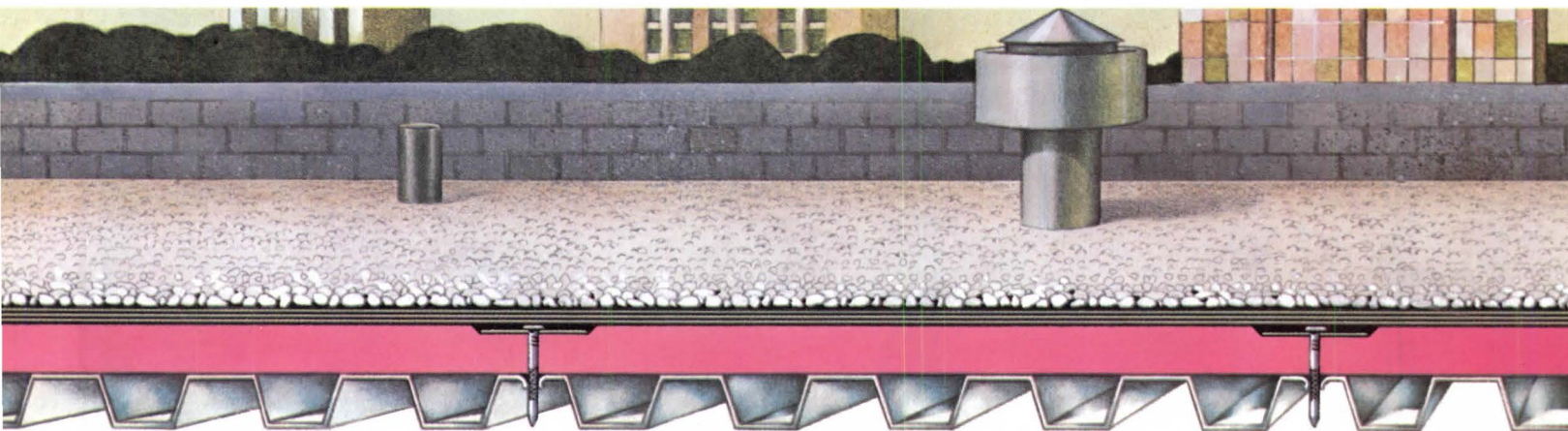
for some federal buildings to maintain their professional skills and training. The position of a supervising architect within GSA would be authorized, but there is no requirement that the position would be restricted to a registered architect. The House bill calls for a registered architect for that position.

During the last year, the "Brooks bill approach" to A/E procurement grew in popularity. The American Bar Association developed a model procurement ordinance based on that approach for use by small communities. The Virginia legislature passed a "mini" Brooks bill calling for competitive negotiation. A/E selection legislation modeled after the Brooks bill and the ABA model procurement code was introduced in the New Jersey legislature. New York and Utah brought to a total of 19 the number of states that have passed A/E selection laws. All but one are based on the AIA-supported Brooks bill approach as found in the ABA model procurement code. Maryland remained the only state with an A/E procurement law calling for competitive bidding, and the Maryland Society/AIA reported continued attempts to modify or repeal the law.

The federal government presented the nation with two new architectural gifts last year before the Reagan austerity wave swept into Washington.

First came the official founding of the National Museum for the Building Arts, authorized in the National Historic Preservation Act Amendments of 1980. The museum, to be both an exhibit and research center, will be housed in the Pension Building, a massive brick edifice designed by army engineer Montgomery Meigs in 1883. Bates Lowry, former director of New York's Museum of Modern Art, was named as the new museum's first director.

Next came the U.S. Postal Service's second round of four 15-cent stamps commemorating "Architecture U.S.A." with engravings of James Renwick's Smithsonian Institution in Washington, H. H. Richardson's Trinity Church in Boston, Frank Furness' Pennsylvania Academy of Fine Arts in Philadelphia and A. J. Davis' Lyndhurst in Tarrytown, N.Y. Unfortunately, Congressional approval of the new 18-cent first class postal rate succeeded in taking the architectural commemoratives out of general circulation shortly after their issue.



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Energy: With the Brakes On Federal Standards States Adopt Their Own

The Reagan Administration has decided to halt development of the Building Energy Performance Standards. The Department of Energy has received notice from the Office of Management and Budget that funding for fiscal year 1981 will be rescinded, upon approval of Congress. No funds will be requested for fiscal year '82 by the Administration. And for this year, the budget for BEPS development will be slashed 35 percent, which will leave only enough money to finish paying for contracts already underway.

By the time Reagan was elected president, final development of the standards had already been stalled. Last year conferring members of the House and Senate decided to delay final promulgation of BEPS until April 1, 1983. Since the original 1976 BEPS legislation called for implementation of the standards within a year of their promulgation, the conferees' decision pushes implementation of the standards forward to April 1984.

In the period between now and 1983, the Department of Energy had been required to issue interim regulations and conduct a 12-month "real-world" demonstration program. The interim regulations would have applied to all new federal buildings and serve as the base of the demonstration program in which DOE would analyze the effects of BEPS on commercial and residential buildings in at least two geographical areas. At the conclusion of the program, DOE would have been required to report to Congress on energy savings realized, cost of compliance and the impact of BEPS on small builders and on the home buying abilities of low- and moderate-income people.

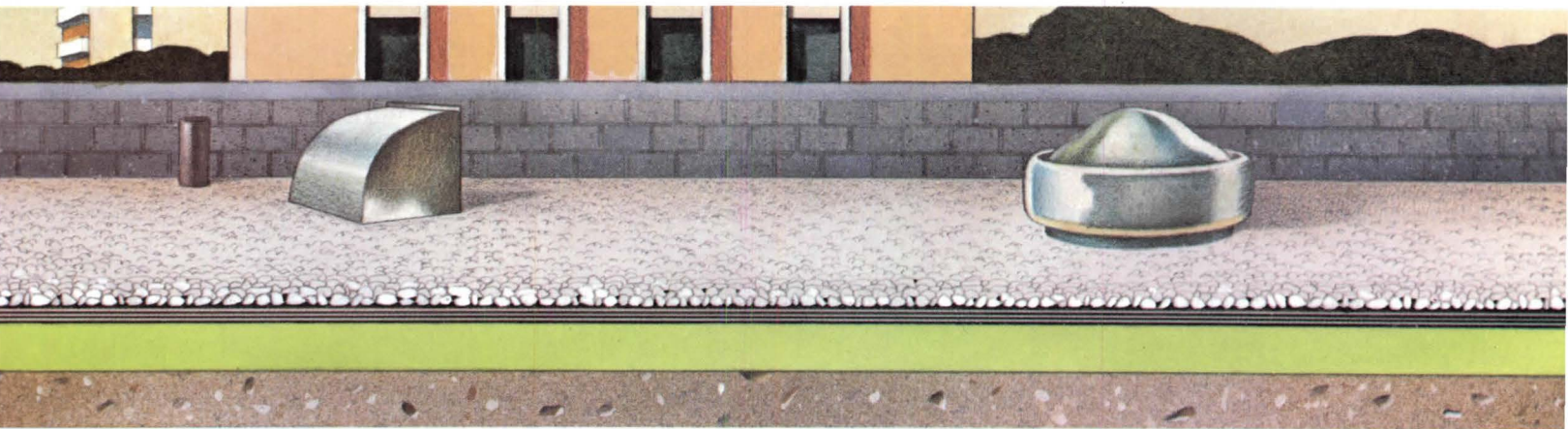
The National Conference of States on Building Codes and Standards, which favored delaying BEPS, reported that as of March 1981, 47 states had adopted energy conservation standards for new buildings. All but five had adopted a component-based standard, such as the American Society of Heating, Refrigeration and Air-Conditioning Engineers' standard 90-75. Four of the 11 states adopting ASHRAE 90-75 had modified the standard's technical provisions. Thirteen states had adopted the Model Code for Energy

Conservation in New Building Construction, recommended by the Council of American Building Officials and based on ASHRAE 90-75. Eight states used the energy code provisions of one of the nation's three major model code groups.

ASHRAE revised the first nine sections of its 90-75 standard, "Energy Conservation in New Building Design." Approved by the American National Standards Institute, the revision was designated standard ANSI/ASHRAE/IES 90A-1980. Sections one through nine cover the building envelope, HVAC systems and equipment, domestic water heating, energy distribution within the building and lighting. The lighting portion was written by the Illuminating Engineering Society of North America. As revised, the full standard also includes ASHRAE/IES 90B-1975, which incorporates sections 10 and 11 of the original ASHRAE standard, and 90C-1977, which is section 12 of the original standard.

In other news, a survey conducted by Arthur D. Little Inc. concluded that 52 percent of American consumers were unaware of federal and state tax incentives for the installation of solar heating sys-

continued on page 340



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AIA Component Awards

Many of AIA's local, state and regional component organizations conduct annual honor awards programs. A sampling of 68 recent award winners from these programs is seen here and on the following pages. The new and renovated structures were chosen to represent a wide range of building types and regional influences.

Nora Richter Greer and Allen Freeman



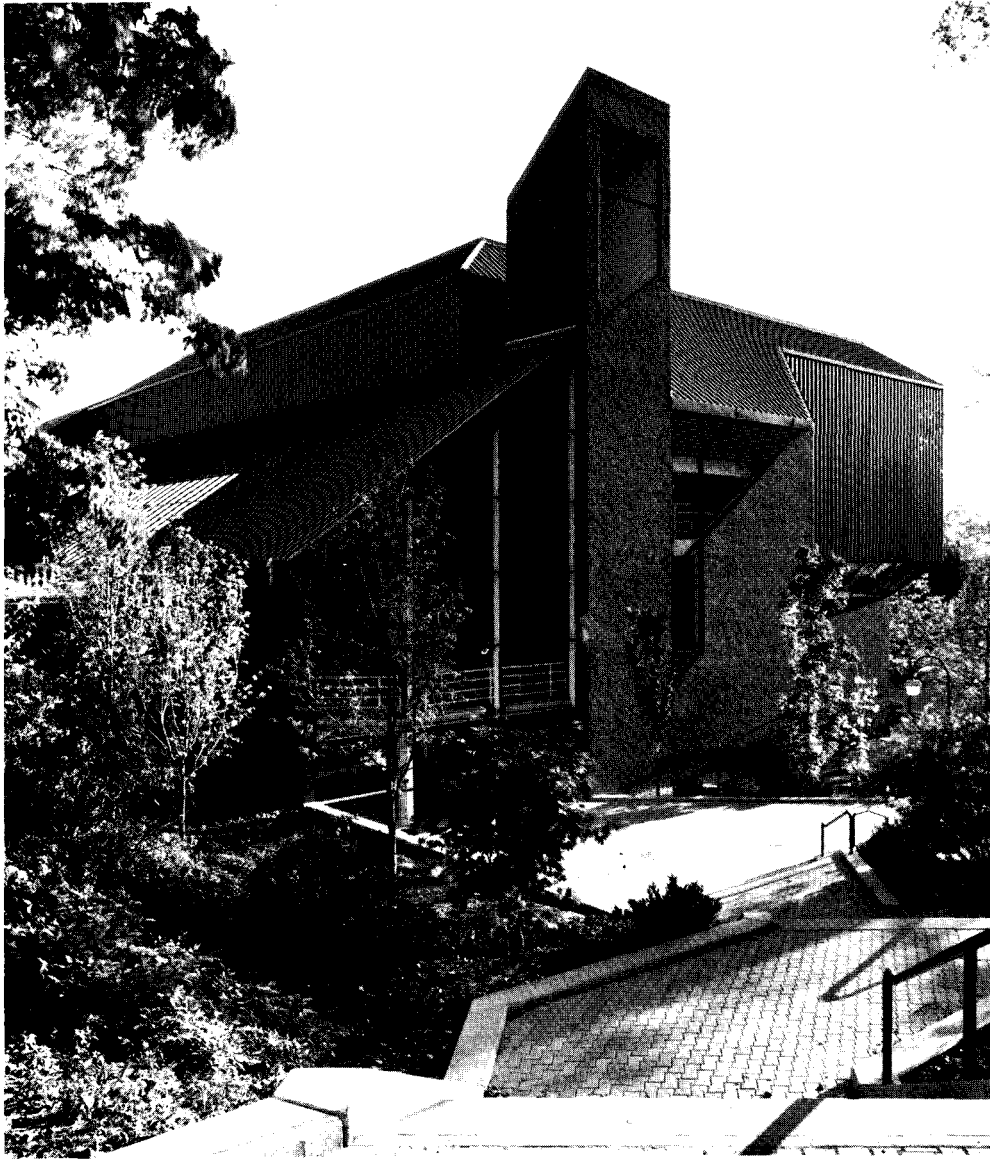
Nick Wheeler

Boston Society of Architects. The Library at Ramapo College of New Jersey, Mahwah, N.J.; Sasaki Associates, Inc., Watertown, Mass. and Mahoney & Zvosec, Princeton, N.J. (above). The form of the building is compatible with the slope of the hill on which it is situated. The form is accentuated by a series of sloping metal roofs and trapezoidal window areas that parallel the roof. The first and second floors are built into the hill with only one side exposed to daylight. The reading room on the third floor looks up through a large well to the fourth level.

Nantucket (Mass.) Elementary School; Earl Flansburgh & Associates, Boston (right). The problem was to build a contemporary elementary school that was to be the largest building on the island, while maintaining the intimate scale of the local architecture. Clapboard siding was chosen for the exterior to reflect the local materials. The windows have proportions, variety and trim that recall the openings in the simple cottages and houses of the island. The building is broken into three clusters, each with its own common area, grouped around a central library.



Joseph Rizza



Nick Wheeler

Boston Society of Architects. Ainsworth Gymnasium, Smith College, North Hampton, Mass.; The Architects Collaborative, Inc., Cambridge, Mass. (left). The new athletic building houses a full size gymnasium, swimming and diving pools, six squash courts, locker facilities, offices and classrooms. The exterior is brick and painted steel siding chosen to relate to the adjacent campus buildings. The new gym is linked by a skylit corridor to the existing Scott Gymnasium, which has been recycled for activities that require more general and multipurpose spaces. The jury called the building a "straight-forward solution to a difficult massing problem."

Riverview Housing Development, Yonkers, N.Y.; Sert, Jackson & Associates, Inc., Cambridge (below). This project is similar to the firm's residential complex on Roosevelt Island in New York City (see p. 256). On 7.8 acres of land, a combination of high- and lowrise buildings contain 797 apartments, shops, a day-care center and a community lounge. On each side of the centrally located elementary school are apartment clusters arranged around outdoor courtyards. As in the Roosevelt Island development, the apartments have a skip-stop elevator system: The elevators stop only at every third floor and private stairs lead to the units above and below.



Steve Rosenthal



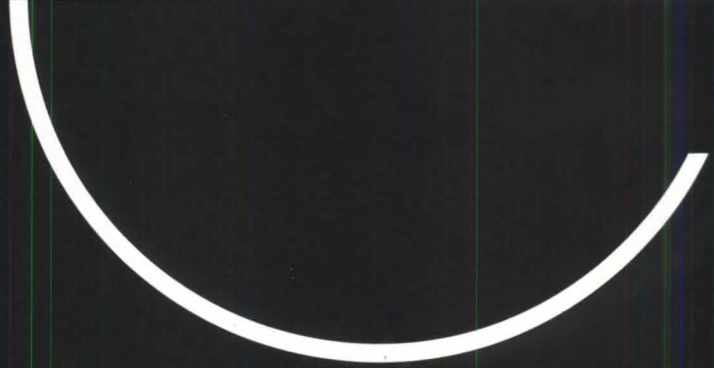
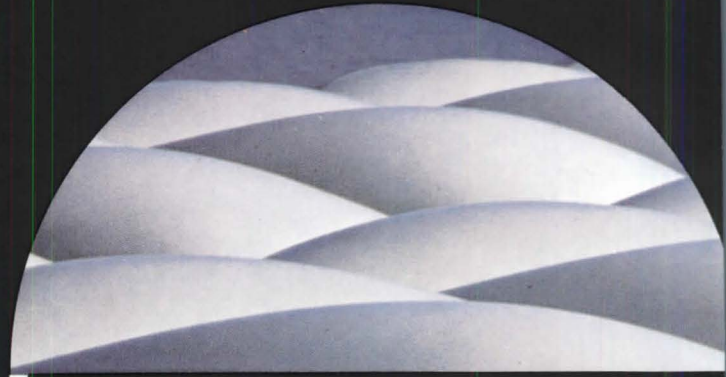
New England Regional Council. Slater Residence, Southern Connecticut; Jefferson Riley, AIA, of Moore Grover Harper, Essex, Conn. (left). A landmark ice house, situated between a river and a road, has been converted into a two-story weekend house. For privacy, all windows on the east side facing the road were eliminated. High windows and skylights offer views of the river on the west and north sides and admit natural light into the interior. The living room ceiling opens into a two-story court, around which are the master bedroom and bunk room. On the ground floor, the kitchen and dining areas are separated from the living room by an open stair.

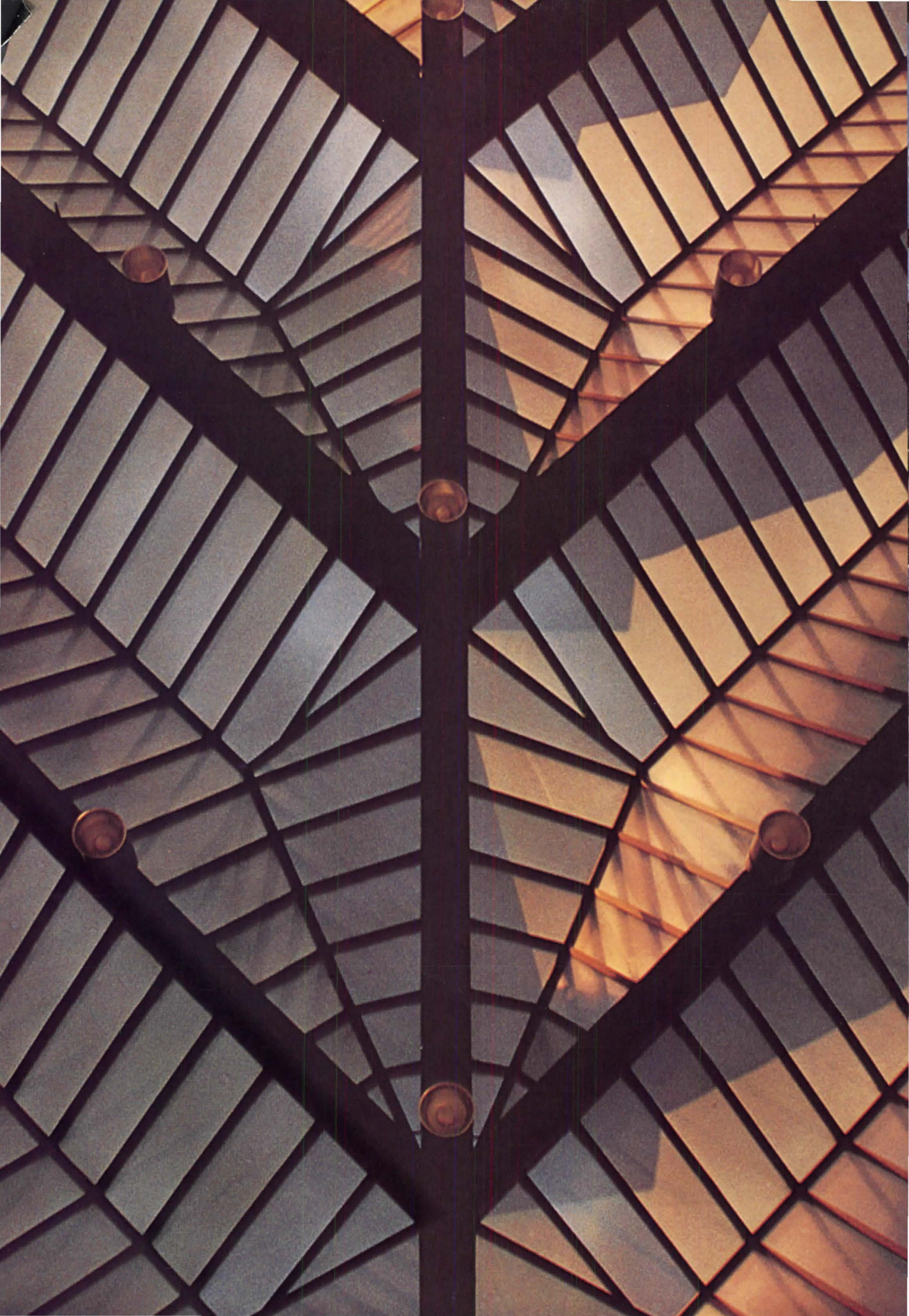
Crowell House, near Barre, Vt.; Mark Simon, AIA, of Moore Grover Harper, Essex, Conn. (below). The house is set into the side of a large open hill and looks out to the Green Mountains 40 miles away. It has an 18-inch sod roof that insulates the house and hides it from view further up the hill. The rear walls are concrete and insulated on their outside surfaces. The only exposed facade faces south, which allows the sun to heat it in fall, winter and spring. The only backup heating system is two wood stoves. In the summer, the house is shaded by the gabled roof and skylights provide both ventilation and illumination.

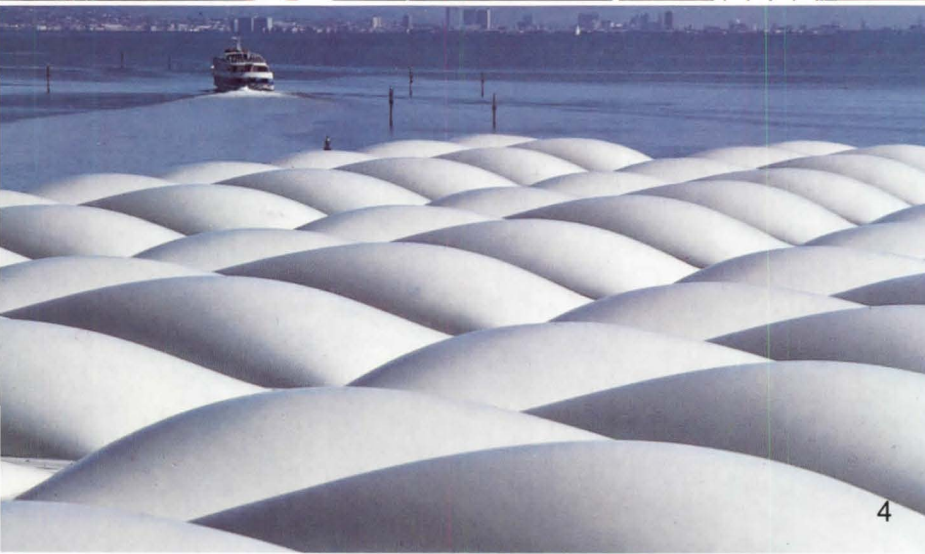
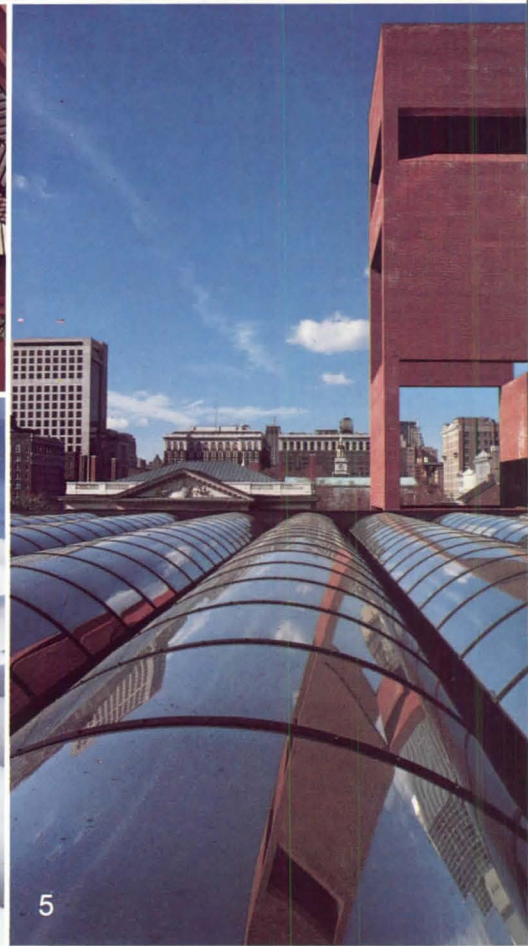
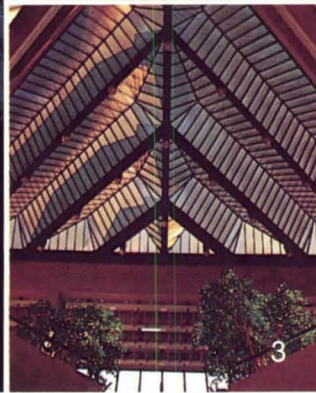
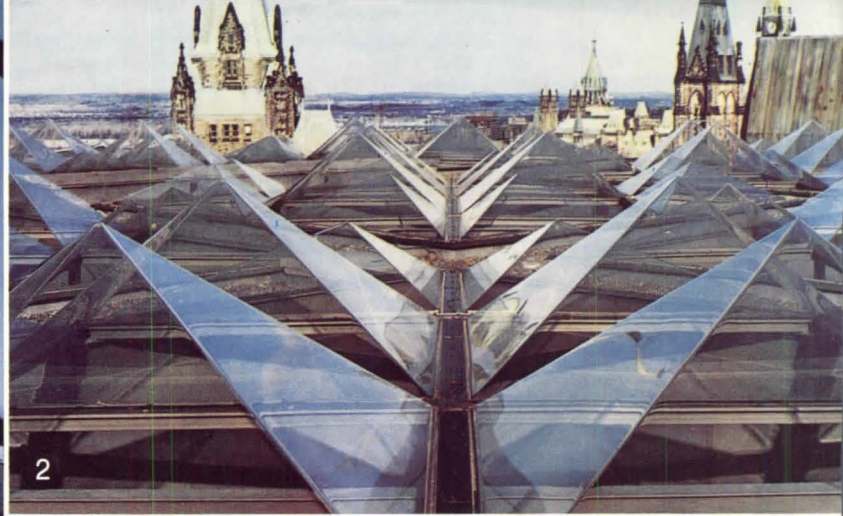


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Bronze 2412	35%	27%	0.43
Bronze 2404	56%	49%	0.62
Bronze 2539	62%	61%	0.68
Bronze 2540	75%	75%	0.79
Gray 2538	27%	16%	0.36
Gray 2537	41%	33%	0.49
Gray 2094	55%	45%	0.61
Gray 2514	62%	59%	0.68
Gray 2515	74%	76%	0.78
White Translucent 2447 1/4" Thick	45%	36%	0.44
White Translucent 7328 1/4" Thick	21%	17%	0.20

*Colored Plexiglas outside, 1/4" air space and colorless Plexiglas inside. Large area enclosures of acrylic, a combustible light transmitting thermoplastic, are not provided for in building code regulations because they do not conform to area limitation and separation requirements. Therefore, they require special permits based on analysis of all relevant fire safety considerations. One important relevant consideration is the use of automatic sprinkler systems which were used in all of the installations shown in this brochure except for the bus shelter.

1 Transit Mall Bus Shelter, Portland, Oregon, Architect: Skidmore, Owings & Merrill, Portland, Oregon. 2 Bank of Canada, Ottawa, Ontario Architect: Marani, Rounthwaite and Dick/Arthur Erickson, Toronto, Canada. 3 Wright State University Library, Dayton, Ohio, Architect: Don M. Hislop and Associates, Cleveland, Ohio. 4 Larkspur Ferry Terminal, Larkspur, California, Architect: Baccia/de Brer/Heglund, San Francisco, Calif. 5 Visitors Center Development, Independence National Historical Park, Philadelphia, Penna., Architect: Cambridge Seven Associates, Inc., Cambridge, Mass.

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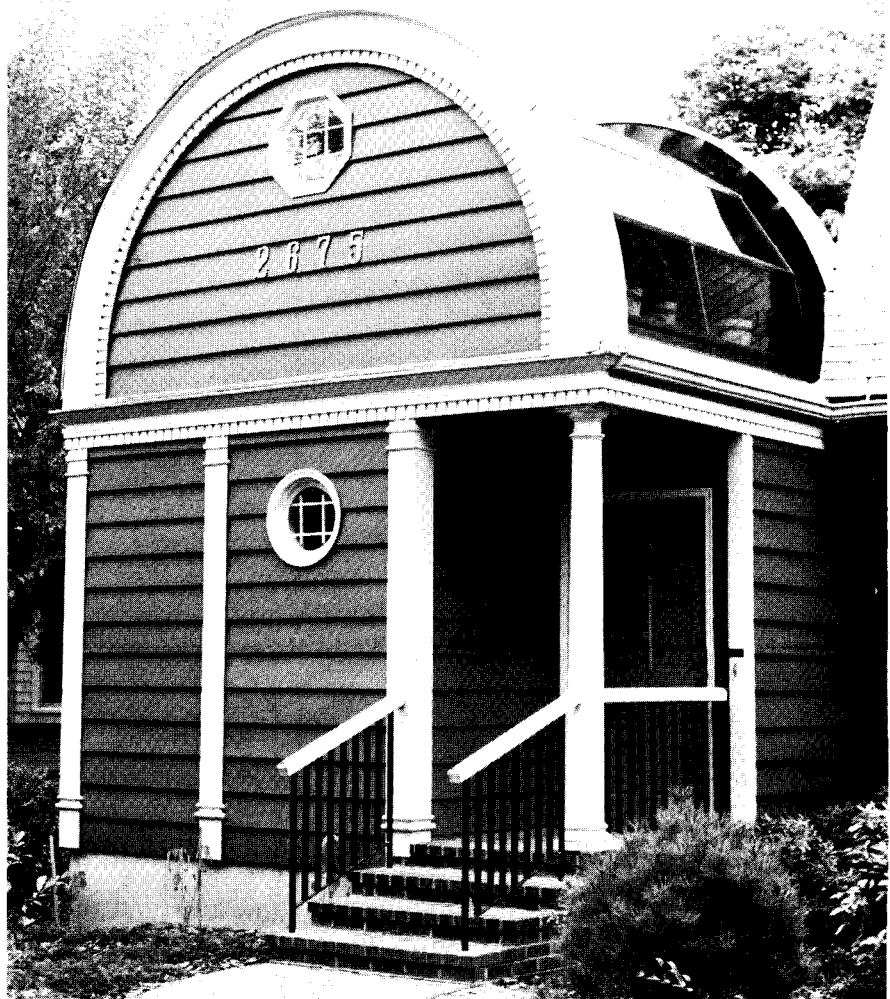
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Nick Wheeler

Connecticut Society of Architects. Yale University School of Organization and Management, New Haven, Edward Larrabee Barnes Associates, New York City (above). The project involved connecting four old buildings, different in style, with new construction. The whole group focuses onto a central court. The site's slope permits the main court to be one level below the two overlooking historic villas, thus allowing the roofs of the two new flanking wings to be developed as terraces. At the courtyard level, the two new wings tie in physically and in their details to the metal and glass walls of some of the existing buildings.

Dr. George Ardito Office Addition, New Haven; Edward Johnson & Co., New Haven (right). The architect was asked to design a 10x13-foot entrance addition to a dentist's clinic that is attached to his house. To balance the clinic's entrance with the main house's size and position, the architect chose a barrel vault roof. Classical pilasters, corner columns and arch trim were used to enlarge the scale and echo the house's doorway. A south facing skylight on the entrance roof admits light deep into the interior. The architect also designed an addition to the back of the clinic.



Rhode Island Chapter. The Arcade, Providence; Irving B. Haynes & Associates, Providence (right). The Greek revival structure was built in 1828 to house shops and offices. Now a national landmark building, the renovated Arcade is a focal point for the commercial renaissance in downtown Providence. To create a center court, three bays on both sides of the main corridor were recessed. The second-floor *passarelle* was widened and central stairs were introduced in the middle bay. A transparent curtain wall was added at the ends of the central space. The basic color scheme for the main spaces was derived from an analysis of the original surfaces.

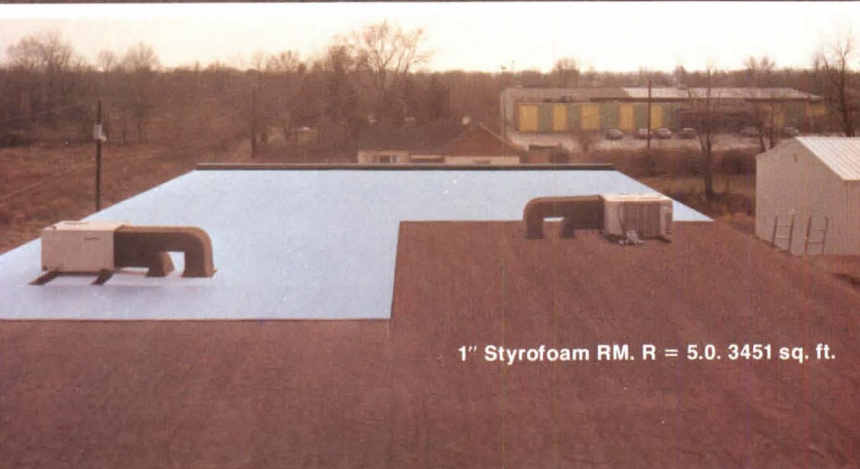
Rochester Chapter. Ames Avenue Townhouses, Chautauqua, N.Y.; Lawson, Knapp & Pulver, Rochester (below). Nestled on an emerald lake amid the sloping hills in Upstate New York is the Chautauqua Institution, founded in the early 19th century as a religious and cultural retreat. Now listed on the National Register of Historic Places, it still functions as a summer cultural retreat and recently held a competition for the design of town houses. The winning plan consists of a complex of four town houses that borrow elements of Victorian architecture in order to blend harmoniously with the historic community. To create a feeling of individuality for the separate residences, the architectural detail is different on each of the four frame units.



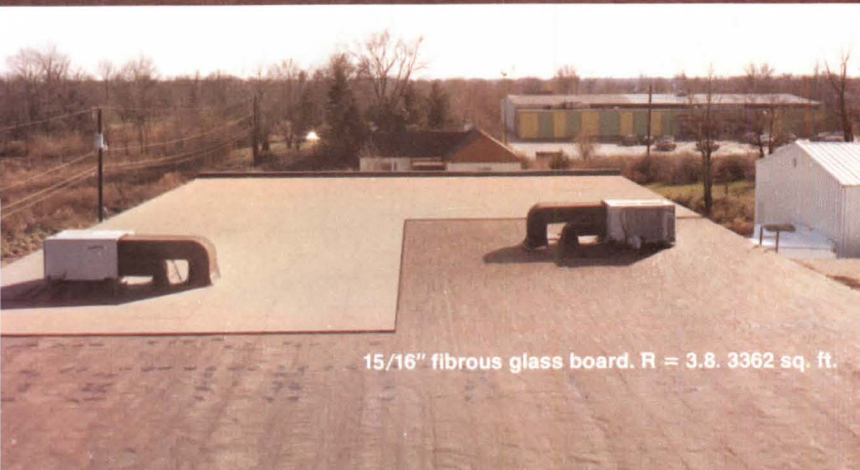
Bud Knapp, AIA



2" EPS. R = 7.8. 5000 sq. ft.



1" Styrofoam RM. R = 5.0. 3451 sq. ft.



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*Estimated average manufacturers' published price per square foot based on a random survey of roofing contractors conducted by the Bureau of Building Marketing Research, November 1980. Actual prices may vary.

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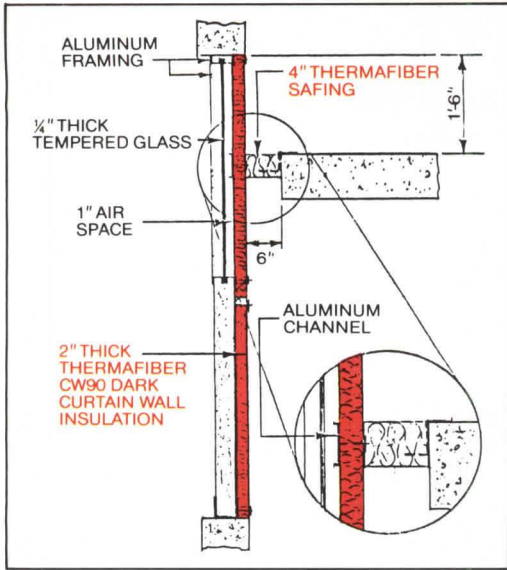
Sturdy EPS insulation is available in a variety of densities, configurations, and edge treatments to fit just about any need. For the name of your nearest EPS producer and some design ideas using EPS, call the Sweets Buyline.



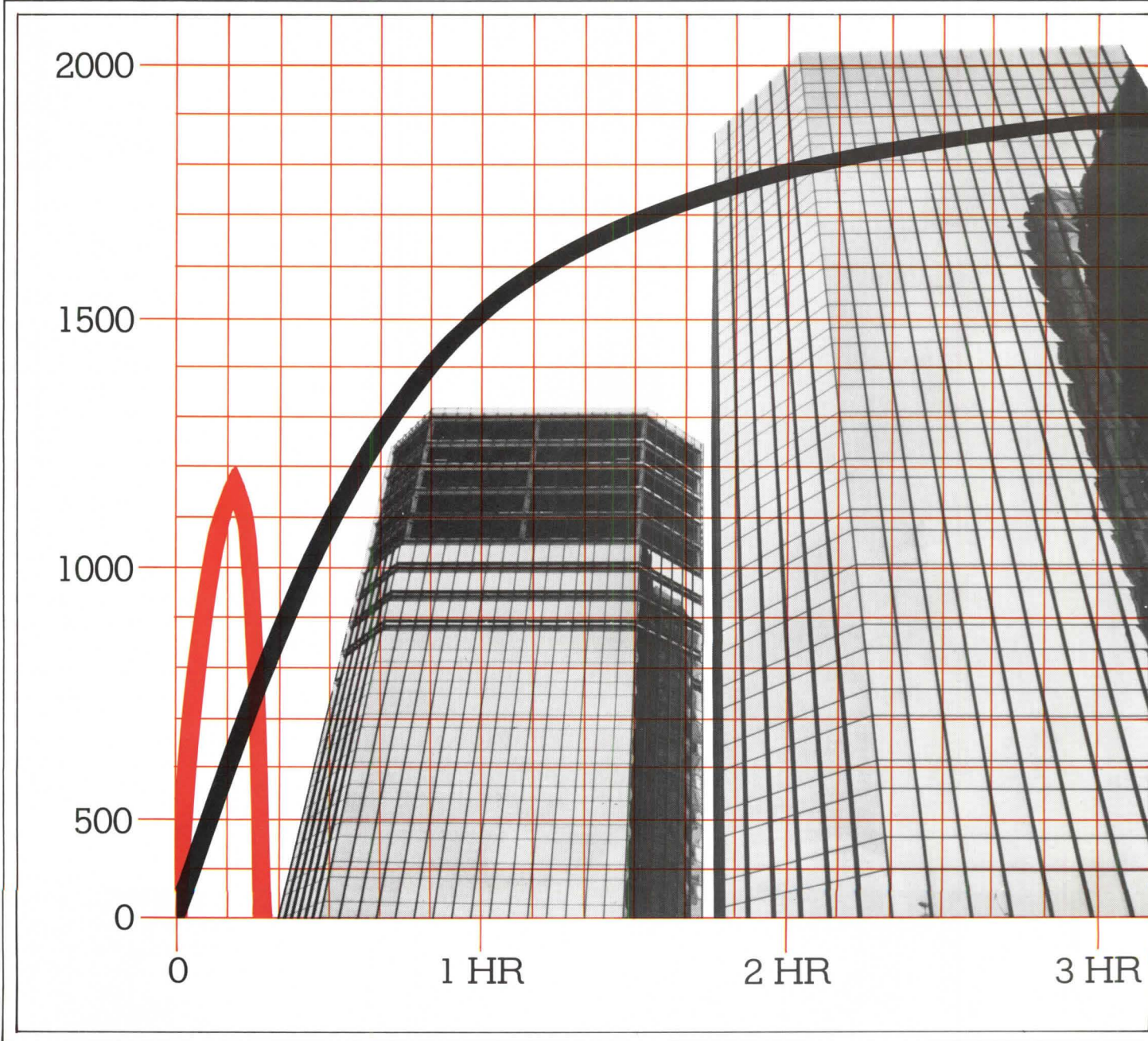
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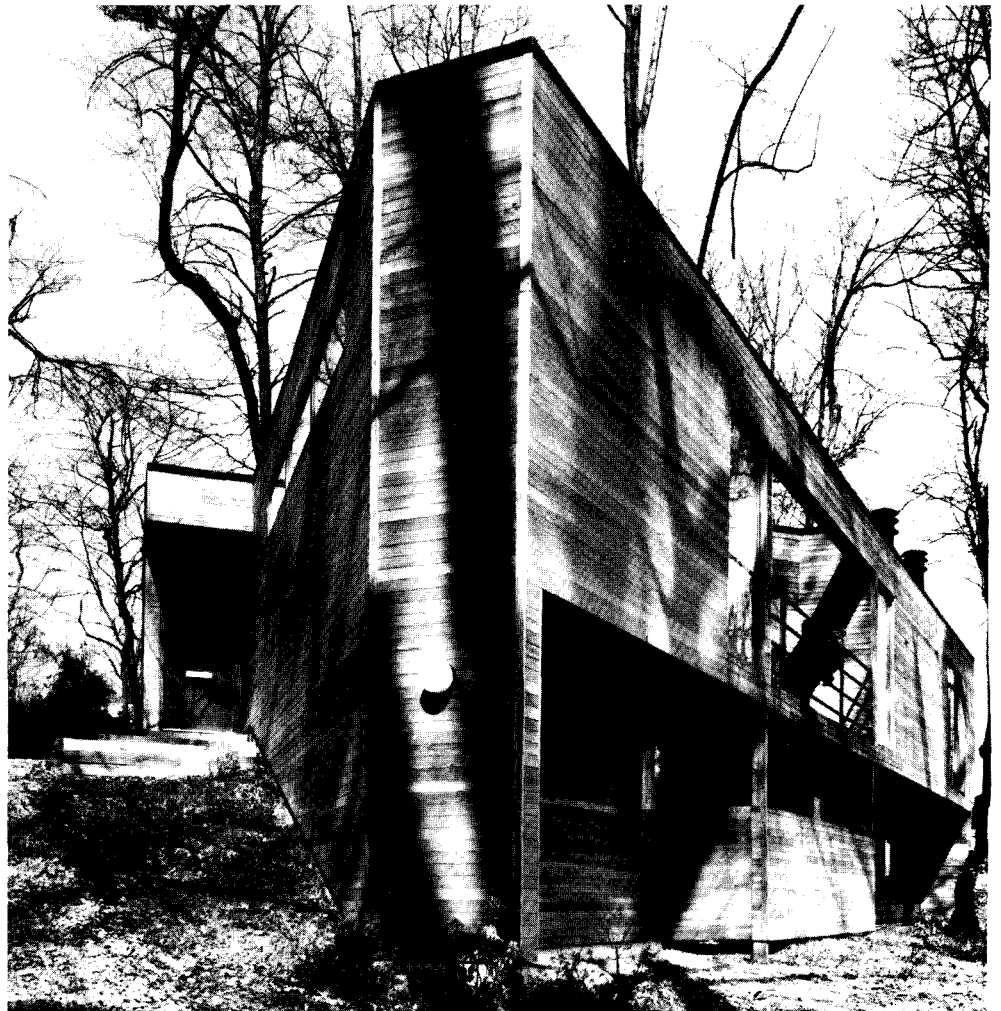
Pennsylvania Society of Architects. Farmers Trust Co. branch bank, Lebanon; Haak, Kaufman, Reese & Beers, Lancaster (above). The Lebanon railroad station, built in 1900, had been idle for 16 years following the discontinuation of passenger service. A thorough renovation of the exterior and interior was undertaken to transform the station into a functional contemporary banking facility and, at the same time, respect the original architectural character. Inside, existing oak doors, wainscoting and moldings were refurbished and duplicated where necessary to complete the original detailing.

Washington Metropolitan Chapter. The Chart House Restaurant, Baltimore; Anderson Notter Finegold Inc., Washington, D.C. (left). An abandoned substation and boiler plant for Baltimore's streetcar system, located at the Inner Harbor, were recycled for a 240-seat restaurant and separate lounge. The architectural "strengths" of the existing building—its well-scaled facades, masonry and timber structure and tall, open spaces—were integrated with contemporary design. The two major facades have been restored to their original appearance. The restaurant and lounge are open, multilevel spaces. Exposed brick walls and timber framing are accented by wood planking on the ceilings and one wall, metal and wood railings and stainless steel ductwork.



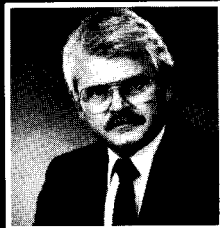
Virginia Society. Kiddi Country Day Care Center, Burke Centre; Abrash Eddy & Eckhardt, Reston (above). The day-care center was designed to accommodate 165 children of the new town community in Fairfax County. Wood is used extensively on the building's exterior and interior to create a "warm, natural learning atmosphere while maintaining harmony with its spacious, wooded site." The building consists of six classrooms, a music room and a language arts center located in the loft. Users are preschoolers, 6- to 12-year-olds (after and before school hours) and the general community.

Baltimore Chapter. Barrio Residence, Silver Spring, Md.; Chesapeake Design Group/Roger K. Lewis, AIA, Baltimore (right). The 2,500-square-foot house located on a constrained, triangular site was designed to allow two teenage boys to be spatially separated from their mother. It is actually an "upside-down" house: The general living areas are atop the bedroom level. The lower level is multichambered, while the upper level, with its nine-foot ceiling and large windows, is expansive, open and bright. Grading of the site allows access to both levels.



Norman McGrath

The 1981 Plywood Design Awards Winners



Top left: Warren Douglas Thompson and Andrew J. Kerr.
Top right: Tom Clause. Bottom: Richard C. Peters,
Richard M. Clayberg and Thomas J. Caulfield.

CITATION OF MERIT
Residential/Single Family
1600 square feet or less

ARCHITECT: Alfred French and Associates, Inc. **BUILDER:** Krause Construction. **LOCATION:** Grand Portage, MN. **JURY:** Exhibits design restraints in its simple forms and use of material. A straightforward, open plan which encourages family fellowship and is valuable for a vacation residence.

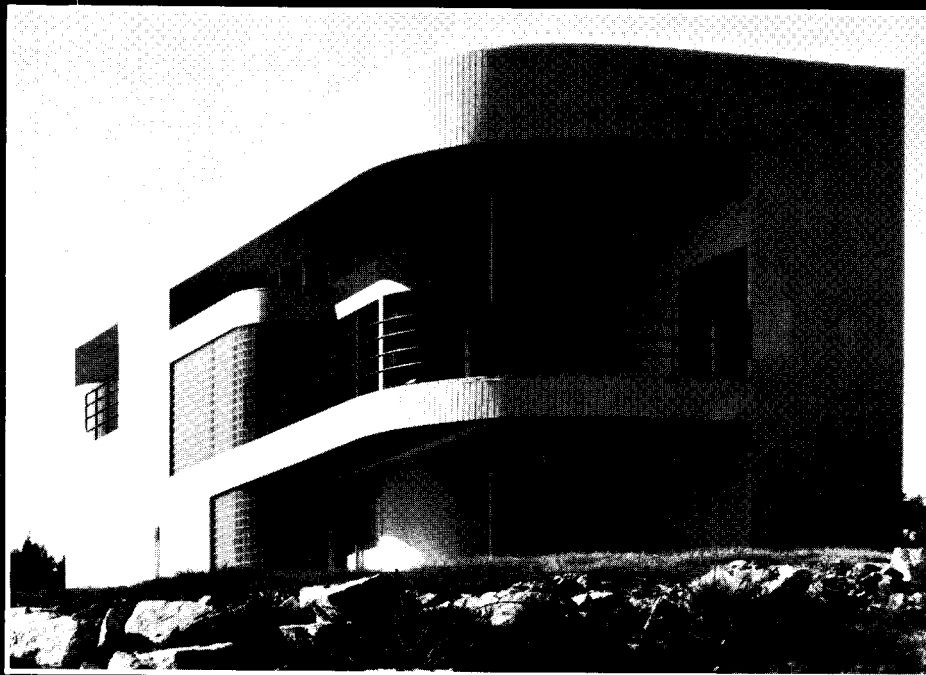


JURY: John D. Bloodgood, AIA, Des Moines, Iowa; J. Donald Bowman, AIA, Bellevue, Washington; Edward A. Schmitt, AIA, Strongsville, Ohio.



FIRST AWARD
Residential/Multifamily

ARCHITECT: Peters, Clayberg and Caulfield. **BUILDER:** W & B Constructors, Inc. **PROJECT:** St. Mary's Gardens, Oakland, CA. **JURY:** Visual excitement on the exterior is outstanding, as are density and moderate cost. Accessibility for elderly tenants was successfully solved. Interiors are uncommonly light and airy.



FIRST AWARD
Residential/Single Family
1600-2200 square feet

ARCHITECT: Tom Clause, Charles Herbert and Associates, Inc. **BUILDER:** Vosco, Inc. **LOCATION:** Lago Vista, TX. **JURY:** The house is honest in its directional quality, the south walls protected by overhangs, the north side flush with minimum fenestration. Interior spaces are elegant, proportions pleasant.



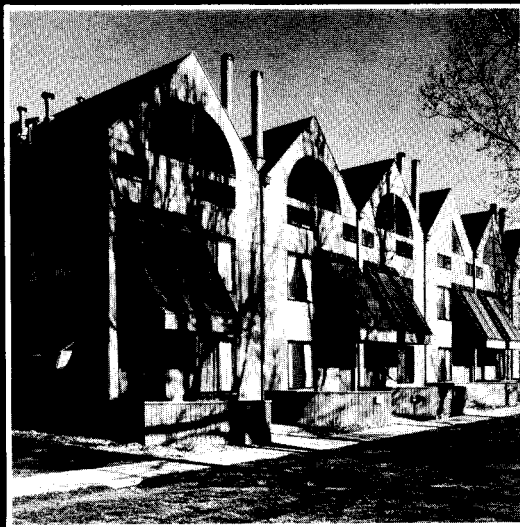
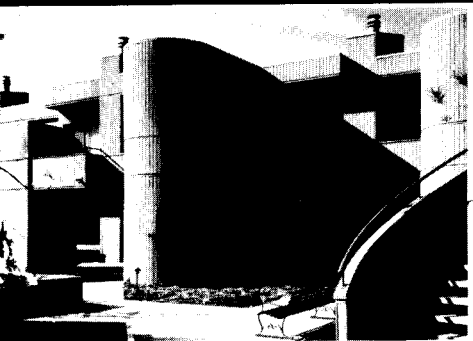
CITATION OF MERIT
Residential/Single Family
1600-2200 square feet

ARCHITECT: D. Bryan Shiffler, Charles Herbert and Associates, Inc. **BUILDER:** W.R. Main. **LOCATION:** Des Moines, IA. **JURY:** Careful proportioning presents an exceptionally good solution to this cube design. Inside, the simplicity is refreshing.

CITATION OF MERIT Residential/Multifamily

ARCHITECT: Buss Silvers Hughes & Associates. **BUILDER:** J.H. Tehan Construction Co. **PROJECT:** Morley Field Townhomes, San Diego, CA.

JURY: Architects showed great forethought, particularly in the solidarity of forms, including treatment of returns at window and deck overhangs. Horizontal joint detail on plywood siding is well handled. Each view is extremely private.



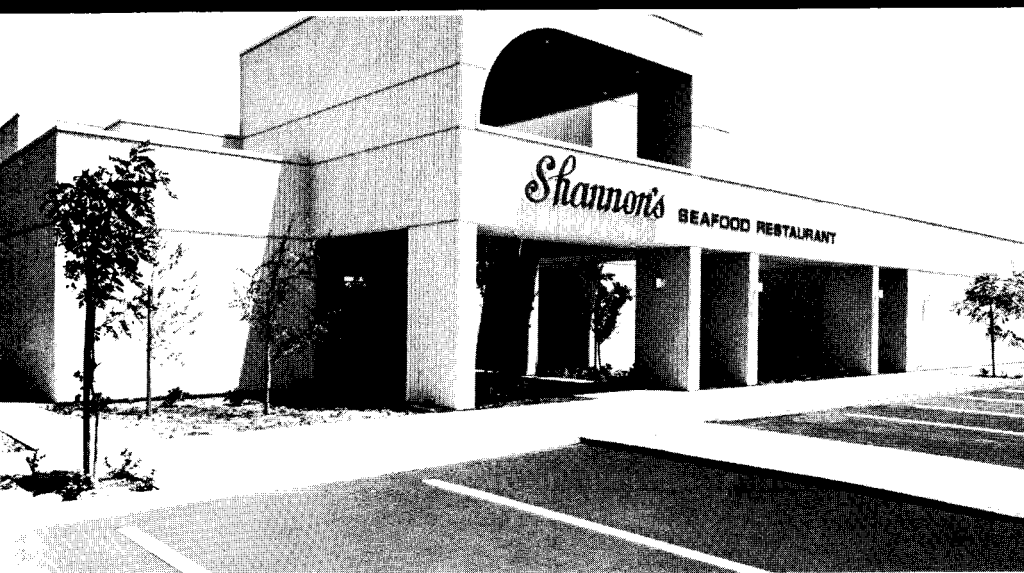
CITATION OF MERIT Residential/Multifamily

ARCHITECT: J. Michael Brendle, Designer, Atkinson/Karius/Architects, P.C. **BUILDER:** Osborne Construction Co. **PROJECT:** Lakewood Townhouses, Lakewood, CO. **JURY:** Difficulty of blending into a neighborhood of 30- to 50-year-old single-family dwellings is skillfully solved. Roof forms echo the character of the neighborhood, providing a real community feeling.



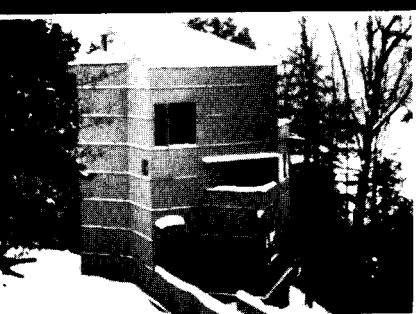
CITATION OF MERIT Residential/Multifamily

ARCHITECT: Goodwin B. Steinberg Associates. **BUILDER:** Gerald Marcoe. **PROJECT:** Barron Square, Palo Alto, CA. **JURY:** Siting gives a single-family atmosphere to a multifamily project. For merchant-built housing, this is unusually responsive to the market. Forms are exciting yet familiar.



FIRST AWARD Commercial/Institutional

ARCHITECT: Warren Douglas Thompson, AIA; Andrew J. Kerr, AIA, Thompson Architectural Group, Inc. **BUILDER:** Grupe Construction Co. **PROJECT:** Shannon's Seafood Restaurant, Stockton, CA. **JURY:** Interesting counterpoint between taller and shorter masses. Lakefront setting is optimally dealt with. Handling of intimate interior spaces contrasts favorably with higher volumes of open spaces. Joinery is handled with great delicacy.

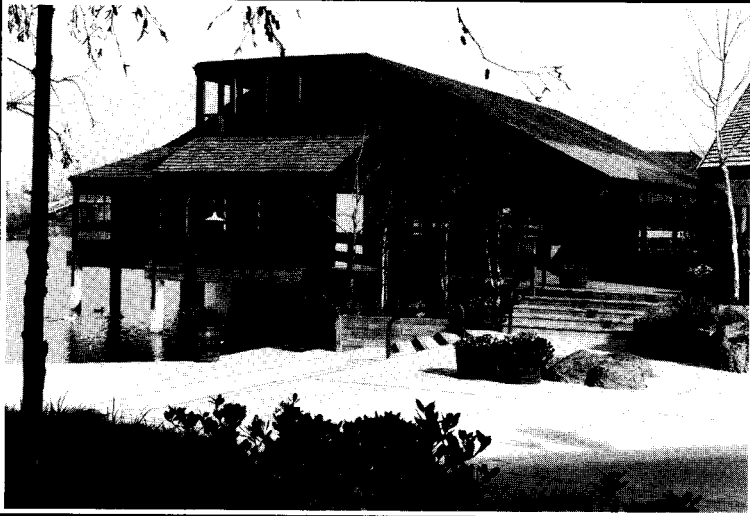


CITATION OF MERIT Residential/Single Family 1600-2200 square feet

ARCHITECT: Everardo Jefferson, Caples-Jefferson. **BUILDER:** Ted Zelius. **LOCATION:** Vermont. **JURY:** Vertical design is directly proportional to the dramatic landscape; exterior surface, including joint detail, massing and interlacing of plywood is adroitly matched to the structure's scale.

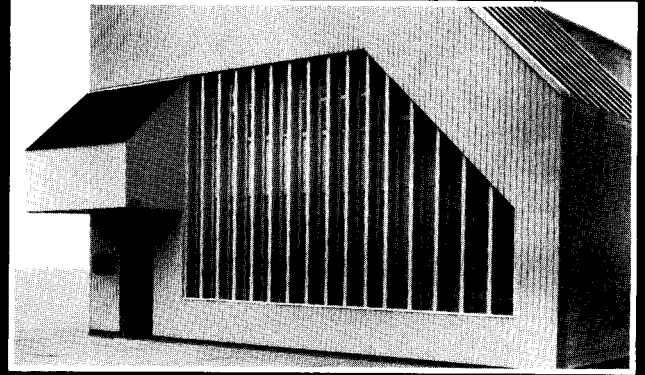
CITATION OF MERIT
Commercial/Institutional

ARCHITECT: Hansen/Murakami/Eshima, Inc. **BUILDER:** Emkay Development and Realty Co. **PROJECT:** Harbor Bay Landing, Alameda, CA. **JURY:** Skillful placing of a variety of spaces in relation to the waterfront is the outstanding design element. Each building has a wharfside look, adding a residential feeling to the shopping area. Use of translucent panels with covered walkways generates variety and excitement.



CITATION OF MERIT
Remodeling/Recycling

ARCHITECT: Tivadar Balogh, Architect, AIA. **BUILDER:** Mid-Con-Co, Inc. **PROJECT:** Growth Works Building Renovation, Plymouth, MI. **JURY:** The design is an appealing addition to the neighborhood. The front facade was redesigned to incorporate unique, creative elements – a first-class solution given budget restraints.



CITATION OF MERIT
Commercial/Institutional

ARCHITECT: Robinson Neil Bass & Associates. **BUILDER:** Culbert Mills. **PROJECT:** "Quicksilver" Banking Module, Nashville, TN. **JURY:** Illustrating strong control of design, vertically applied plywood siding is especially effective in the radius forms of this compact module. The plywood also has a graceful quality that gives a natural look to the all-paved setting.

CITATION OF MERIT
Remodeling/Recycling

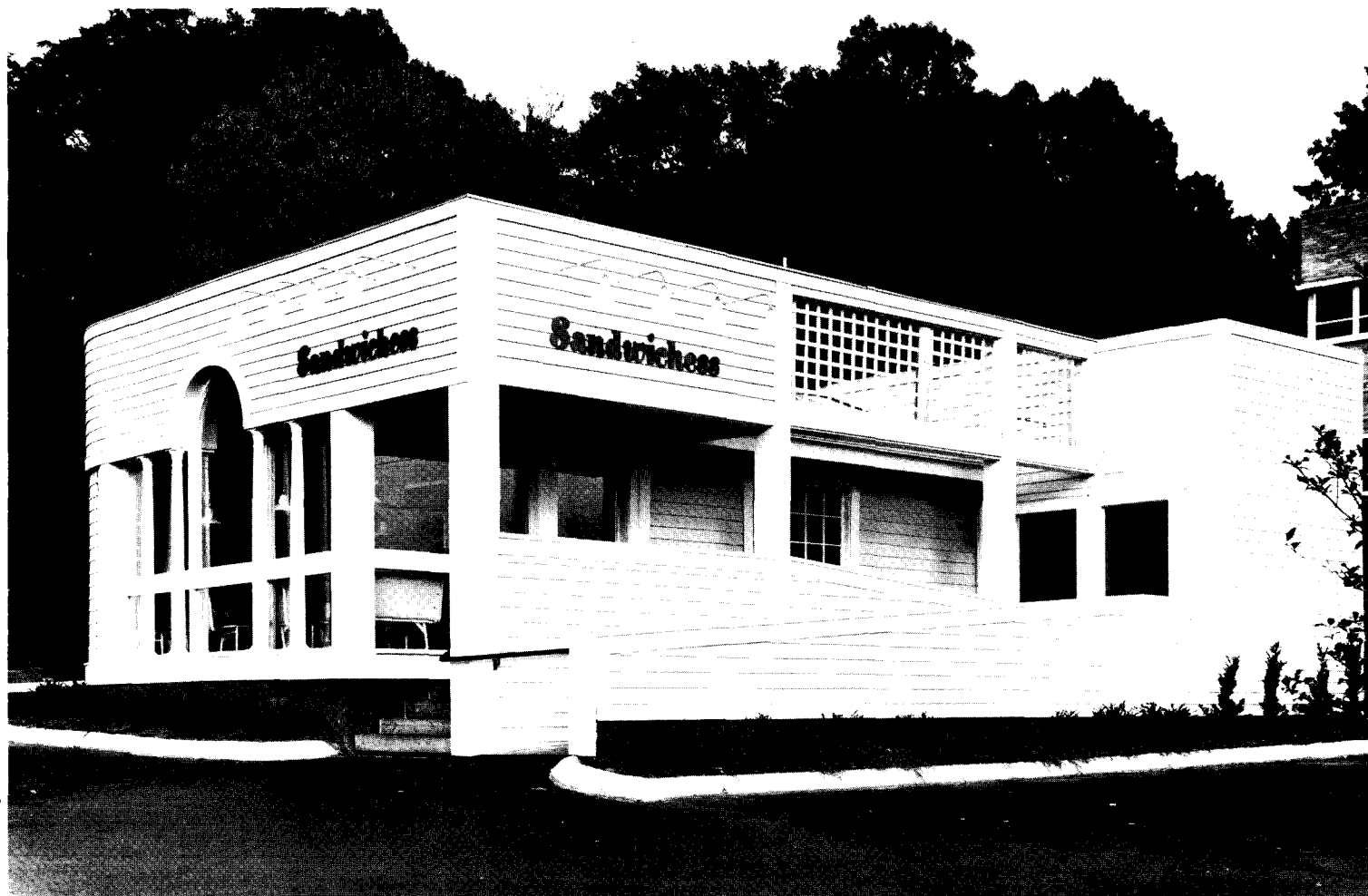
ARCHITECT: James Malott & Associates. **BUILDER:** DeHaan & Cox. **PROJECT:** Colebourn Residence Addition, Walnut Creek, CA. **JURY:** An ordinary "before" house was transformed into a celebration of light and air, opening up interior spaces to outside expanses. The forms added to the house are very exciting, and the interior spaces are especially enjoyable.

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South Atlantic Region. Sandwiches restaurant, Charlotte, N.C.; Meyer-Greenson, Charlotte (above). A tract development sales office was purchased by the client and brought to the site for conversion to a prototype fast food restaurant. The architect determined that "the desired image could result from a shell surrounding the existing building to enclose small spaces that were added to meet the program requirements": seating for 36, food service, preparation, storage areas, restrooms. The original pitched metal roof was left exposed on one elevation, as was the sloped ceiling in the interior's main section. Four original columns were repositioned to form the focal point of the dining area.

Penney residence, Mt. Pleasant, S.C.; Thompson E. Penney, AIA (left). The design approach was to interpret the physical and philosophical characteristics of the 18th and 19th century Charleston single family house in a contemporary building. The kitchen has displaced the stair from its traditional central location to a tower on the south facade. The tower serves as a privacy barrier for the rear deck. The front elevation is an abstraction of the traditional: It is vertically proportioned with steeply sloping gable roof and side flat-roofed piazza. "Ground facades," using the major elevations of the house, are "two dimensional reiterations of the design concept."

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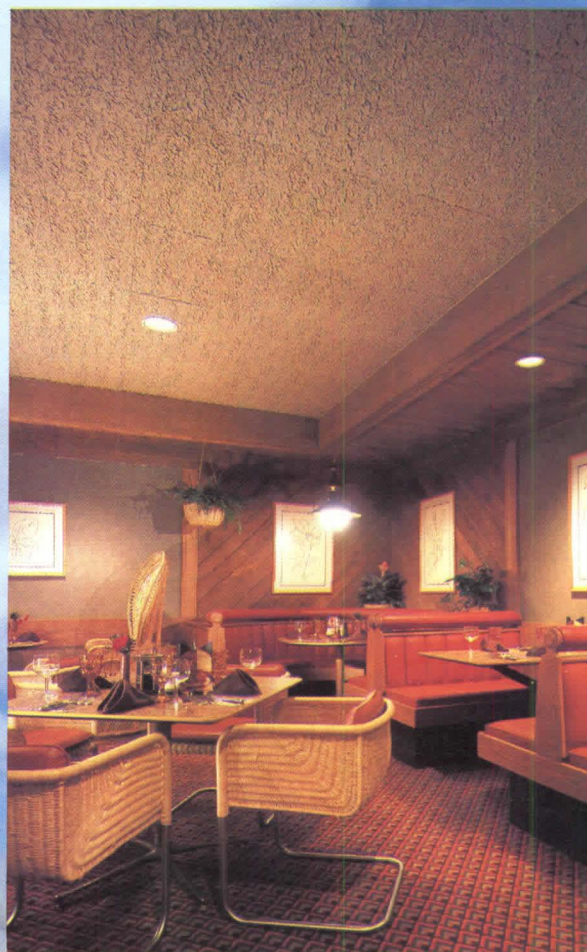
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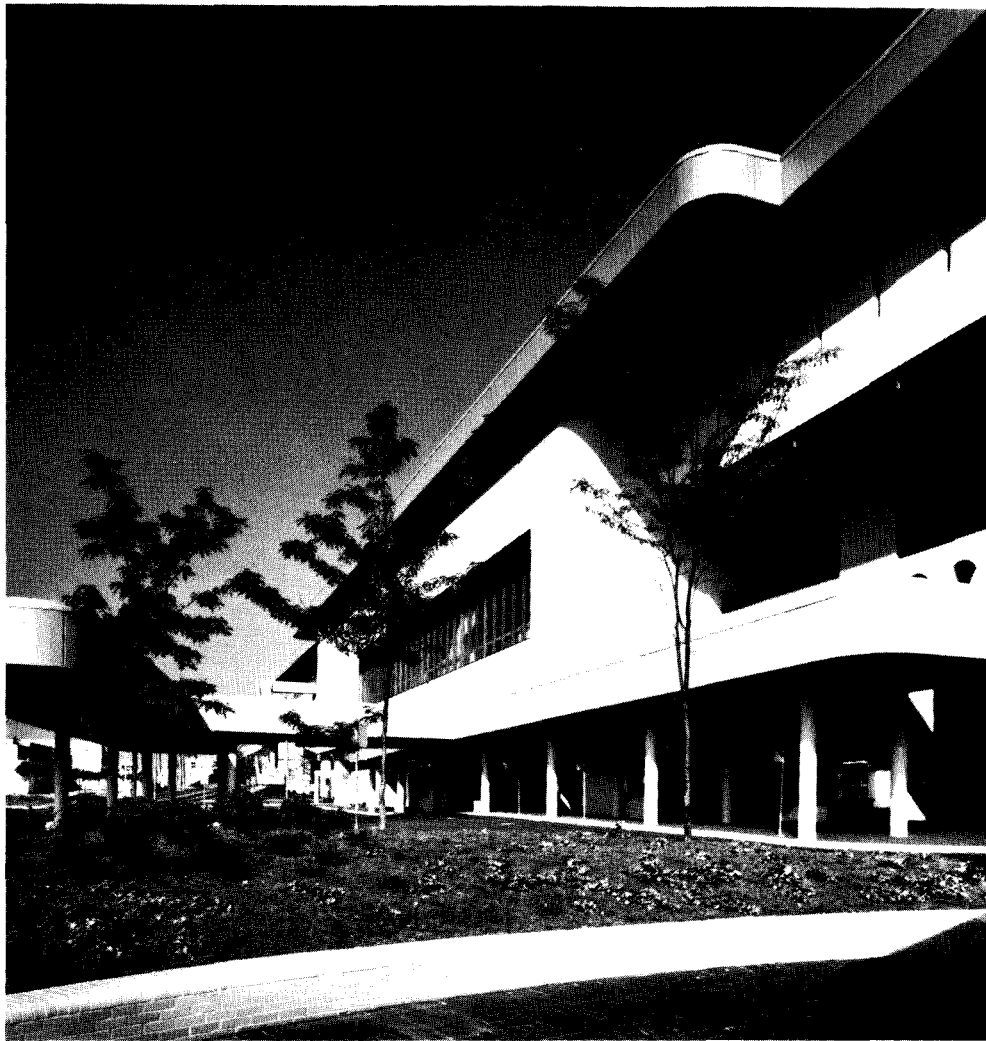
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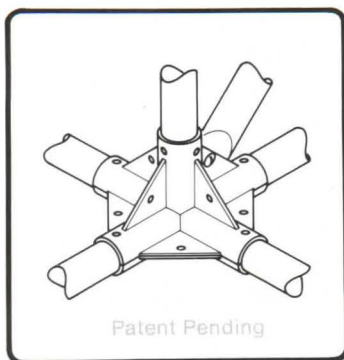
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South Atlantic Region. King Memorial Station, Atlanta; Aeck Associates, Atlanta (right). Four Metropolitan Atlanta Rapid Transit Authority stations were chosen for design excellence. The King Memorial Station was designed to "reduce the scale and impact of this extremely massive and tall utilitarian structure." The solution was a general softening and scaling down of the building through curves, longitudinal framing and articulated building skin and structural systems. The ground level has murals, sculpture, canopies, special paving, landscaping and street furniture.

Discovery Place Museum of Science and Technology, Charlotte, N.C.; Clark Tribble Harris & Li, Charlotte (below). The design problem was to create a visually dynamic building on a budget that required a technically simple one. The entrance facade is an aluminum and glass "storefront" with electronic display system. Two other facades reinforce the existing street pattern. A curved wall was chosen for the fourth side as a symbol of nature, which collides with the man-made grided order of the building and its technology. A brick sculpture on the wall will depict a cross-section of the geologic strata of North Carolina.





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Photos by Paul Beswick

Oregon Blue Cross Completes Energy Retrofit of Portland Headquarters Before Moving on Plans to Double its Size



Construction of headquarters building by Blue Cross helped heal an ailing community in Portland's vital midsection.

Portland, Or. Except for a few faint traces of volcanic dust from a rumbling, newly famous neighbor 50 miles to the north, the Blue Cross Building here gleams as brightly now as when it was dedicated during Labor Day weekend of 1969. True, it appears a bit more subdued than it did when it came on stream as one of the pioneer ventures in Portland's campaign to revitalize a faded part of downtown. When its white concrete and glass facade dominated the scene with simple elegance, it shouetted dramatically against a stark background of ragtag tenements. Now the building competes for attention with a number of distinctive structures built after Blue Cross had tested the waters and proved that the renewal plan would work. Although the eruptions of Mount St. Helens had no effect on the building's orthiness, the upheavals in the world's markets did leave a disturbing fallout. Rising electric rates resulting from P.E.C.'s doubling and redoubling of oil prices made Blue Cross management painfully aware that their headquarters, built with such meticulous attention to architectural detail, was ill suited for the new era of energy conservation.

Skidmore, Owings & Merrill, the architectural and engineering firm that had

done the original building design, was called in for consultation. The firm, which had since become one of the most sophisticated proponents of computer-assisted design analysis for energy conservation, undertook a comprehensive study of the building's systems and the ways the systems were being operated.

A pivotal structure in Portland's efforts to rejuvenate downtown, the 100,000-square foot office building had to be made more energy conserving to retain its relevance to the company's expanding future.

Out of the study came detailed proposals outlining changes in operating procedures and some relatively modest retrofitting of systems and equipment. After most of the recommendations had been adopted, average monthly energy use dropped from 585,000 to 247,000 kilowatt-hours. What makes this energy saving of over 57 percent even more

remarkable is that it was accomplished without costly changes in the thermal envelope of the building.

History. Blue Cross of Oregon operates as a nonprofit corporation and is a member of the Blue Cross Association. The national Association provides planning, research, legal and broad advisory support to its member companies, which nevertheless are totally independent and responsible for their own success or failure.

When Blue Cross of Oregon was incorporated in 1941 it offered only a hospital benefit plan. As its services expanded, so did the number of subscribers and by the early 1960's the headquarters staff had outgrown its leased office space. Just when management decided it was time for Blue Cross to have a headquarters building of its own, the City of Portland was busy attempting to drum up support among business and industry interests for its South West Auditorium District Urban Renewal Program. It was the kind of situation that public-spirited firms can't help but respond to and Blue Cross quickly agreed to help Portland's cause as well as its own by locating at 100 S.W. Market Street in the district.

Honored in Hindsight. One usually thinks of the Pacific Northwest in terms of tall

timbers and clear waters, hardly a locale for slums. But the South West Auditorium District (so named because the civic auditorium is situated there) came close to qualifying as one. This had come about despite its prime location in the heart of Portland and on the banks of the Willamette, sister to the Columbia and one of the great rivers of the U.S.

Recalling how things were, Blue Cross vice president Ronald C. Auxier speaks of the high tenant concentration. "It had lots of old homes and wood-frame apartment buildings. In general it was just in very poor condition. Then the city managers determined that they were going to turn it into an urban renewal district."

Viewed both in retrospect and in context with the area's marvelous transformation, the architecture of the structure warrants new praise for the way it responds to the dual objectives laid down by the owner. It was to serve as a needed visual boost for the hoped-for renaissance of the neighborhood. And it was to provide a pleasant, efficient environment that employees could respond to in a positive way. The latter aim was particularly important, says personnel chief Auxier, because the company values its long-standing reputation for good working conditions, an attitude directly reflected by an extremely low turnover.

The polished pavillion-like, seven-story structure of white columns and clear glass had an immediate brightening effect on its surroundings. The simple rectangular format, extensive plantings of trees and shrubs, a circular driveway and broad steps leading to a see-through lobby combined to lend the building an overtone of restrained elegance. It was certainly a stately building, unmistakably new, yet not in jarring contrast to some vintage government buildings that were to remain through the renewal program. Two such buildings are the County Court House and the venerable City Hall, the latter a great



Despite the best intentions of everyone building superintendent Dorwin Hinman found himself way down the energy scale.

example of Victorian design intricacies. The classical lines of the Blue Cross Building were intended to blend in easily with those edifices as well as with the new buildings that would come into the picture later, regardless of what adventurous directions their architecture took.

Sixties' Wisdom. In the mid-sixties the prevailing wisdom in the design of office buildings dictated that generous expanses of glass area should be provided. Studies seemed to indicate that workers benefitted both psychologically and physiologically with large windows. Greater amounts of daylight aided sight for better work performance and the greater ability to see out made for an improved sense of well-being. Energy use was not a problem then and any negative effects that extremely liberal fenestration standards had on the integrity of a building's thermal envelope could usually be tolerated.

So the architects for Blue Cross used glass—lots of it—in the form of floor-to-ceiling windows. Fully 83 percent of the entire facade is glass.

"We did not have an energy-efficient building," says Blue Cross building superintendent Dorwin L. Hinman. "We were mechanically deficient, way down the scale as far as energy was concerned. That was pretty general of construction during that period of time. We're not just picking on this building or its designers. That was simply the way it was done."

The energy cost problem was affected not only by rising electric rates but by increased use of the building. "Our consumption has gone up also," explains Hinman. "We are now a fully occupied building. We have more people working longer hours. Up until two years ago we had very rigid hours. Everyone started at 8:30, had an hour lunch, and left at quarter-to-five. Now we're on 'flex-time,' people start at six a.m. or whenever."

Blue Cross management commissioned Skidmore, Owings & Merrill to undertake an energy audit and conservation study in order to determine what economies could be effected by retrofit. It was decided to limit the retrofit study to mechanical systems and equipment and to operating procedures. The question of the thermal envelope would be taken up later.

Air for All Seasons. Consistent with the highest quality of work environment Blue Cross wished to provide for its employees, the heating, cooling and ventilating systems chosen for the structure was state-of-the-art for the mid sixties. It consisted basically of a double-duct, constant-volume air distribution network whereby both warm air and cold air were available simultaneously to all zones of the structure and in all seasons of the year. The main objective for installing this type of system was

to provide an extraordinary level of occupant comfort.

A wall-mounted pneumatic heating/cooling thermostat in each zone regulates the temperature of the air entering the space by means of a mixing box above the ceiling. At any time occupants can choose all warm air, all cool air or any mixture in between. And, regardless of the air temperature called for, it is provided while air flows smoothly into the space without annoying interruptions or rate fluctuations. Further, the interaction of the cold and warm air supplies aids control of relative humidity in the summer.

Unfortunately this superior performance is not achieved without a penalty in energy consumption. The blending of chilled air with heated air when a lower incoming air temperature is wanted in the heating season, for example, is wasteful on the face of it. The same can be said of mixing heated air with chilled air when a situation calls for less cooling in a space.



Consulting engineer David Bosworth can check an office building's energy worthiness on the drawing board or anytime later.

Ubiquitous Undertaking. Although at the time there was little pressure to do so, Blue Cross and the design team undertook to make the system more energy efficient. This decision led to the structure being among the early commercial applications of the now-ubiquitous heat recovery chiller with double-bundle condenser.

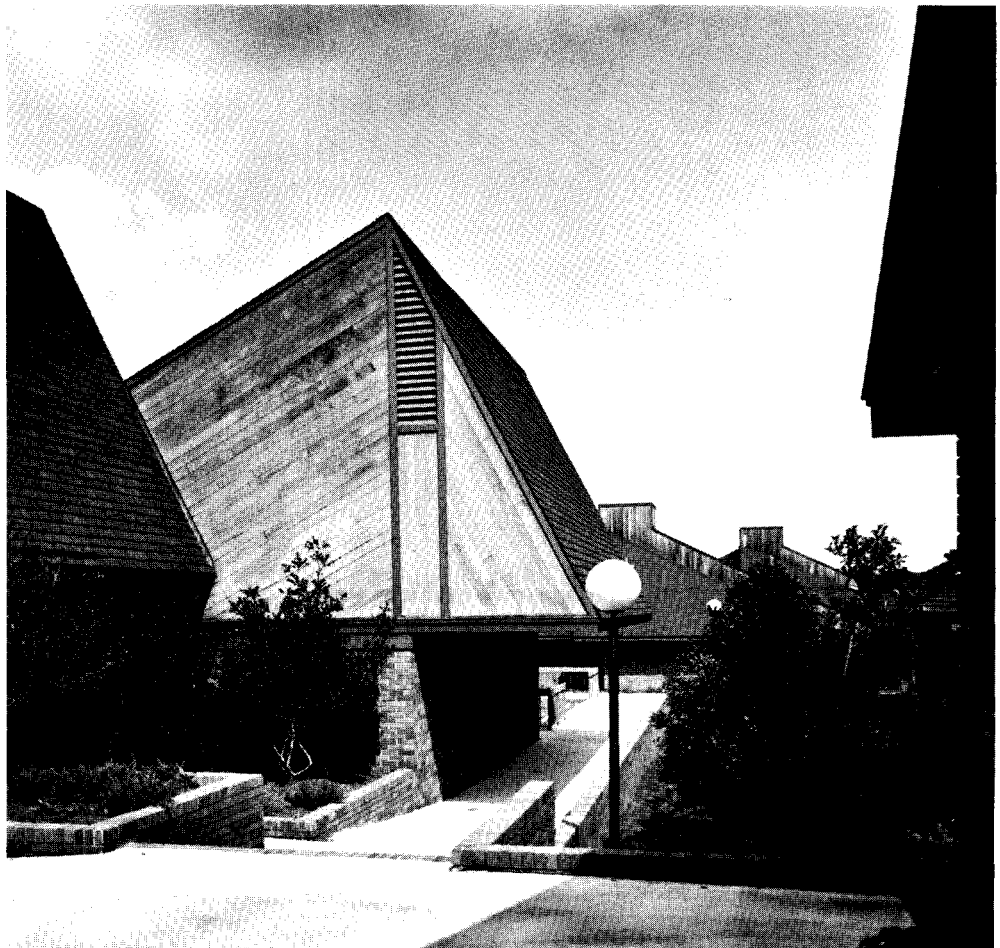
To appreciate the heat recovery process it is helpful to consider an ordinary application where a standard chiller supplies chilled water to coils in an air handling unit. Air passes through the coils, then moves out through the ducts to cool the building and, finally returns to the air handler and water coils carrying unwanted heat. As the water circulates the absorbed heat is brought to the evaporator section where it is removed and transferred by the refrigeration process to the condenser. At



E. Alan McGee Photography, Inc.

South Atlantic Region. Columbus, Ga., Iron Works Convention and Trade Center; Pound, Flowers & Dedwylder, Columbus; Arthur Cotton Moore/Associates, Washington, D.C., design consultants (above). Located on the Chattahoochee River, the site had been used for ironworks, and the manufacture of agricultural, textile and industrial items from 1840 until it was abandoned in 1940. The original foundry, the south wing, has been left virtually intact for an exhibit area. The lower level of the west wing has been redesigned for food service, while the upper level is a dining room. The north wing provides smaller exhibition areas.

South Carolina Chapter. G. Weber Bryan Psychiatric Hospital, Columbia; The Tarleton-Tankersley Architectural Group, Greenville (right). The 304-bed hospital was designed in a residential scale. Eight lodges are grouped in units of two, each with a support facility containing therapy and treatment areas. And each lodge houses three groups of 12 patients with spaces for living, eating and general tasks. These units constitute the perimeter of the hospital complex ringing central structures that house public and therapeutic spaces. The roof lines are to reflect regional influences. All elements were designed to facilitate the treatment process and to encourage social interaction.



Gordon H. Schenck, Jr.

More component awards, page 60

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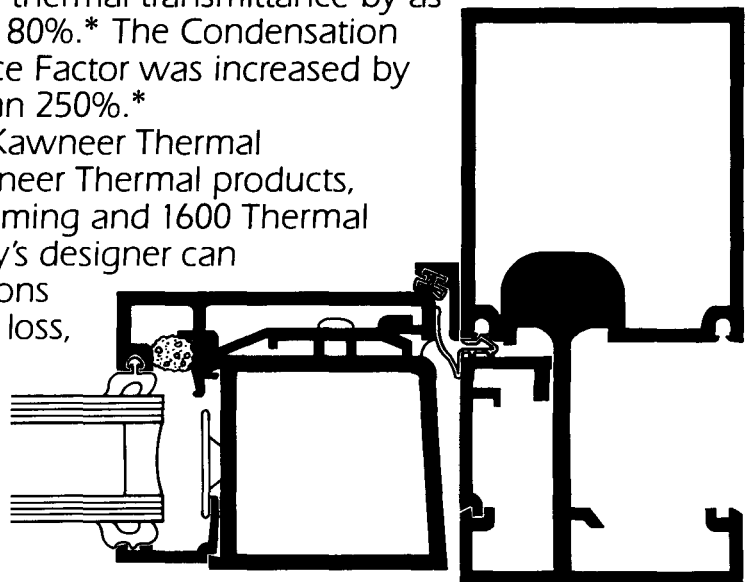
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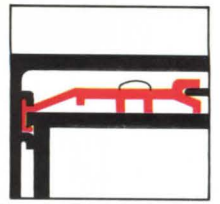
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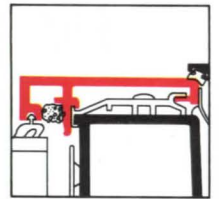




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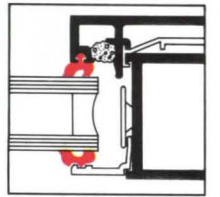
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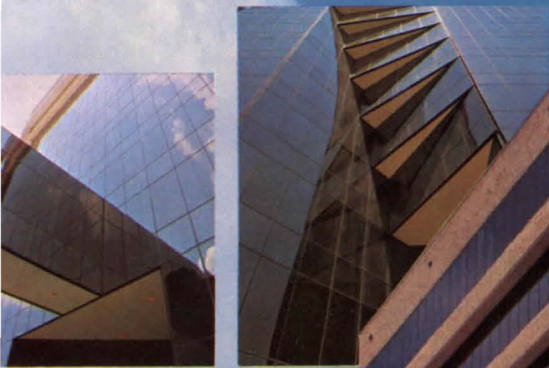
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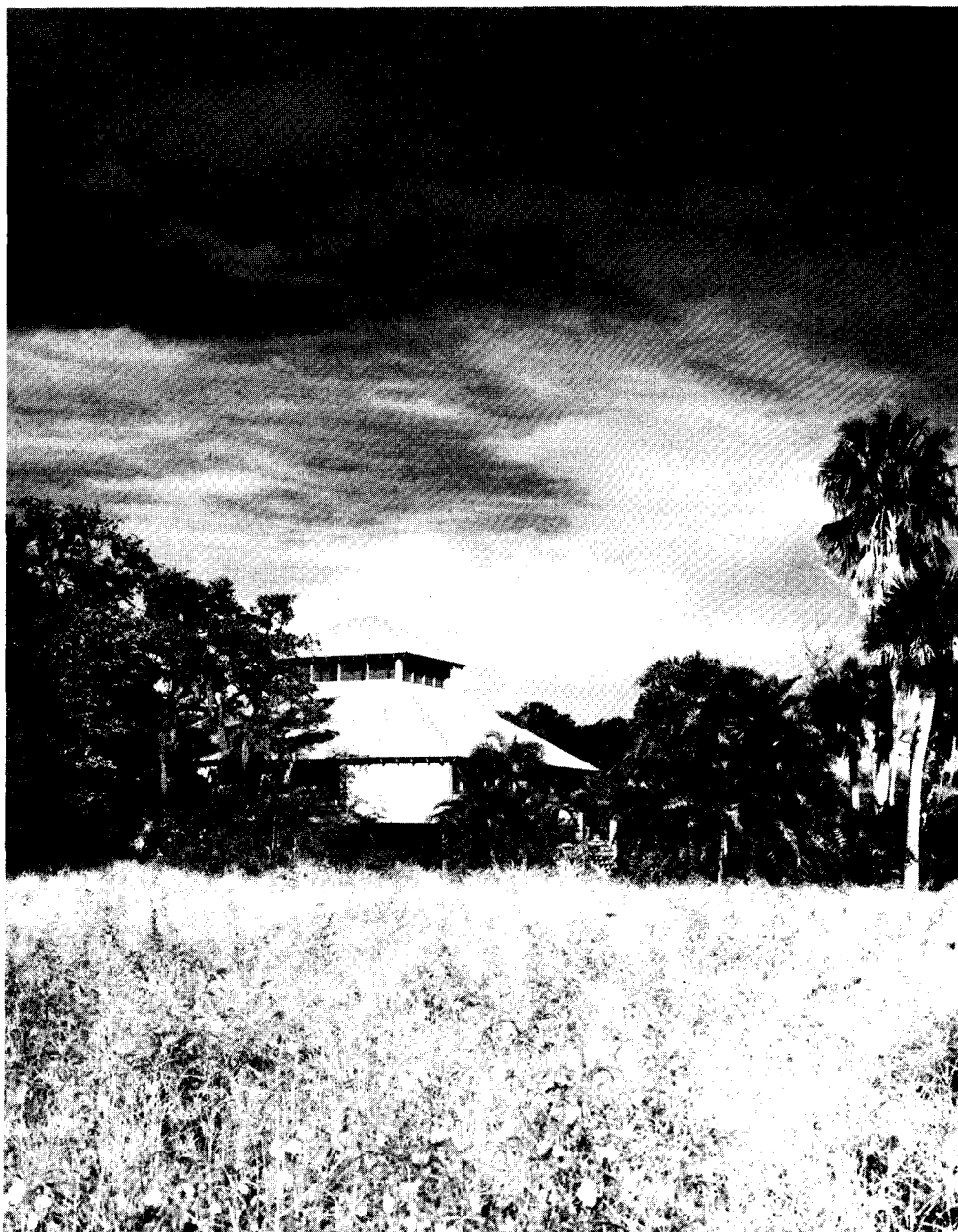
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Florida Association. Logan Residence, Tampa; Rowe Holmes Associates, Tampa (right). The design borrows from the indigenous "cracker" houses of Central Florida: a steeply pitched roof with generous overhangs shed water during tropical rainstorms and provide protection for open windows and shading of exterior wall surfaces. In combination with the high ceilings, the roof penetrations allow the natural convection current to draw off heat during the humid summers. The central living/dining/kitchen space that divides the two sleeping areas is a derivative of the "dog trot," which is also prevalent in early Florida housing. Because the site is subject to occasional flooding, the main living area is elevated eight feet above grade.

Mid Florida Chapter. Montverde House, South Lake County; John B. Langley, AIA, Winter Park (below). The award was actually given for a research project, published under the title *Sun Belt Earth Sheltered Architecture*, conducted by Langley and engineer James L. Gay. The purpose of the study was to try to develop understanding of and enthusiasm for earth-sheltered architecture in the sun belt and to raise research funds to develop methods and equipment to further understand its application to specific sun belt architectural programs. The house shown below is one of the earliest earth-sheltered designs to be located in the sun belt. The central area of the house is a skylit atrium around which are bedrooms and a crafts area.



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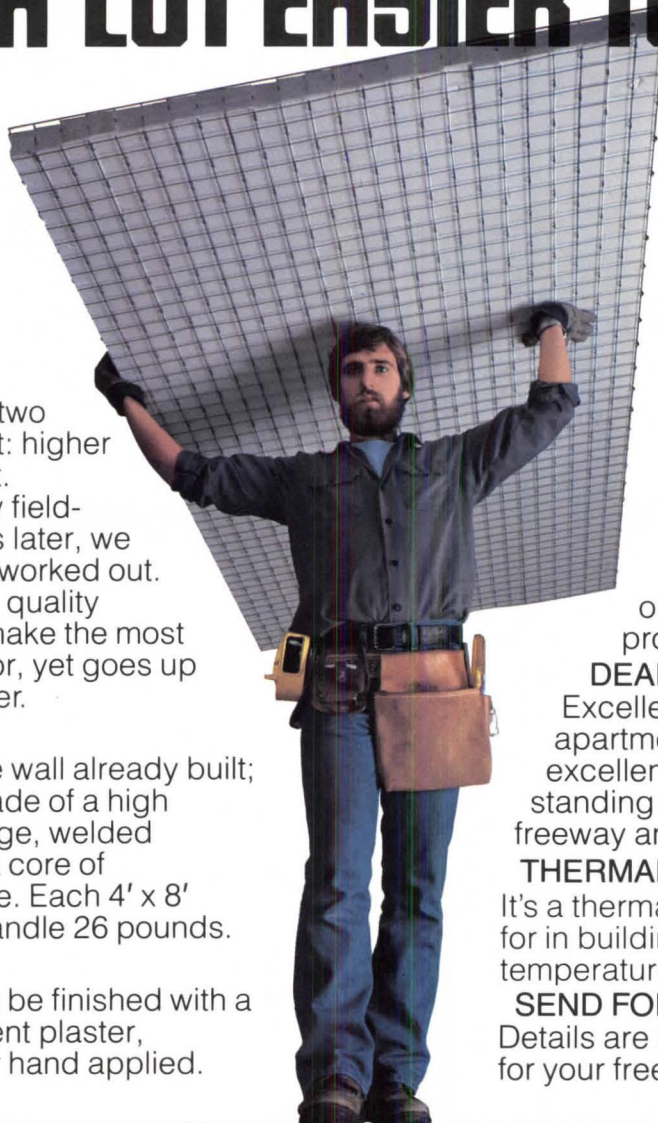
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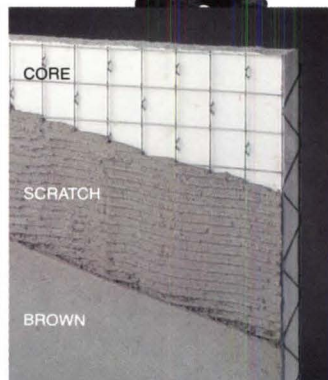
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Total system efficiency. Get it with gas heating/cooling.

For space conditioning—whether in a giant structure or the smallest commercial building—it pays to look into the advantages of clean gas energy.

Gas is efficient, economical energy. And new energy-saving equipment makes it even more efficient. Modern integrated heating/cooling systems fueled by gas can provide the operating economies and reliability today's business demands.

And America's large underground gas supplies and potential new sources will mean continued supplies of efficient gas energy in the future.



Williams Center Forum, Tulsa, Oklahoma.

Gas: The future belongs to the efficient. 

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Designed to save energy. Destined to save money.

A poured-in-place polyurethane thermal barrier provides a full $\frac{3}{8}$ " separation between interior and exterior surfaces of the frame members. No metal to metal contact.

DISCO's exclusive wedged-glazing system provides a high compression seal between glass and aluminum.

Heli-arc welded corners provide greater in-place frame stability.

Blind maintenance is virtually eliminated.

DISCO's unique baffled venting system allows air to circulate between the two panes of glass preventing glass fracture due to heat build-up as well as condensation.



No other window system does a better job of reducing life cycle costs than the DISCO T-2001. With U-values as low as 0.42 and a shading coefficient as low as 0.06, the T-2001 can dramatically reduce heating and cooling costs in buildings designed to last into the twenty-first century. The T-2001's operable design and integral vene-

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DISCO....serving the architectural community since 1887. A pioneer in the development of a variety of window systems destined to deliver superior performance in today's energy and cost conscious world. Challenge us to prove it.



DISCO ALUMINUM PRODUCTS
COMPANY, INC.

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A luxurious hotel in Louisville.
ELEVATORS BY DOVER

The 393-room Hyatt Regency Louisville on River City Mall includes the Hyatt hallmark—a soaring atrium-lobby filled with greenery and excitement. The three glass-back, scenic Dover Elevators enable guests to enjoy a breathtaking view while moving smoothly through this 17-story space. Four other Dover Elevators carry passengers and freight between levels of this busy convention-center hotel. For more information on Dover Elevators, write Dover Corporation, Elevator Division, Dept. 673, P.O. Box 2177, Memphis, Tennessee 38101.

Hyatt Regency Louisville, Louisville, Kentucky

Owner: LHR Partnership

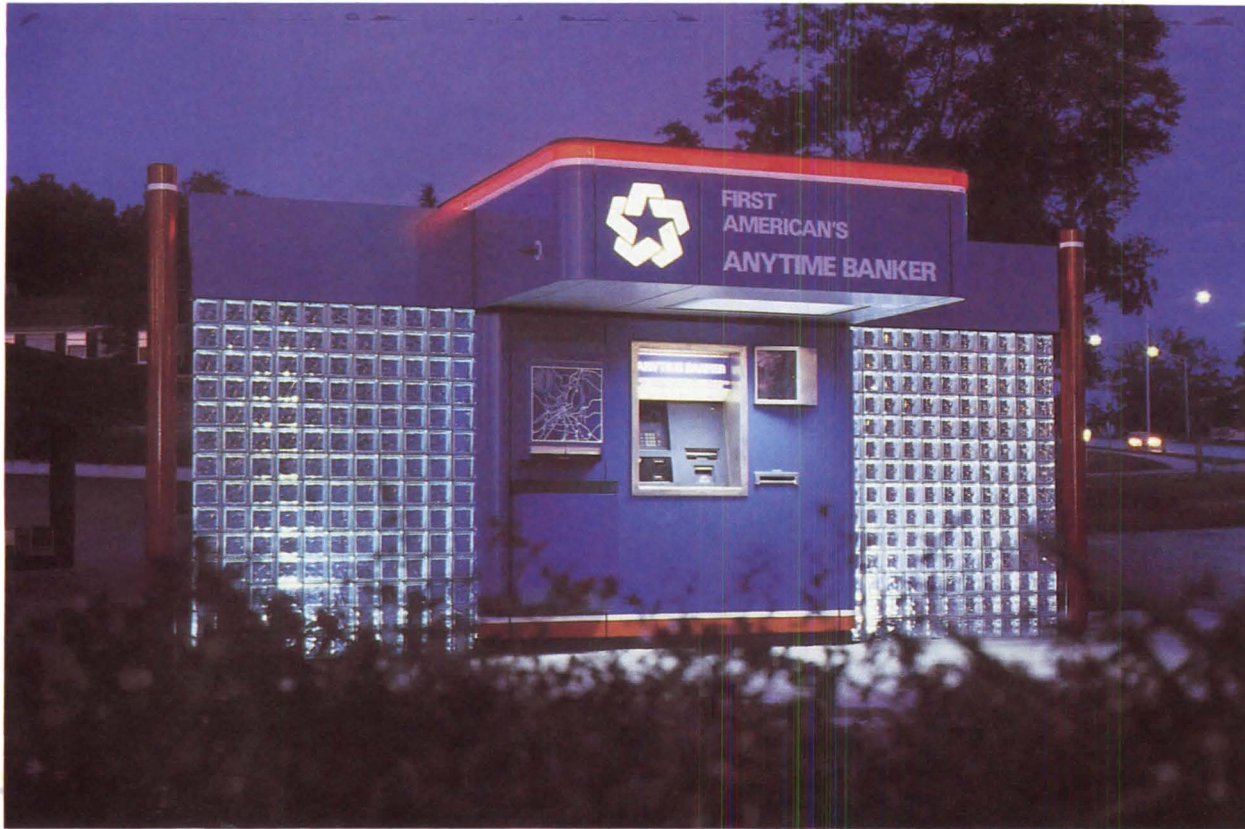
Architect: Welton Becket Associates

Contractor: J.A. Jones Construction Co.

Elevators sold and installed by
Dover Elevator Company, Louisville.

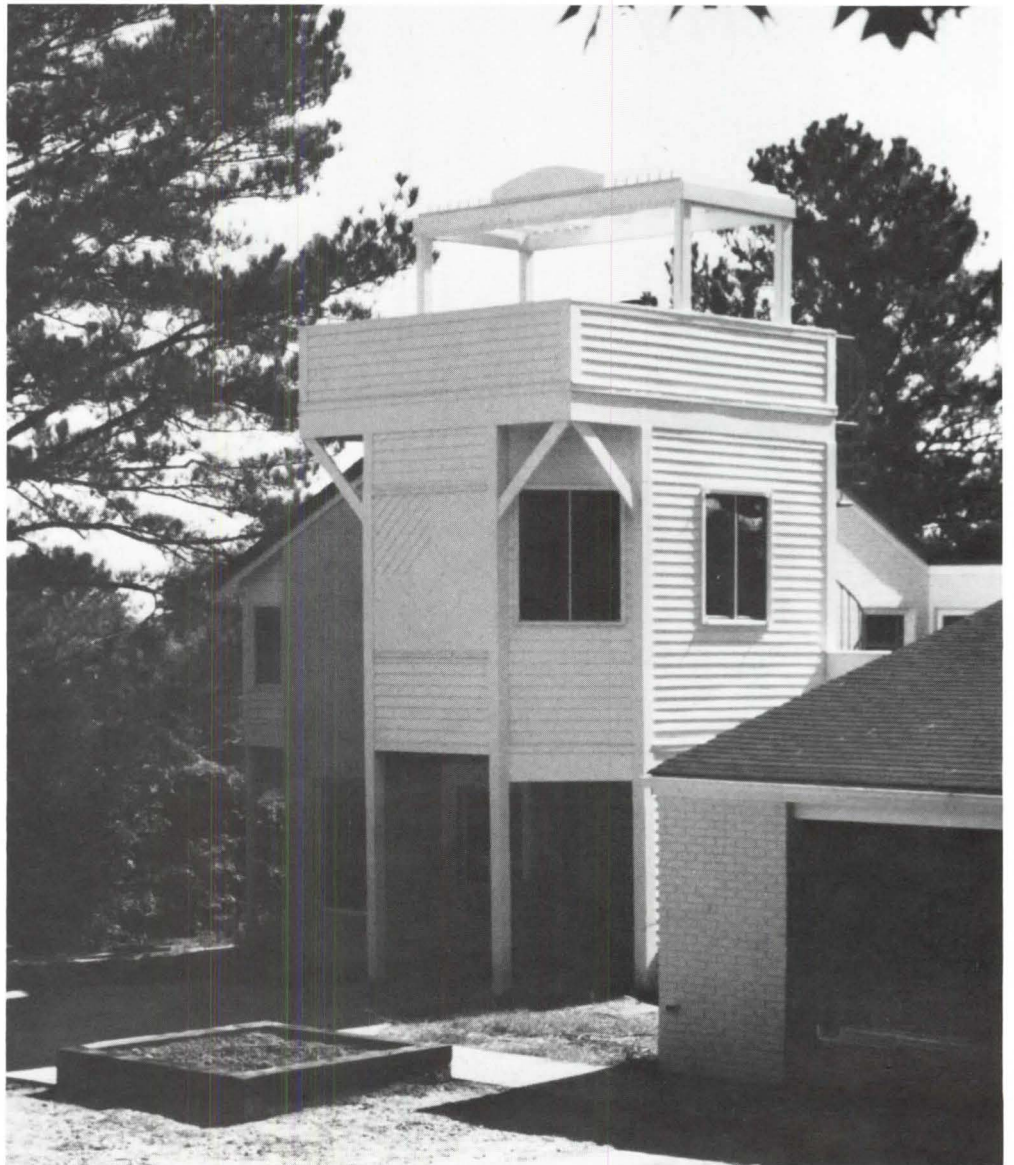
DOVER[®]

The elevator innovators.



Gulf States Region. Anytime Banker Machine, First American National Bank, Nashville; Gresham & Smith, Nashville (above). The machine provides 24-hour banking service through a complex system of IBM computers. Five system types were developed to adapt to various functional and environmental concerns. The one pictured uses a cubic form with the computer and customer protected by a canopy. Integrated in the design are glass block walls and exaggerated bumper poles. In two of the other four unit types, the computer is positioned through an existing wall—in one the building provides a canopy, in the other a canopy has been added. The two other systems are an indoor freestanding unit and an outdoor freestanding one for use by vehicles.

Mississippi Chapter and Gulf States Region. Collins Residence, Starkville; Robert McDonald Ford, AIA, Mississippi State University, with Donlyn A. Lyndon, FAIA, San Francisco (right). The house is situated on an east-facing slope with its west side nestled close against a stand of pine trees. The building takes its form from a courtyard. The roof is low around the three sides of the court and slopes away, reaching up to a lookout pergola. The tower contains a bedroom with sleeping loft at the apex of the roof. Spiral stairs wind up to the pergola. The front door opens into a square vestibule that links the formal entertaining and guest spaces on the left with family quarters on the right. The west wing is a complete apartment with kitchen, study, master bedroom and bath.



More component awards, page 70

**WE WENT ABOVE
THE ARCTIC CIRCLE TO PROVE
THE EFFECTIVENESS OF A
NEW INSULATED SECTIONAL
STEEL DOOR.**



Introducing THERMACORE. The world's only insulated sectional steel door with a patented thermal break.

Tested in the frigid environment of a Swedish winter, this revolutionary new industrial sectional steel door has achieved amazing success.

Now at Insoport Industries in Williamsport, Pa., THERMACORE industrial doors are rolling off our production lines ready to prove how they can save you energy and dollars in your location.

You see, a unique design and manufacturing process make this sectional steel door superior to all other sectional industrial doors.

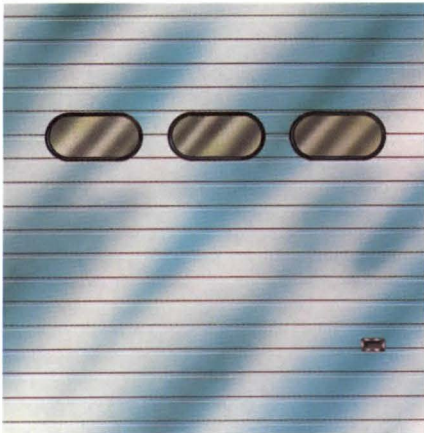
Nobody builds a door like THERMACORE.

Nobody can match our U-values (0.071 for a panel and 0.22 for the installed door). Nobody can match our standard widths.

And nobody can match our patented thermal break.

Meet a new concept in industrial sectional steel doors. THERMACORE.

The lamination process used to construct our industrial door panels



* A trademark of Bethlehem Steel.

is a completely new method. No other door is made this way . . . anywhere.

THERMACORE is a total system of tight seals and thermal breaks designed to prevent heat transfer and eliminate air and water infiltration.

Each cavity is packed solidly.

THERMACORE is the first "airless" door.

Each cavity between the sheets of Galvalume* steel (steel coated with aluminum, zinc, and silicon) is packed solidly with a filling of polyurethane foam. The heated door skins receive a filling of this polyurethane foam, forming an exceptionally strong sandwich of metal/foam/metal.

There are no gaps or air pockets anywhere between the inner and outer sheets. So instead of air, our door is filled with solid thermal insulation.

Why every other door is "backward."

Everyone else builds doors outside in. We build our THERMACORE doors from the inside out.

The heart of our door is the core of 1-5/8" thick polyurethane. The foamed-in-place core gives our door an energy-saving value superior to all other sectional industrial doors.

You see, while conventional doors use vertical stiles, rivets, spot welding, or other methods that require metal-to-metal contact, THERMACORE has a unique design. There's no metal-to-metal contact between the inner and outer surfaces.

The world's widest door.

We produce doors up to 40 feet wide (16 feet wider than any other

manufacturer). And no matter how wide, our doors do not need vertical stiles for strength.

A door is a door is a door . . . until THERMACORE.

THERMACORE is more than a door. It's a manufacturing process totally automated and controlled by the



finest computer technology, resulting in a solid-wall thermal insulation.

And because a poor seal between the door and the wall can ruin the efficiency of good panel insulation, we have four different THERMACORE seals to stop air infiltration and save energy.

THERMACORE is the world's most advanced industrial door.

To find out more about this new sectional steel door, ask for our catalog. Write Insoport Industries, Inc., 3200 Reach Road, P.O. Box 3033, Williamsport, PA. Or call toll free 1-800-233-8992.

THERMACORE

THERE'S NO OTHER DOOR LIKE IT.

Circle 28 on information card



Mississippi Chapter and Gulf States Region. Christ Community Church, Clinton; Goodman & Mockbee, AIA, Jackson (above). The building functions as both a worship and classroom area. The church nave, which seats 185 to 200 people in folding chairs, can be partitioned into five classrooms. The building faces north and east with the bell tower and main entrance on the east. Four high windows on the east elevation admit natural light into the interior corridor. The architect made a "conscious effort" to use the shapes and images from farm buildings and barns, which can be seen in the surrounding Mississippian landscape.

Louisiana Architects Association. Medical Offices for Dr. James L. Nelson, M.D., Hammond; Gossen-Gasaway & Associates, Ltd., Hammond (right). Since the building is located in a designated historic district, the exterior renovation had to be in character with the existing turn-of-the-century architecture. Inside, the first floor houses an office; the second, a doctor's lounge and two one-bedroom rental units. The ceiling height on the first floor was dropped in all areas except the corridor space, in which the original 14-foot-high ceiling was retained. The doctor's lounge, located in the rear of the second level, is connected to the first floor by a spiral staircase.

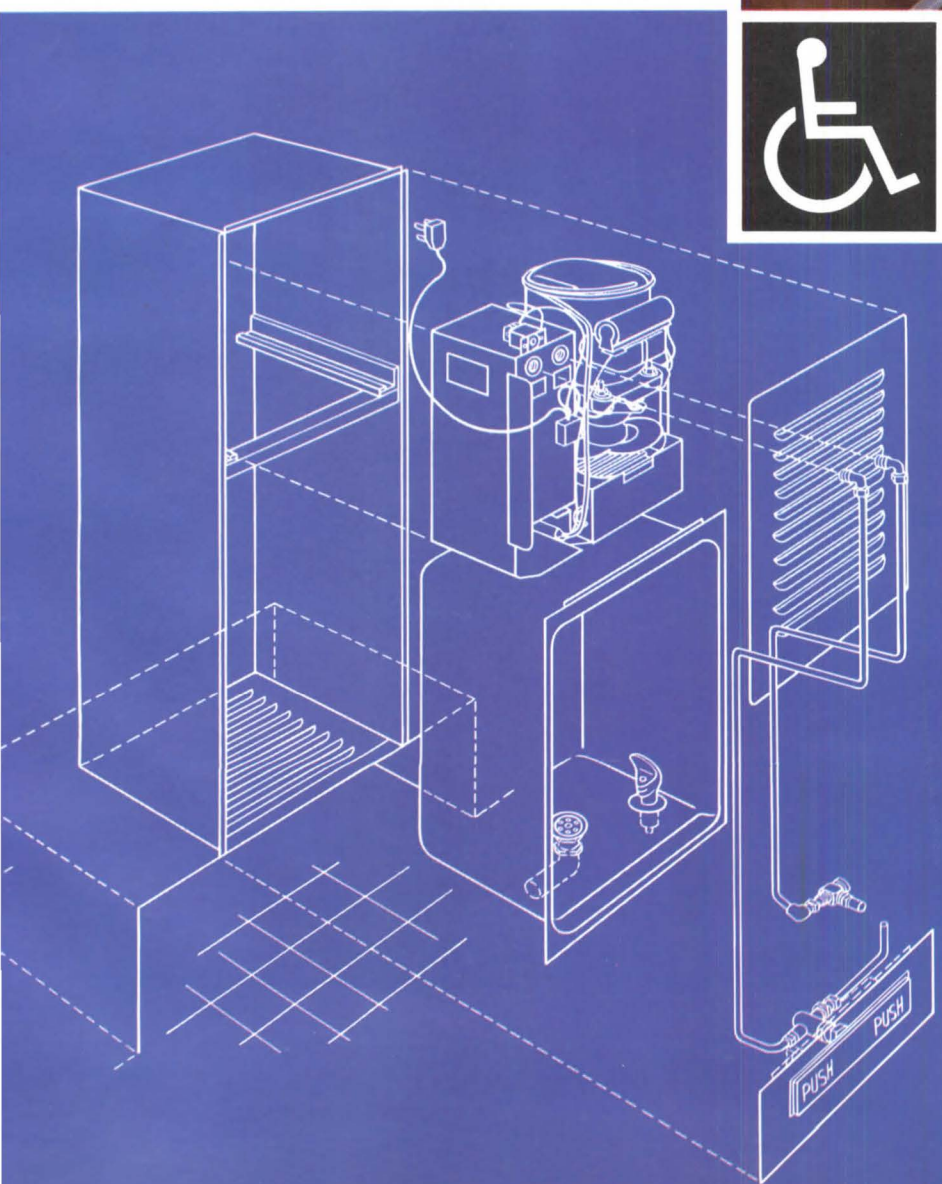


Gleason Photography

More component awards, page 83

Don't Compromise Your Wall's Integrity.

Haws Model HWCT6 fountain with cooler is fully recessed, so walls remain smooth and interior lines are uninterrupted. Recess space beneath allows convenient wheelchair access.



Sturdy, Easy to Mount.

Steel mounting box is included for convenient installation. 9.5 gph cooler fits simply into place. Features a 17-gauge, satin-brushed finish; polished chrome-plated bubbler; and push-bar valve with automatic stream control.

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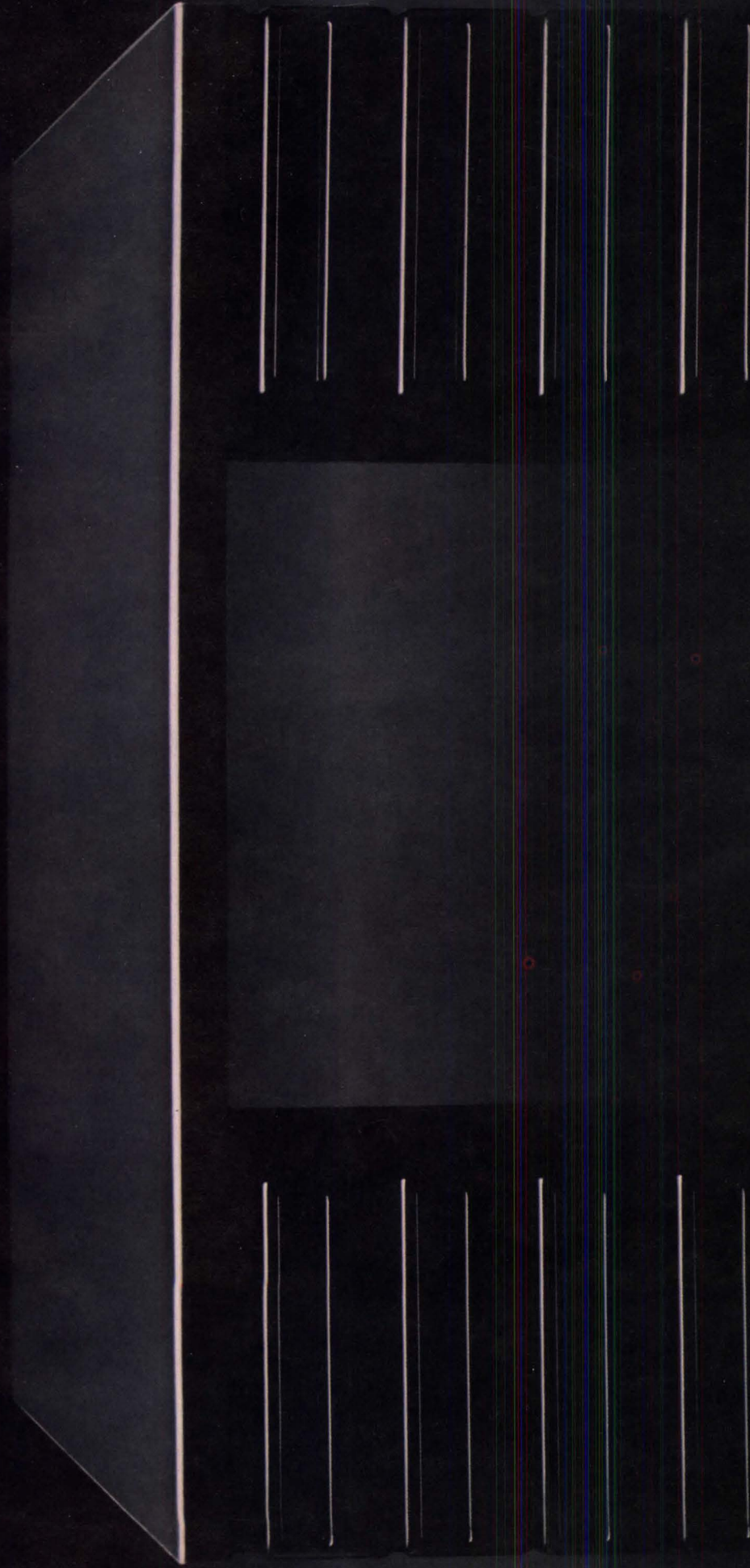
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Knoll The Hannah Desk

Circle 150 on information card





From the first architectural principle comes the first truly modular desk. The Hannah Desk.

Gravity, and Bruce Hannah, have combined to produce a significant breakthrough in office planning: the creation of a totally flexible desk and cabinet system.

Until now, the desk has always been a fixed structure, the storage space inflexibly attached to and hanging from the top. Bruce Hannah's desk is just the opposite. The storage space, or pedestals, support the top — the posts supporting

the lintel, architecturally speaking. Consequently, the pedestals are not permanently attached.

The result? For the first time, the furniture within an open plan office is as flexible as the walls of the office system. And equally important, for the first time, you can have total flexibility within conventionally planned offices.

The benefits? For the end user, a desk that changes

as his or her needs change. For you, on-site flexibility. And an installation that will look as good years later as it does on the day of completion. And for both, the quality and aesthetic excellence you expect from Knoll. At a price you may not expect. We invite you to write for the fully detailed Hannah Desk brochure. Knoll International. The Knoll Building, 655 Madison Avenue, New York, N Y 10021.

How to flush out the real thing in flush valves.

Look for all these precision features. And you'll be looking at the real thing—a Sloan Flush Valve. For example, look at the inside cover. Sloan's is molded of the finest thermoplastic. There's no need for regulation and water delivery is consistent and dependable.

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Our relief valve has a sliding gland for non-hold-open operation. The valve flushes, then shuts off automatically, even if the handle is held down. That saves water. And it's been a Sloan standard for years.

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The guide is ABS engineered plastic. In combination with either of two relief valves, it'll satisfy any fixture requirement.

The lip seal on the handle needs no adjustment. And a nylon sleeve eliminates metal-to-metal contact between handle and socket.

The real thing. A Sloan Flush Valve. For real water savings and real-life dependability.



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Design Concepts

New Directions in Surfaces

Design Concepts, a new laminate collection, perfect for office furnishings.

Solid colors, highest gloss, subtle design textures, and fully formable for elegant contoured edges.

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Desk by Dexter Design, Inc., New York



Craig Buchanan photos

This is a factory?

Strong forms and bold colors give the Qume Corporation facilities in San Jose, CA, a distinctly un-factorylike appearance. On the outside, Inryco/wall IW-11A panels in postal blue and boysenberry are curved in graceful contours to break up the geometric rectangles of long, low sandstone beige walls.

Inside, the same type of panels in boysenberry and suede brown frame a skylit garden atrium

between office and plant areas. Qume Corporation wanted a pleasant atmosphere for its employees, and the design team won a 1980 AIA Honor Award in providing it.

The energy efficient Inryco/wall panels are coated with long-life, low-maintenance, two-coat Duofinish over a galvanized steel base. For more data contact your Inryco representative or INRYCO, Inc., Building Panels Div., Dept. E-4127, P.O. Box 393, Milwaukee, WI 53201. TLX 26683 INRYCO A WMIL.



Inryco

an Inland Steel company

Circle 34 on information card



Balthazar Korab

Detroit Chapter, United Technologies Office/Research Building, Dearborn, Mich.; Rossen/Neumann (above). The three-story L-shaped building is located at the edge of a mature woods and looks out on it with three stories of reflective glass. The interior of the 245,000-square-foot building was designed to be highly flexible. All conference rooms, toilets and other common rooms are oriented at the end of the three office areas. Although

the research facilities were previously in three separate areas, in the new building they are consolidated into one with access from all three office divisions. The building also has an auditorium, computer center and three-story lobby with skylight.

Poplar Creek Music Theatre, Hoffman Estates, Ill.; Rossen/Neumann Associates, Southfield, Mich. (below). The theater can accommodate 7,000 people under the roof, plus 13,000 on the lawns.

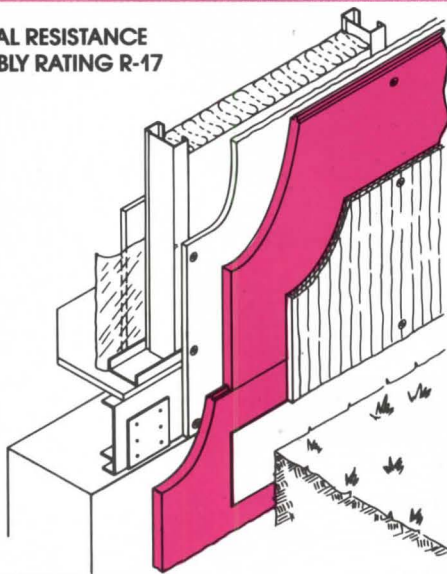
To provide sight lines to the stage from the lawn area, 370,000 cubic yards of earth were excavated to build a 46-foot-high slope. The whole complex—theater, food concession building, toilets, ticket sales and other related buildings, are located on a circular configuration with the major element—the seating—occupying nearly one-half of the circle. The theater's roof is a 60,000-square-foot space frame.



Balthazar Korab

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ASSEMBLY RATING R-17**



EXCLUSIVE!

Foam sheathing with load bearing steel framing!

Unique assembly with 1-hour fire rating employs 1/2" plywood siding panels, 1" FOAMULAR Insulation, 1/2" gypsum sheathing, 3 5/8" THERMAFIBER® MS Insulating Blanket, 6 mil poly film (optional) and 5/8" SHEETROCK® Brand FIRECODE® C Gypsum Panels.

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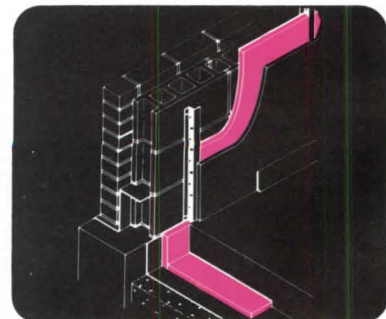
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Now, the name that offers you more in exclusive insulating sheathing systems is first to fill another important architectural need. It's a 1-hour fire-rated commercial system for rigid insulating sheathing—with load-bearing steel framing (see schematic above).

This unique new system employs high performance FOAMULAR insulation—the remarkable polystyrene produced by a patented vacuum/hydrostatic process. Remarkable because of a closed-cell core structure, continuous skin surface, good flexural and compressive strength, minimized wicking, plus resistance to water, vapor and decay. FOAMULAR insulation scores and snaps clean to expedite installation. Meets Federal Specification HH-1-524B and major building codes. ■ Call your U.S.G. Representative. Mail coupon now!

The higher the R-value the greater the insulating power. Ask your seller for the fact sheet on R-values.

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Z-Furring System for insulating masonry and concrete walls.

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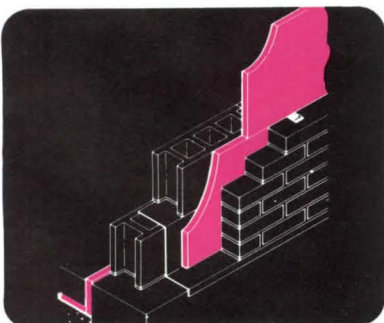
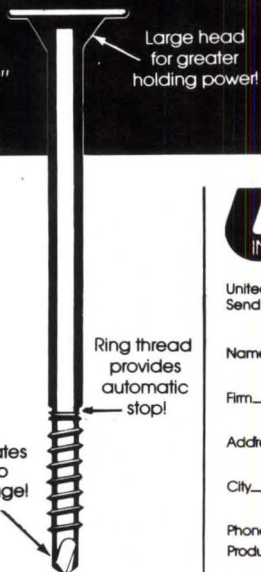
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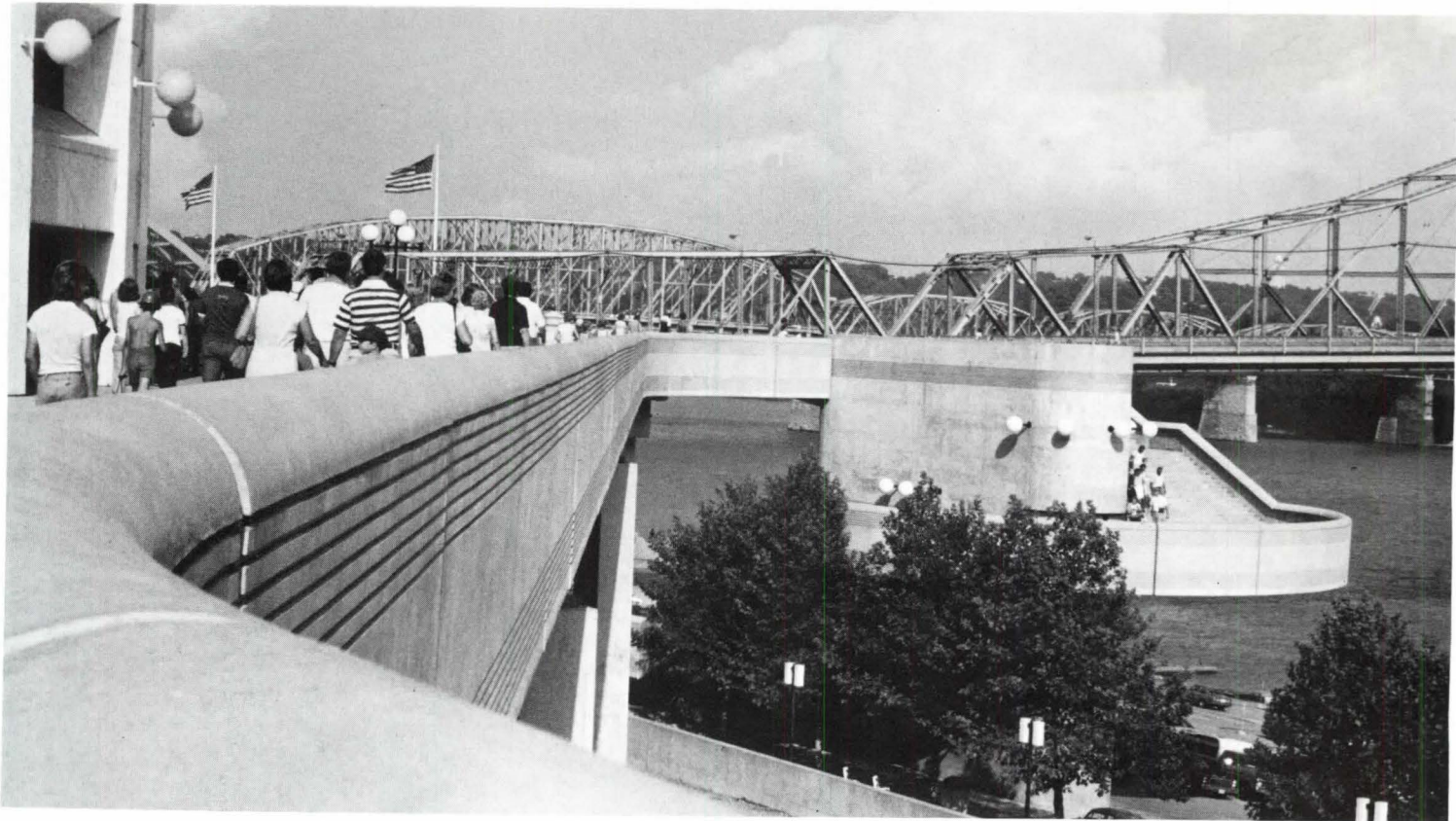
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Product currently not available in western U.S.



Cincinnati Chapter. Cincinnati Riverfront Coliseum/Stadium pedestrian connections; Gary R. Lesniewicz, AIA, Cincinnati (above). This network of skywalls and stairs links, both physically and visually, the large sports/entertainment facilities on the bank of the Ohio River to the adjacent downtown core. The design elements are appropriately overscaled to match the huge buildings they serve. At the same time, the circular form of the stadium and the oval form of the coliseum are suggested by the sculptural softness of the periphery. Granite pavers, used as an edging device to strengthen the sculptural effect, were salvaged from the original riverfront streets that much of this new development displaces.

Butler County, Ohio, Courthouse; Steed-Hammond-Paul, Hamilton, Ohio (right). Built in the 1880s in the Second Empire style with strong Beaux-Arts influences, the courthouse is considered the county's most significant landmark. Commissioners asked the architect to create an efficient 20th century courts facility while maintaining the building's original character. One of the large courtrooms was divided into a smaller one plus new judicial facilities, and fire stairs were installed in wasted storage space and obsolete restrooms. The interior focal point, a rotunda with skylight, was repaired and restored. Office additions that had been constructed in the east and west porticos were removed, the stone exterior was cleaned and exterior decoration repaired.



The Bentwood Collection



Stendig

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Stendig showrooms in Chicago, Los Angeles, Miami, New York. Other showrooms in Atlanta, Denver, San Francisco, Seattle. Representatives in major cities. Write or call Stendig[®] Inc., 410 East 62 Street, New York 10021 (212) 838-6050. Stendig Inc., a subsidiary of **Stendig International, Inc.**

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FRESH IDEAS.

The idea is color. Stronger, richer color. Anso IV has it. Because Anso IV—the first 4th generation nylon with **built-in soil and stain protection** for commercial use—**dyes deeper** and holds **more color** than any other fiber, to create carpets with crisper patterns and purer tones. Anso IV protection lasts, which means **reduced maintenance costs**, and extended carpet life. And Anso IV means carpet with **guaranteed lifetime static control**, and **guaranteed wear resistance** (see Anso IV label for full warranty terms). Anso IV, it's the superior commercial carpet fiber, engineered for beauty and performance. And, fresh ideas.

Anso IV® When your eye says beauty, and logic demands performance.





The carpet of Anso IV shown above has been steam cleaned 5x prior to testing.

1. Coffee spill beads up on carpet of Anso IV...the stain protection remains.

2. After resoiling—soil particles are literally suspended in carpet of Anso IV.

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For further information, write to Allied Fibers and Plastics Company, Home Furnishings Advertising Department, 1411 Broadway, New York, N.Y. 10018

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This Joy™ axial fan can pay for itself in 2 years.

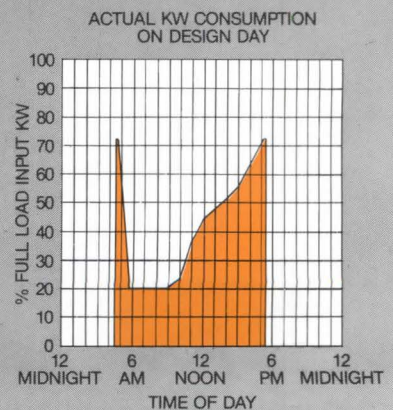
High energy costs concern us all. Joy has a solution to the problem that can deliver substantial savings. When Joy Controllable Pitch fans are applied to well-designed VAV systems, they will pay for themselves with power savings in a few years, in comparison to conventional systems.

For example, based on data from an actual installation, a 48-26-1770, 100 H.P. Joy Controllable Pitch fan saved 86,530 KW hours in one year. Using a cost of 5¢ per KW hour, the savings over two years amounted to \$8,653 . . . more than covering the cost of the fan.

For energy savings data contact Joy Manufacturing Company, Air Moving Products, New Philadelphia, Ohio 44663.

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Architects have become increasingly aware that a metal roof can become a welcome departure from the commonplace and an important aspect of contemporary expression.

When that departure is created by TCS, terne-coated stainless steel, as exemplified by the beautiful, new headquarters of Square D Company in Palatine, Illinois, this exciting new material permits the visually significant roof to become an important basic component of design.

TCS is unique among roofing materials. It has inherent adaptability to form and function, is maintenance free, and weathers to a predictable, warm gray. May we send you substantiating evidence?

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Headquarters Building, Square D Company, Palatine, Illinois

Architects: Loebel, Schlossman & Hackl, Chicago, Illinois

Roofer: E. W. Olson, Chicago, Illinois

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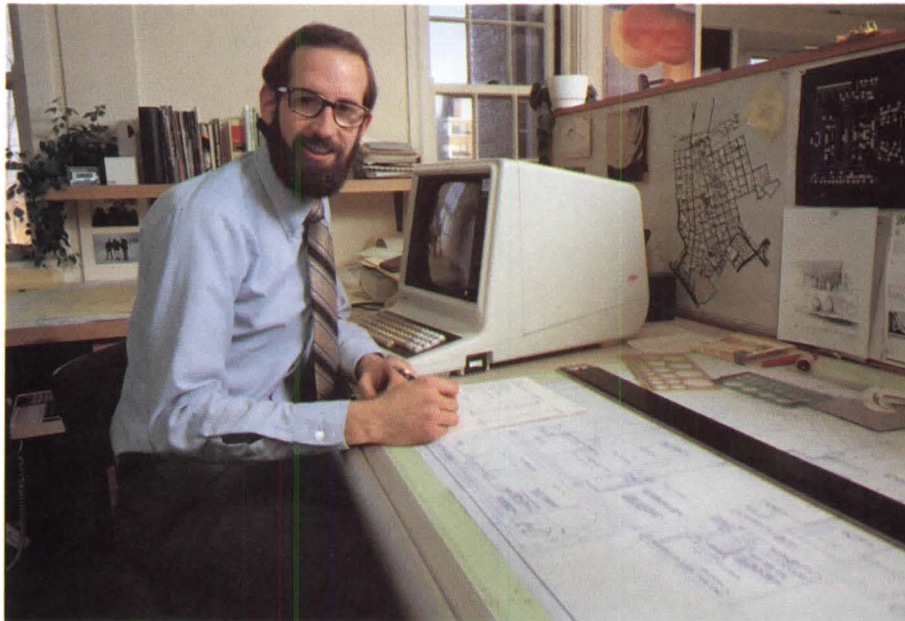
Cincinnati Chapter. Taft Corporate Headquarters, Cincinnati; PDT + Co., Cincinnati (above). Located in an emerging redevelopment neighborhood, the site is a ridge accessible only from the north with the south slope exposed to the city's skyline. The design solution was a linear-massed building with entry to the north and a low level view of the city to the south. The atrium is enclosed with bronze insulated glass.

Architects Society of Ohio. Cincinnati Postal Employees Credit Union; Glaser & Myers and Associates, Cincinnati (right). The client occupies the first floor of the 21,000-square-foot building; the remaining office space has been leased to other credit unions. The building's design was to be "distinctive to create a unique structure on a site surrounded by undistinguished industrial buildings and to attract the attention of by-passing motorists," in the architect's words. The solution is a crisp, colorful steel panel building with strong geometrical configurations. Offices and work areas are housed in the square gray-paneled structure. A triangular two-story lobby is created by an orange panel wall that runs parallel to the street and butts the square work area. The triangular shape is reflected in the teller counters and the exposed space frames that support the ceiling and the glass front wall.



Control Data can help

Today, energy is the number one cost of operating commercial buildings. Control Data can help you design an energy conservation strategy that makes the most of available energy resources.



▲ Tim Durr of Architectural Alliance in Minneapolis uses a PLATO terminal to model a new building. The PLATO/BLAST program tests the various parameters of construction to determine the optimal design in terms of energy conservation. More and more architects are routinely providing this type of service for their clients.

Chuck Branch, Director of Building Services, St. Mary's Hospital in Reno, Nevada: "We were able to reduce our monthly fuel bill by \$15,000 without any sacrifice in patient care or comfort by using information gained through a CYBERNET energy analysis program." Beard-Wiel Associates were the consulting engineers. ▼



Buildings are prime targets for energy conservation, since they consume nearly 40% of the U.S. energy supply. Already, thermal compliance codes have been adopted in most states. This means architects, engineers and building owners must find ways to meet these requirements, and control the expense of escalating fuel costs.

Computer modeling evaluates energy consumption

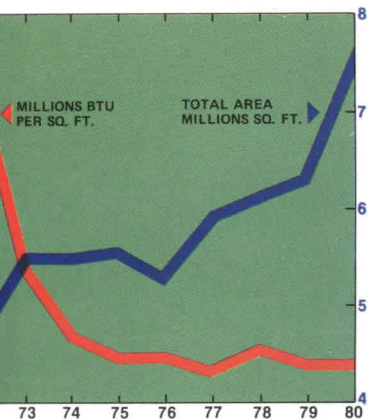
By using proven energy analysis programs available through our CYBERNET data services network, you can simulate the energy use for a new or existing building. You can calculate energy consumption, compare alternatives, and compute investment, operating costs or payback. You can determine compliance with local building or energy codes, and analyze the interaction between such variables as building components, occupancy and weather.

Our energy analysis library is extensive. It consists of third generation computer programs which are fully supported by program automation and our own consultants.

Customized solutions from Control Data's Professional Services

But for unique requirements, our Professional Services consultants can tailor a solution. These specialists

You cut energy costs.



Control Data's own energy conservation program started in 1972. Since then, our space increased by almost two-thirds. Our energy consumption per square foot decreased by more than one-third.

With their extensive backgrounds in heating, ventilation and air conditioning, as well as state-of-the-art computer technology. Working with your energy managers, they can help you develop customized solutions for your energy problems.

The latest advance in easy-to-use programs

Even without extensive experience in computers or energy audits, you can use our new PLATO/BLAST program. It uses the highly interactive terminal of Control Data's PLATO® computer-aided education system to guide you through each step of the analysis with text, programs and graphics of the building zones being analyzed.

Energy Auditing—tailored to homes as well as commercial buildings

Since most homeowners lack the skills needed to weigh alternative conservation measures, we developed an easy-to-use residential audit. Available from participating utilities, or as a benefit from



Three state-of-the-art technologies are represented in this installation of equipment atop the Circle T Girl Scout Center in Ft. Worth. The Lennox active solar/variable air volume HVAC system employing advanced electronic controls was simulated by programs developed for Lennox Industries by Control Data's Professional Services.

employers, it profiles a home's overall energy efficiency and helps evaluate conservation alternatives. As with our commercial energy audits, the home energy audit identifies various conservation measures, their costs, tax benefits and projected savings.

Our solar energy "collector" is bringing light on this new technology.

With the extensive research into solar technology, we need to avoid costly duplication of effort. That's why Control Data is building one of the

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Knowledge. Services. Solutions. Ways that Control Data is helping people conserve energy and cut fuel costs.

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PROFILE



Lawrence S. Williams—Photo

Project: Philadelphia Police Headquarters

Architect: Geddes Brecher Qualls Cunningham, Philadelphia, Pa.

Project Architect: Herbert Levy (for Re-Sealing)

Sealant Contractor: Lane Company, Inc., North Hills, Pa.

Sealant: based on Thiokol's LP® Polysulfide Polymer

Reasons: Record of longevity!

Joints: Expansion

Comments:

Original polysulfide sealant lasted 18 years.
Specified polysulfide again.

Substrate: Pre-cast concrete

Additional Information:
Marketing Communications, Dept. A1
Thiokol/Specialty Chemicals Division
P.O. Box 8296 Trenton,
086

PHILADELPHIA
POLICE HEADQUARTERS

Thiokol / SPECIALTY
CHEMICALS DIVISION

THINK HORIZONTALLY



General Mail Handling Facility, U.S. Postal Service, Huntsville, Alabama Architect: Northington, Smith, Kranert, Tomblin Assoc. General Contractor: Bryson Construction Co., Inc.

Design in a new direction with the horizontal look from Robertson



There's a new option for design flexibility from Robertson: Formawall® flat metal wall panels have been redesigned for horizontal use - in addition to traditional vertical installation.

Now you can design horizontally in lengths up to 30 feet - in 24" to 30"-high modules - in our standard 2" thickness. Use our foam core insulated Formawall

1000 and select from long-life stucco-embossed finishes such as Vitralume® (a superb porcelainized finish at new competitive prices), Versacor®, Durasil® or PVF₂. Or utilize Formawall 2000 with a honeycomb core and baked enamel finishes - and choose smooth or stucco-embossed.

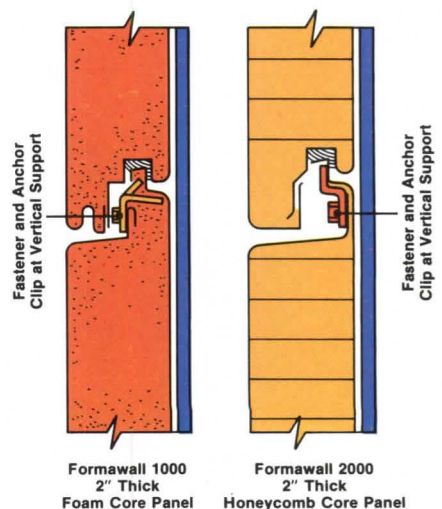
In either case, you'll take advantage of this latest Robertson innovation: we've eliminated the customary weather-exposed sealants at all horizontal joints, so we can now provide a bolder, deeper shadow line.

The horizontal look: another new concept in walls from Robertson, designed to make your building come to life.

For further details on horizontal or vertical Formawall applications, call or write: H. H. Robertson Company, Department J-5, 400 Holiday Drive, Pittsburgh, PA 15220. Phone: (412) 928-7522.

Circle 43 on information card

Horizontal Formawall Typical Joint Details



Formawall 1000
2" Thick
Foam Core Panel

Formawall 2000
2" Thick
Honeycomb Core Panel

Robertson



Architects Society of Ohio. Arcade Square, Dayton; Lorenz & Williams, Dayton (above). This turn-of-the-century mall, fronted by a Netherlandic guildhall facade and terminating at a 90-foot-diameter space covered with a glass rotunda, had experienced decline with the rest of downtown Dayton. Its restoration, financed by a complex public/private arrangement that included an Urban Development Action Grant, combines careful attention to historic accuracy with low-key new elements. Skylights were uncovered and fitted with new outer frames and new glass. Original interior colors were researched for historical accuracy. New shopfronts, tile floors and linear metal ceilings are essentially neutral. Exterior shopfronts flanking the arcade entrance are recessed to allow the ornate facade to remain unencumbered. Energy conservation was an important consideration: An analysis found that performance improved 57 percent after restoration.

Indiana Society of Architects. Spring Mill Stable, Indianapolis; Gordon Clark Associates, Indianapolis (left). Built in 1902 as a horse stable, this wood-frame building on a wooded site was part of an estate owned since 1924 by an Indianapolis department store executive. The architect remodeled it into a single family residence with 5,000 square feet of space. It features a master bedroom in the tower, a large family room in a loft and both formal and family dining areas.



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Sunglas® Reflective by Ford blocks up to 65% of the sun's heat, while letting in over 40% more natural daylight than the closest competitor, at a cost that's surprisingly low.

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GLASS DIVISION

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**Exposed steel wall system
provides economy and energy
efficiency in new Chicago schools**



The new 357,000 sq. ft. Olive-Harvey College in southwest Chicago was designed to provide 8,500 full-time students with programs covering the arts, sciences and technical areas of learning.

The building's 30-foot by 11-foot bay steel framed structural system provides good quality spaces for students and faculty functions.

The building's enclosure of insulated painted 1/4 in. thick carbon steel plate with 1" thick insulated glass on a 5-foot module, was designed in 10-foot wide full height 6-foot 6-inch sections for rapid erection and early close-in of the building.

This enclosure is not only an effective barrier to the high noise levels caused by the heavy auto and truck traffic from the adjoining streets and expressway but also complies with energy

conservation design requirements. Of the 59,150 square feet of exterior wall surfaces only 35% is glass.

The new Olive-Harvey College is a successful example of the design flexibility and practical economy of using structural steel on the inside and a painted, easily maintained, exposed light-weight steel skin on the outside. The Richard J. Daley College building in southwest Chicago duplicates this structure and exposed steel wall system.

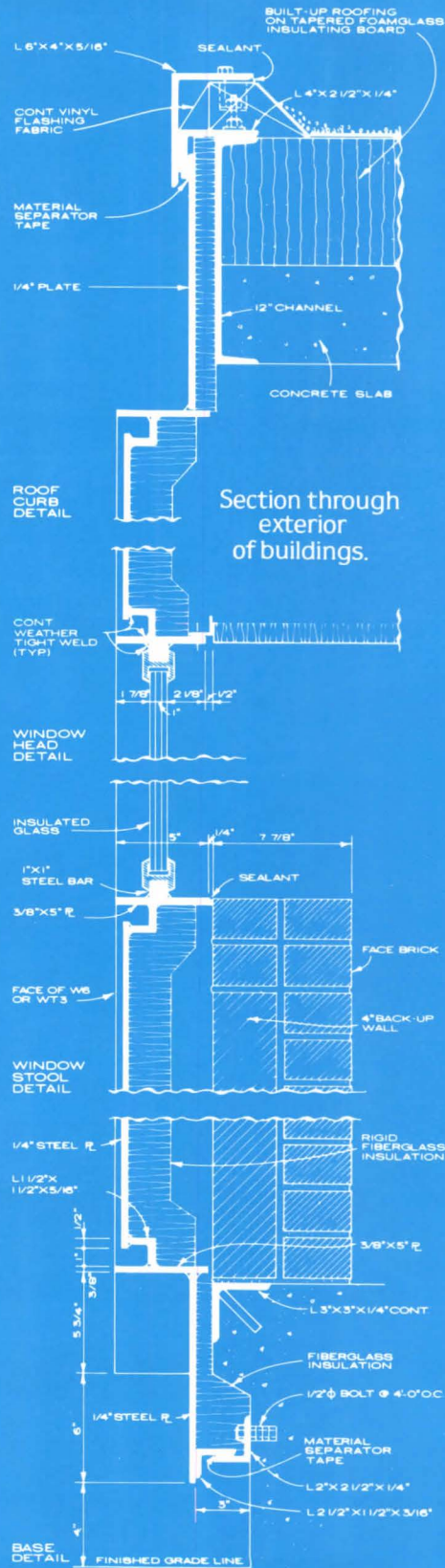
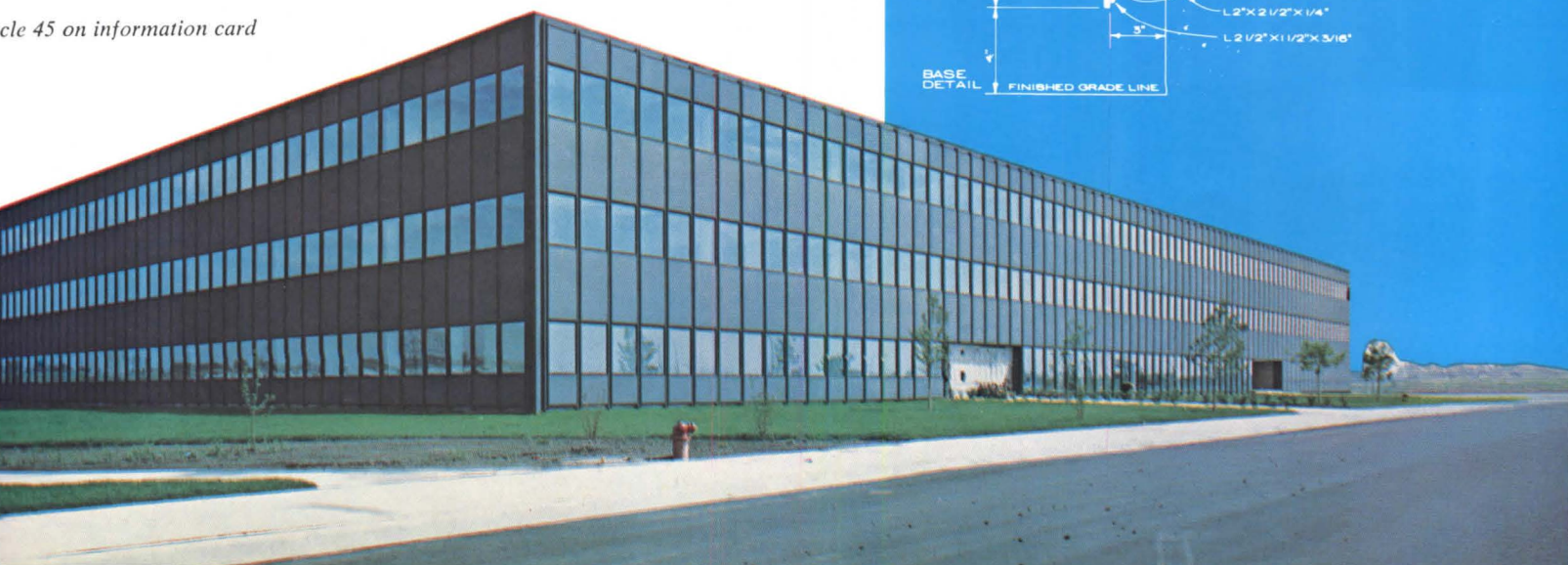
To find out more about these buildings, and for information regarding the many applications for structural steel, contact a USS Construction Representative through your nearest U.S. Steel Sales Office. Or write for a copy of the USS Exposed Steel Design Data Sheet C.5/5a to United States Steel, P.O. Box 86, (C1497), Pittsburgh, PA 15230.



United States Steel

- Owner: Public Building Commission of Chicago, Chicago, Illinois
- Operator: Board of Community College District No. 508, Chicago, Illinois
- Architect/Engineer: Dubin, Dubin, Black & Moutoussamy, C.F. Murphy Associates—A Joint Venture—Chicago, Illinois
- Construction Manager: DDBM Inc., Chicago, Illinois
- Curtain Wall Fabricator/Erector: Chicago Ornamental Iron Co., Melrose Park, Illinois
- Structural Steel Fabricator/Erector: Wendnagel and Company, Inc., Chicago, Illinois

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the requirements of Factory Mutual Research and United States Testing Co. It provides complete asbestos encapsulation without ripping out walls. A one-coat application to vertical and overhead surfaces forms a tough, durable coating. It dries to the touch in 2 hours, cures thoroughly in a day, remains plyable after curing and does not lose elasticity with age. Cable Coating No. 2-B meets today's demand for a bridging sealant that saves time, labor and money.

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The other reasons for specifying Celos-Glass IV were the speed and ease of installation. Using a nine-man crew, plus three men for graveling, the contractor was able to cover the equivalent of 12½ football fields in only 60 days.

Celos-Glass IV meets ASTM 2178 Type IV requirements, the most stringent of all. It is approved for all sections of the country.

For more information on Celos-Glass IV or our full line of Built-Up Roofing products, contact Peter G. Nazaretian at The Celotex Corporation, Roofing Products Division, P.O. Box 22602, Tampa, Florida 33622. (813) 871-4584.

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Stark Structural Facing Tile



Akron-Canton Regional Airport, North Canton, OH / Architects: Dansizen & Martin / General Contractor: Gibbons-Grable Company

Better than ceramic tile: Economical. Structural. And permanent.

Why specify block and tile separately, when Stark textured tile gives you the economy of a structural wall and durable face in a single product?

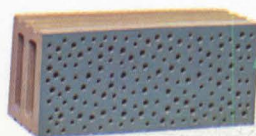


Textured tile is kiln-fired clay tile with an attractive, permanent face that won't stain, discolor, chip or peel. Fired at over 2000° F. during manufacture, textured tile can't burn, spread flames or emit toxic fumes.

Stark tile is as attractive as it is durable. In fact, in applications like the Akron-Canton Airport shown above, textured tile's deep-relief, random pattern and earthtone colors encourage innovation in design and atmosphere.

Combines noise control and low maintenance

For those areas where sound control is necessary, specify Stark acoustical tile, available with a glazed or textured face. Both



are virtually impervious to heavy traffic and vandalism, never need painting, and provide a sound absorption coefficient of .73.

Sound Absorption Coefficients

Tile Size	500 CPS	Noise Level
6T	.79	.60
8W	.73	.55

For new literature, write: Stark Ceramics, Inc., P.O. Box 8880, Canton, OH 44711. Or call toll free: 1-800-321-0662. In Ohio, call collect: 216-488-1211.



Circle 48 on information card



Chicago Chapter. Fultz residence, Chesterton, Ind.; Hammond Beeby & Babka, Chicago (above). The site for this weekend house for a professor and his botanist wife is 10 acres of plowed field and 10 acres of virgin dunes forest. The 36-foot-square, white painted pavilion of steel and glass is an industrial modular structure with steel windows, corrugated metal roof and industrial siding. Masonry bathroom/storage cores are linked by sliding doors to exterior walls, eliminating partitions.

Carson, Pirie, Scott & Co., Chicago; John Vinci, AIA, Chicago (left). The restrained and scholarly restoration of Louis Sullivan's department store included recasting and repair of the terra cotta surfaces; the addition of an expansion joint between the 1903 and 1906 buildings to prevent spalling of terra cotta; sandblasting, repair and painting of the cast iron in its original red/green color scheme, and returning the State and Madison streets lobbies to their original design. Laminate surfaces were removed; glass transoms, mahogany doors, ceiling and paneling were restored, and modern revolving doors were installed.

THE RIGHT GLASS CAN HIDE, HEAT, DRAMATIZE

The right glass.

More than ever, PPG glass is an indispensable tool for architects who wed energy efficiency to aesthetic power.

And one strength these three diverse buildings share—besides recognition of their design excellence by the AIA—is the choice of PPG glass to bring the architects' visions to life.

Look, for example, at the imaginative use of PPG's high-efficiency reflective Solarban® 550-8 (2) glass in the handsome, five-stepped international headquarters of Gelco Corporation outside Minneapolis.


Combined with an ingenious heat recovery system, the insulating power of Solarban glass helps minimize heat loss—and gain— even in the extremes of Minnesota's climate. It's also the right glass to help the building meld with and mirror the peaceful, wooded lake-front landscape.

In warmer Charlotte, North Carolina, "solar belts" using alternating panels of aluminum and PPG clear glass gird Equitable Life's clean-cut regional headquarters. "A slick, brilliant use of glass in a simple but innovatively planned building," said the AIA jury.

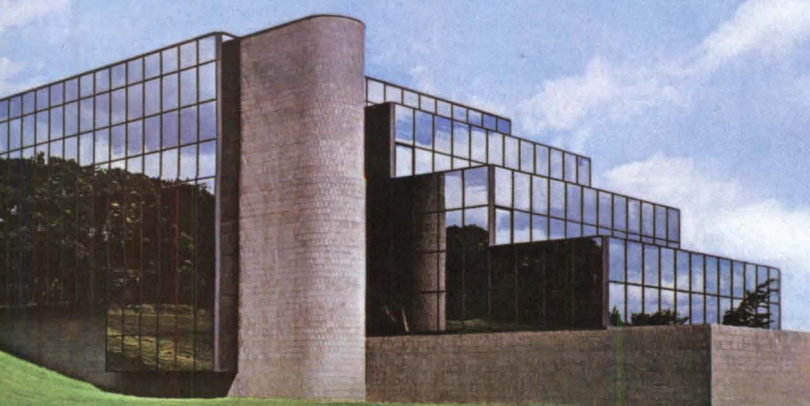
The panels combine with a low velocity fan system to capture and channel hot or cool air to where it's needed most, summer or winter. So energy costs are held down dramatically.

And even in the forward-looking architectural environment of Columbus, Indiana, the high drama created by PPG's reflective Solarcor Bronze glass helps set Bell of Indiana's switching station apart.

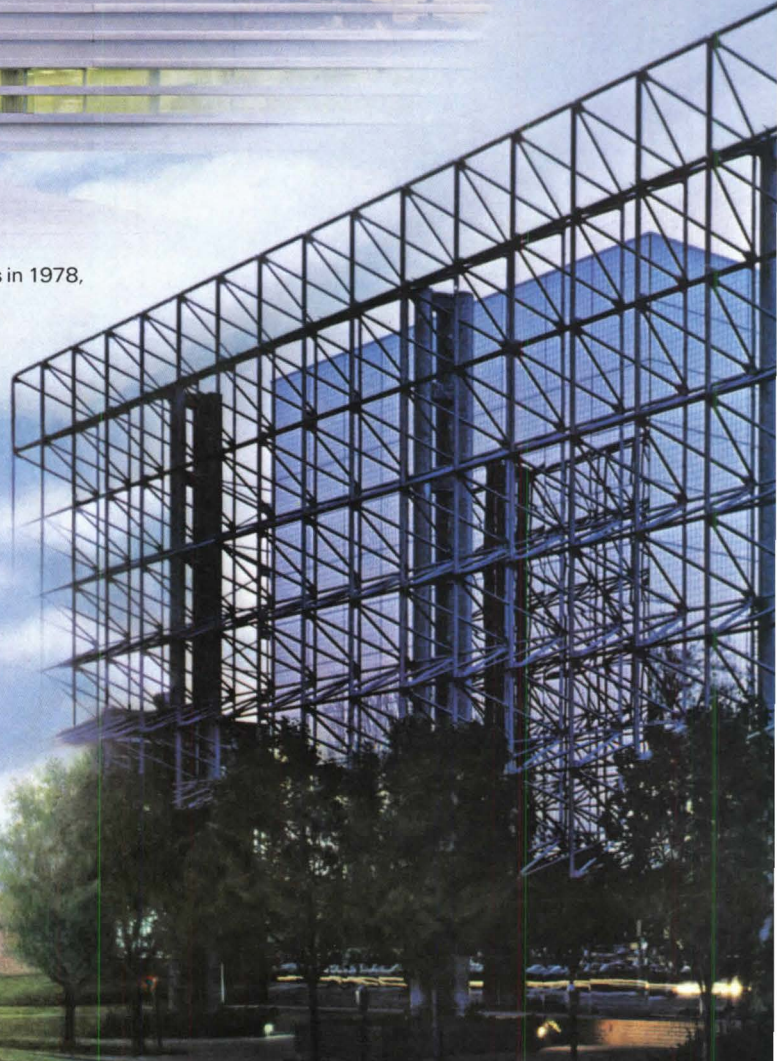
The original building is hidden behind a handsome structural silicone curtain wall system. And the new addition sparkles with a combination of opaque and transparent



Winner, 1980 national AIA Honor Award plus two regional AIA Merit Awards in 1978, Equitable Life's regional headquarters in Charlotte, North Carolina, was designed by Wolf Associates, Charlotte.



Winner, 1978 AIA Component Award, Minnesota Society of Architects, Gelco Corporation's headquarters in Eden Prairie was designed by Parker-Klein Associates, Minneapolis.



AND WIN.

arc-cool glass that helps redistribute heat from the switching equipment for maximum efficiency.

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PPG: a Concern
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Circle 49 on information card

Winner, AIA Honor Award in 1980,
Bell of Indiana's Columbus Switching Station
was designed by Caudill, Rowlett, Scott
of Houston, Texas.





Armor Elevator Co. Inc. — General Elevator Contractor
 Cal Court — Elevator Consultant
 Shepley, Bulfinch, Richardson & Abbot — Architects
 Dimeo Construction Company — General Contractors

Let your
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A great elevator design, a great one, starts with you.
 The architect.
 You and your ability to stretch your imagination to the
 limit, and still create a design that's as functional as it
 is spectacular.

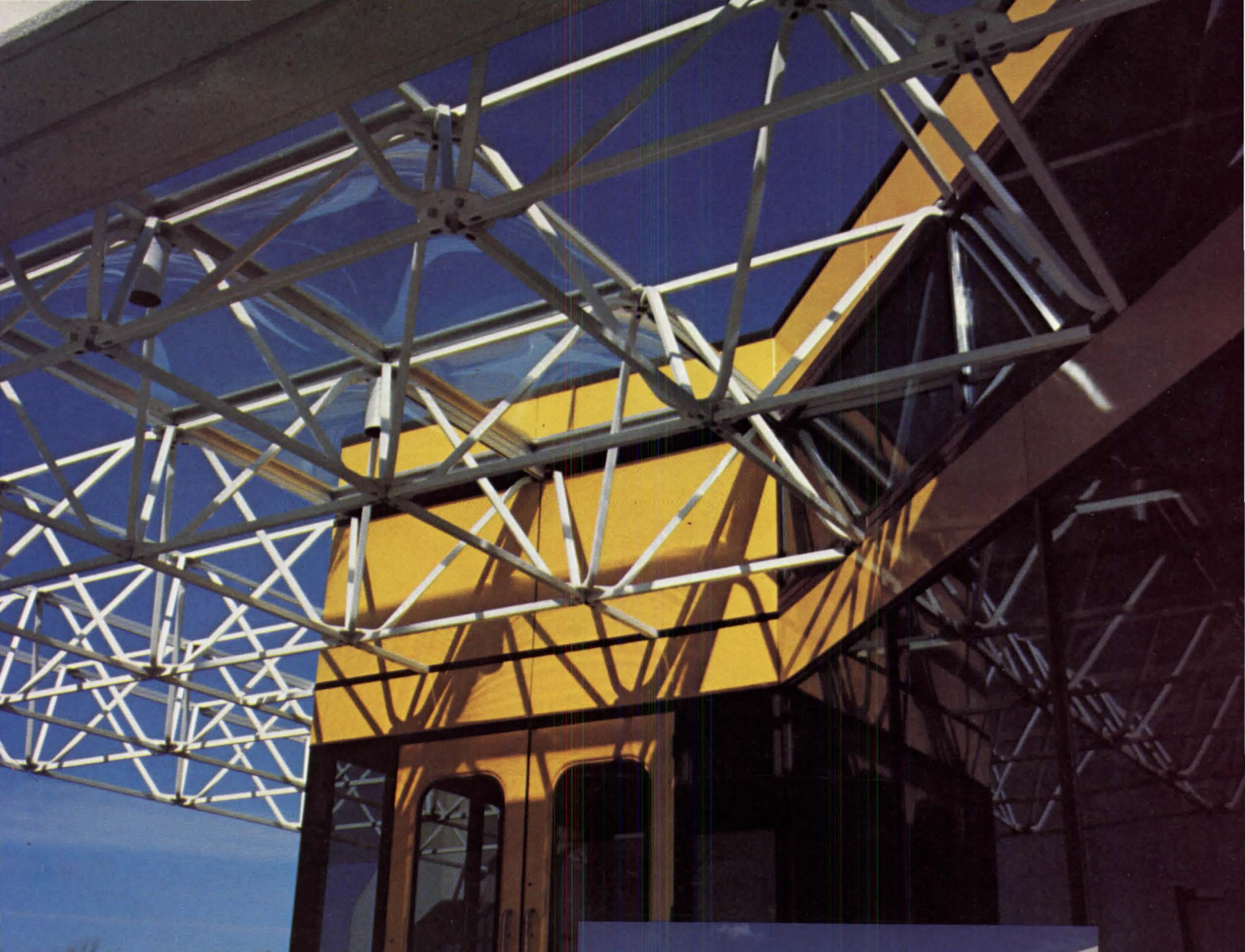
A good example is this "flying lift," located in the newly
 renovated Biltmore Hotel in Providence, Rhode Island. The
 glass cab rises two levels above the lobby floor, then con-
 tinues through the roof and outside of the building to its
 final stop, seventeen stories and 180 feet above the ground.

Working from conceptual drawings by Boston architects,
 Shepley, Bulfinch, Richardson and Abbot, Incorporated,
 Tyler Elevator Products was able to design and build a
 custom cab and entrances that blended with the hotel's
 Victorian charm and splendor, yet provided a thoroughly
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It's a breathtaking design. And it all started with one
 man's vision, and his knowledge that a company like Tyler
 could bring that vision to life.

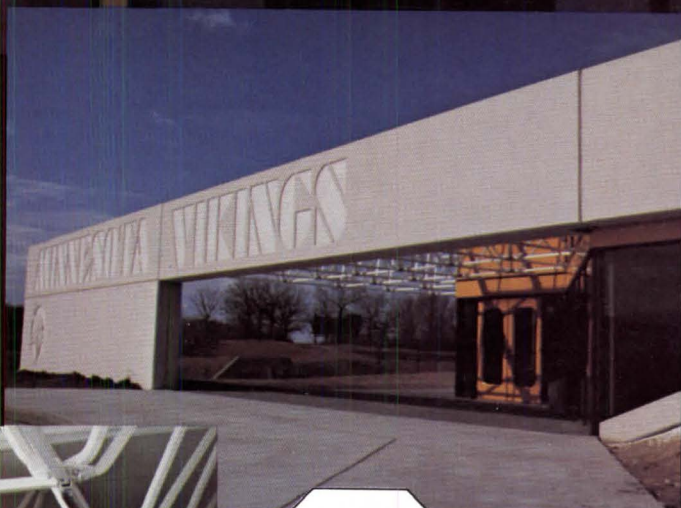


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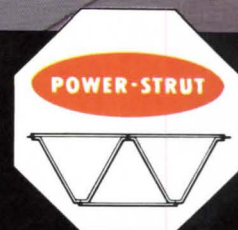


Clean, Simple, Beautiful

The delicate look of Power-Strut Space Frame is balanced with massive precast concrete at the entrance and lobby of the Minnesota Vikings' new General Offices and Training Facility.

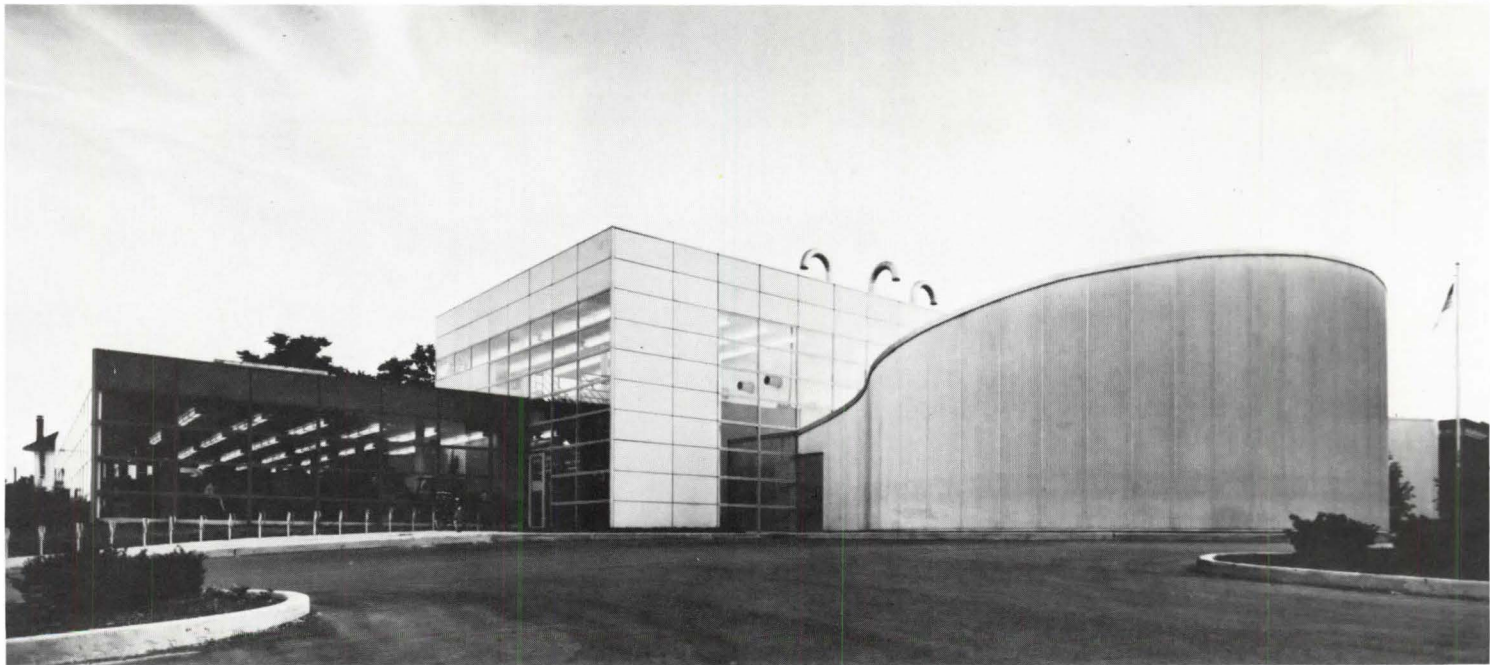


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Central Illinois Chapter. Champaign (Ill.) Public Library; Hammond, Beeby & Babka, Chicago (above). The building's interior plan was heavily affected by the site, which is narrow and irregularly shaped and has street access from both of the short sides. On the exterior, the shorter west elevation is compatible with the residential scale of the facing street. The building is of a largely prefabricated

structural and cladding system consisting of 21-foot-square lally column bays, corrugated metal deck and two-inch-thick, factory finished, insulated porcelain enamel wall panels.

Wisconsin Society of Architects. Morris Miller Building, Milwaukee; Plunkett-Keymar-Reginato & Associates, Milwaukee (below). Built for the International Harvester Co. in the mid-1800s, the ware-

house was originally constructed of timber beams and masonry bearing walls. The recycling plans called for stripping the building to its original shell and sandblasting the timber. Openings were cut in the roof and second floor to create an indoor atrium and provide a central focal point. A fan system at the atrium's top helps heat the building in the winter by circulating hot air.



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If you've worked with open offices before, you know the biggest challenge is *speech privacy*. That's why you need your own independent acoustical consultant right from the start *and* the right ceiling.

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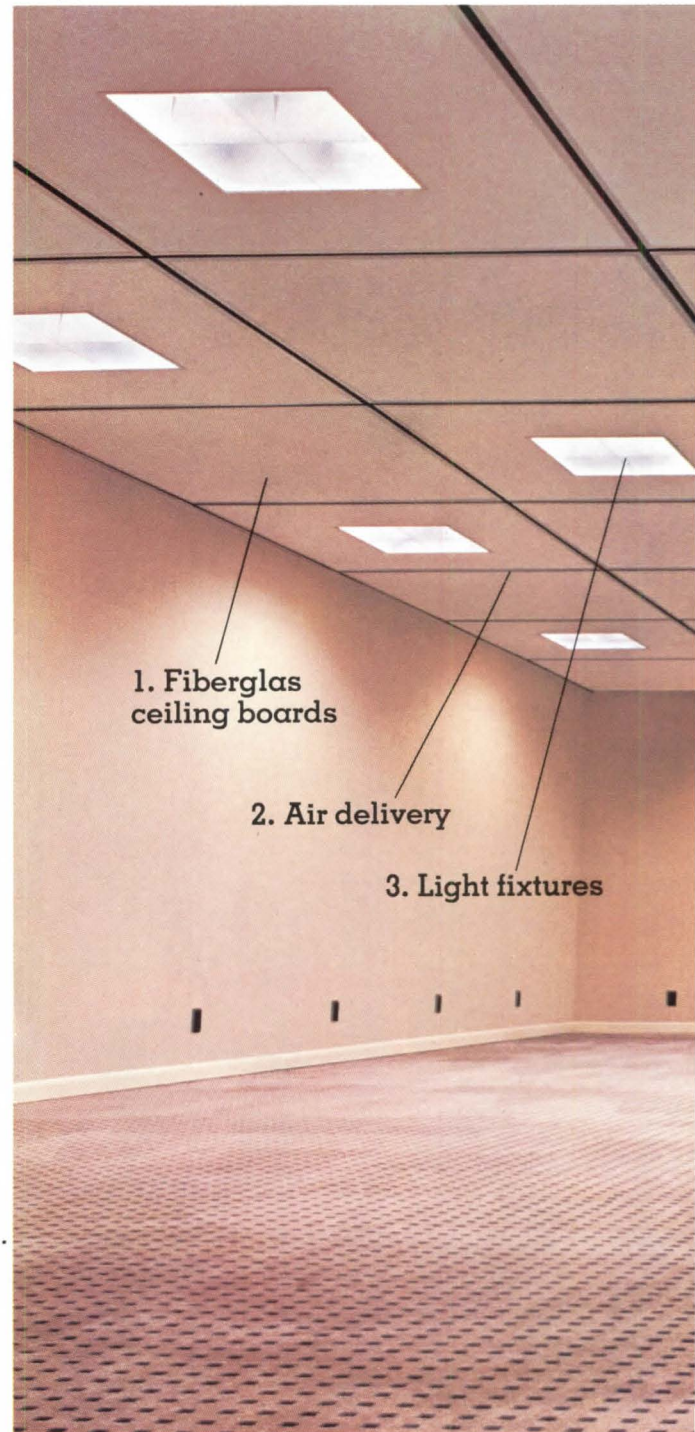
3. The light fixtures are engineered for high visibility, low glare, energy conservation, and acoustical performance.

4. The sound masking system installed above the ceiling emits a precisely tuned sound that makes conversation unintelligible from office to office.

This system is absolutely crucial to open office speech privacy.

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ensure the total performance of your open office.

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system from Owens-Corning you get

*T.M. Reg. O.-C. F. Corp. ©1979 O.-C.F. Corp.



4. Sound masking system
(hidden in plenum)

5. Ron Moulder, acoustician



The only open office that works is the one that's designed acoustically.

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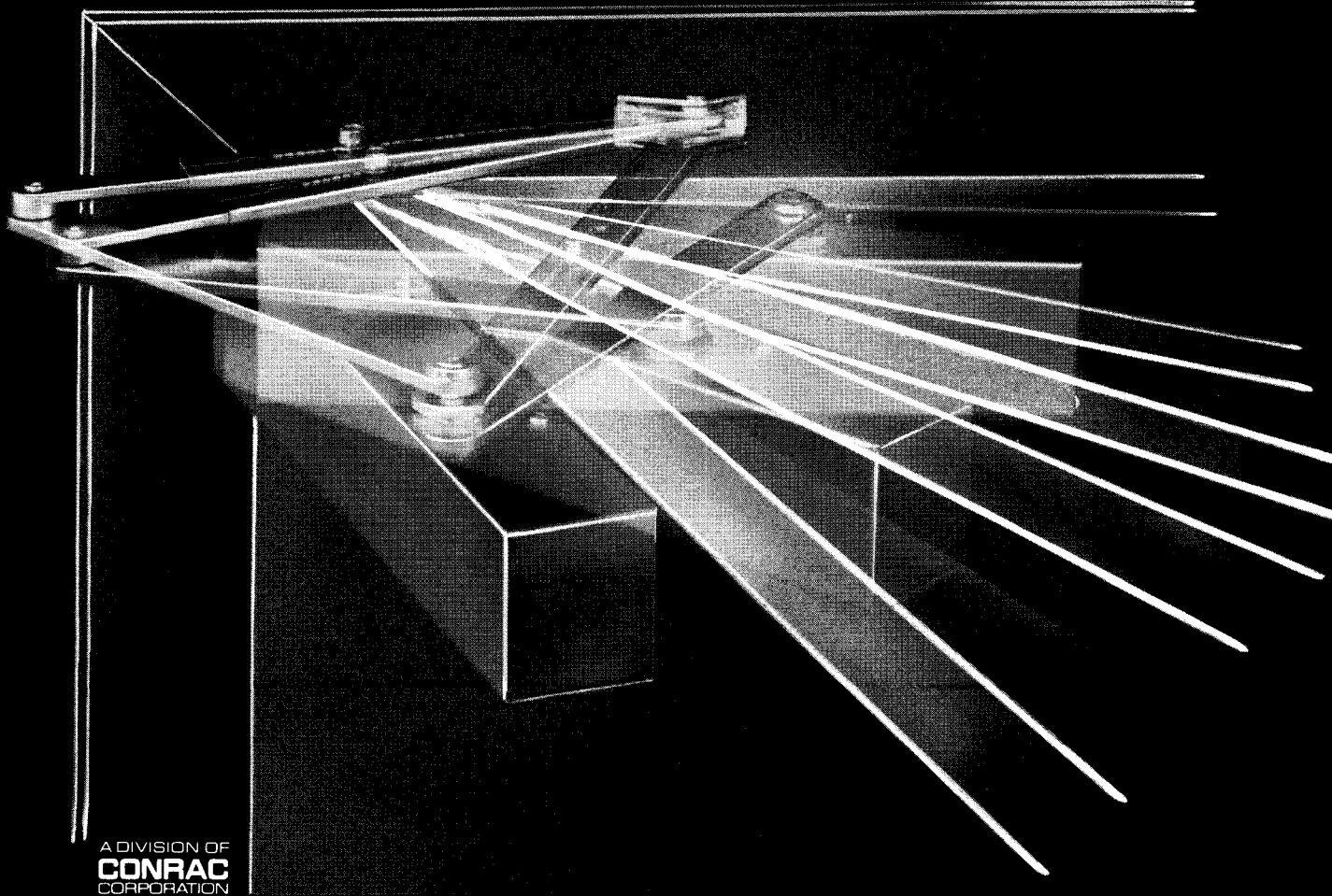
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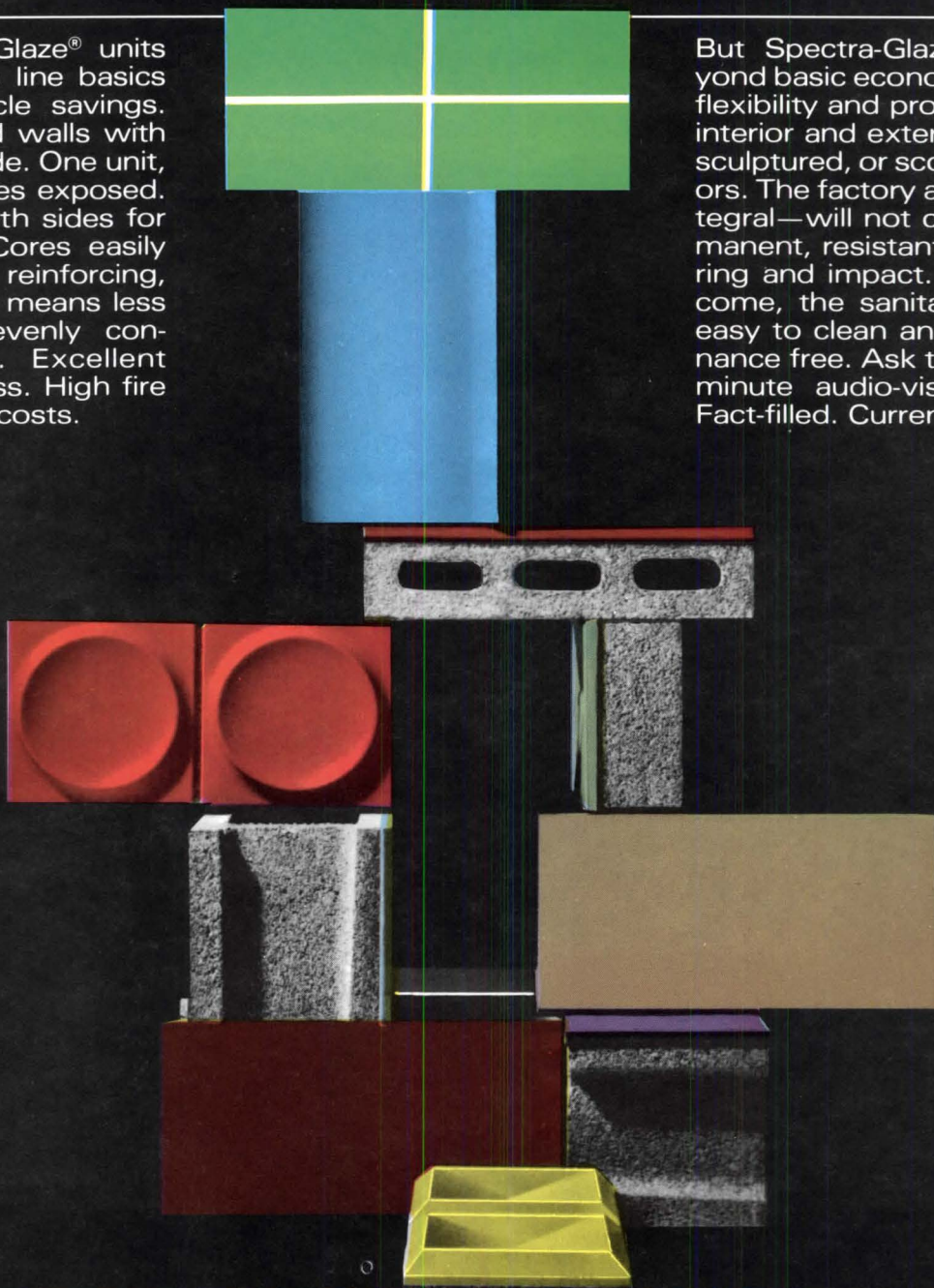
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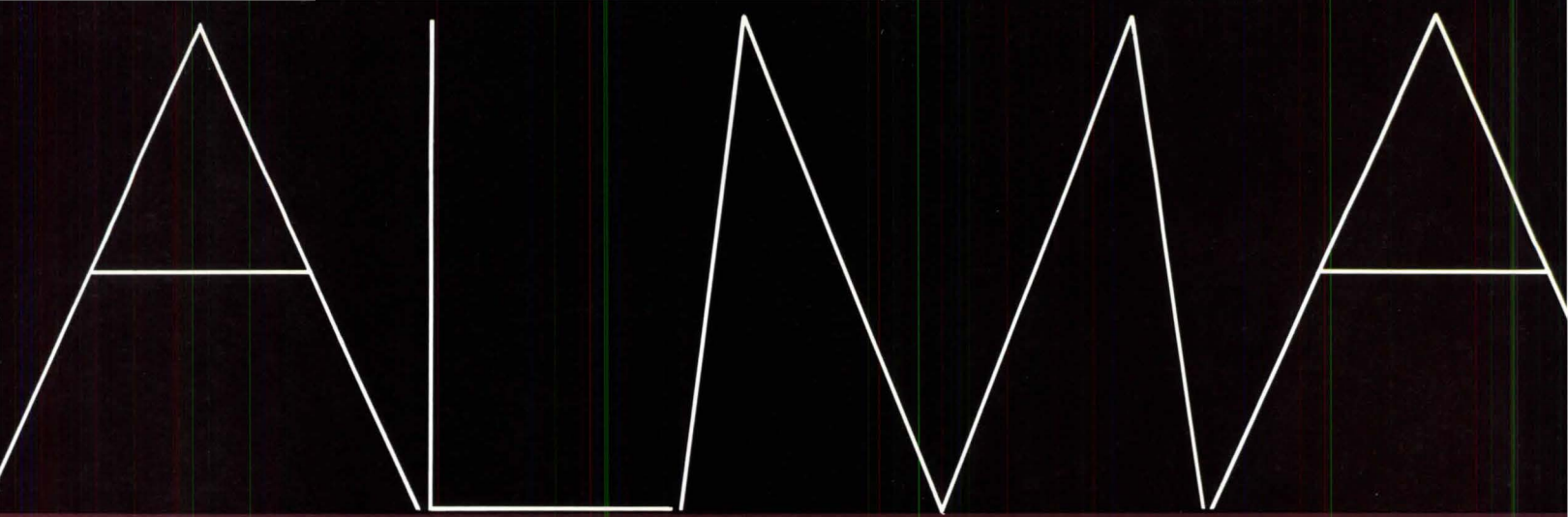
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Circle 55 on information card



Minnesota Society. Greenway Gables, Minneapolis; Frederick Bentz/Milo Thompson & Associates, Minneapolis (left). The 2.6-acre development consists of 43 luxury town houses grouped around short extensions of downtown's Loring Park Greenway. The units are designed to provide a strong sense of privacy and separate identification. The town houses have 45-degree pitched roofs and are individualized by many gabled forms.

Midshipmen's Sports and Recreation Center, United States Naval Academy, Annapolis, Md.; Ellerbe Associates, Bloomington, Minn. (below). Built in the late 1890s as a drill hall, Dahlgren Hall now houses a student center, sports center, reception area, meeting rooms, food services, lockers, lounges and offices. In order to accommodate all these facilities without sacrificing the original design, the greatest share of activities are located in the towers at either end of the building. The gallery has been extended a short distance for the reception and restaurant area. The only modifications to the exterior were cleaning, repairs and enhancement of the original design through the use of color, textures and lighting.



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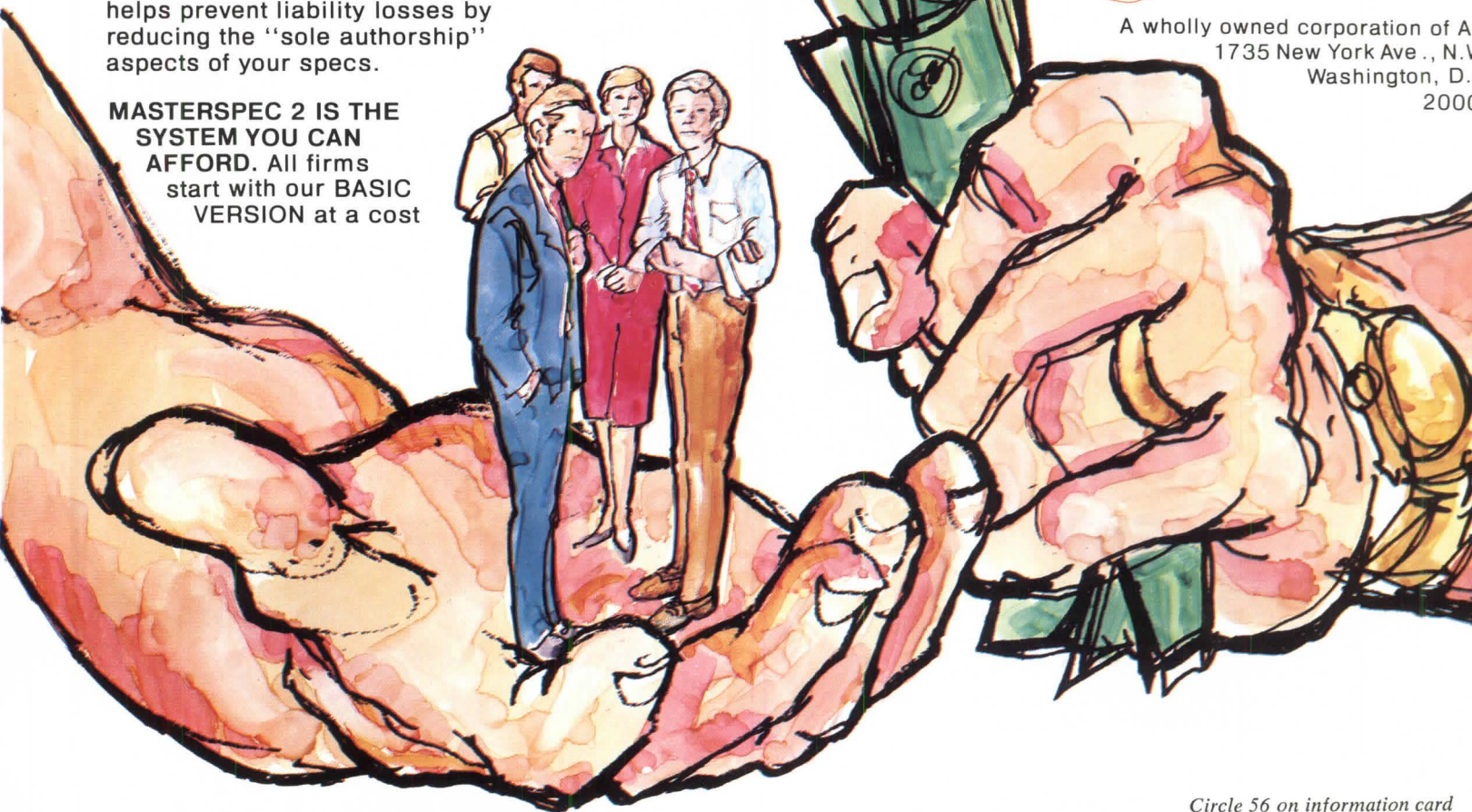
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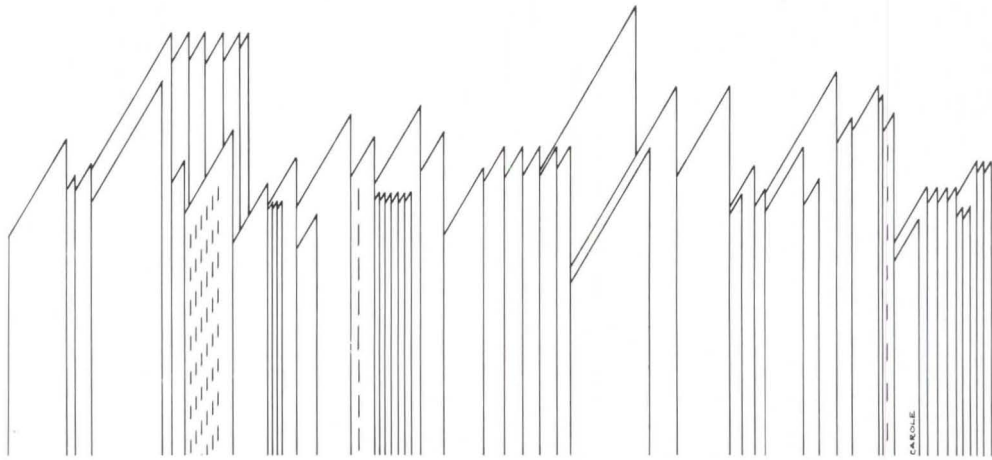
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Circle 56 on information card

The Year's Architectural (and Related) Ideas

From the turbulent world of words—and of paper architecture. By Jane Holtz Kay



"Dear Palladio," the mock letter addressed the four-centuries-old architect. "We have acquired

some land in a suburb near Venice and would like to commission you to design a house for this site. Signed: Nicola and Alvise Foscari, Venice, ca. 1559."

So began the catalog of *Houses for Sale*. The exhibition of models and drawings of houses by eight architects evoked 16th century Venice at the Leo Castelli Gallery in New York City.

"Venice, ca. 1559!"

What could sit further from the perimeter of real problems than these fantasy houses tacked to a gallery wall? Who would care about the finger exercises of eight architects in search of latter-day Foscari's with Gucci budgets and Long Island sites for their house designs? And yet . . .

The drawings might go no further than the wallboards, but the vanguard gallery became a hub of visitors; some 25,000 viewers dropped in for a tour of this world of ideas. Architecture at its most two-dimensional drew the crowds.

It was symbolic of the year that was.

Whatever the state of the art of architecture, the state of its articulation has reached a new decibel level. As architecture enters the '80s, its more cerebral aspects—and the audience for them—have vastly increased.

"Dear Designer," the notice to Skidmore Owings & Merrill staffers might as well have read. "We have acquired a copy of the *Harvard Architecture Review* and would like to divulge its message of postmodernism to you at a seminar. Signed: Walter Gropius, Cambridge, ca. 1938."

Here, too: What could be more removed from right-angle reality? What further afield from SOM's steel-girded world of corporate architecture than a seminar on the paste-on historic-

ism and fun-and-games facades of the postmodern phalanx? And yet again, many of the design-

ers in the 3,000-person New York City office poured out to the seminar on "Between the Practical and the Polemical," sitting beneath the moose, deer and assorted other stuffed heads at the Harvard Club to study such notions.

Portents, all. From straight-line architects to the culturally acquisitive, architecture has once more become a fit, if not frantic, coffee table topic. Whether it comes off the coffee table and onto the streets is still to be seen. But the number of folks turning the pages has multiplied.

Is it because architecture is in a period of transition? Or because architects reside in what Ada Louise Huxtable labels "The Troubled State of Modern Architecture?" Is the new celebration merely idea-thin and perniciously academic or promising a new vision? Either way, the world of paper architecture—of ideas both drawn and discussed—has generated far more excitement this year than the work of the real world of building.

Symposiums, seminars and publications achieved record audiences: Some 1,500 people came to hear Michael Graves speak at UCLA; Charles Jencks, prognosticator par excellence, regularly drew a thousand listeners at his cross-country speeches, while the Walker Art Gallery in Minneapolis reported "people waiting in line for tickets to a series that had already sold out." Maybe Americans were jolted by Robert Hughes' "Shock of the New" on public television, but a startling number recovered enough to buy out the first printing of 50,000 copies of the book of the same name in its first month.

"The air is electric with diverse theories," Harry Cobb put it from his new post as chairman of the architecture department at Harvard's Graduate School of Design. "I have never seen architecture so intellectually bankrupt," architect Sim van der Ryn countered at a conference on energy published this year. "Intellectual ferment and theoretical debate," editor William Marlin put it in his revamped *Inland Architect*, "neoelectic

continued on page 120

Ms. Kay has written on architecture for the *Christian Science Monitor*, *The Nation* and other publications. She is the author of *Lost Boston* (Houghton Mifflin, 1980) and is now researching *Preserving America: New England*.

The Year's Ideas from page 119
 mating rituals and paroxysms of historical consciousness."

Is the genie of this cauldron of ideas a Mad Hatter or a prophet? No matter. In this potboiling period, the *mixed* messages are the meaning. "I tell you, today architects have to know how to write and talk, as well as draw," James Stewart Polshek was recorded in Barbaralee Diamondstein's up-to-the-minute *American Architecture Now*. "We travel a lot," Robert A. M. Stern told her. "We give lots of lectures."

What then are they writing, talking, drawing?

Clearly, the act of wiggling through what Giedion called "the needle eye of modern art" shrank possibilities over the

last decades. Emerging to the other side of modernism has ended the architectural anorexia of the last generation, and this year's countless books, annuals, speeches, comments and criticism supply a feast for starved sensibilities. Not surprisingly, all this literature confirms a roaring nonconsensus. The texts fairly argue themselves into cacophony. But if pluralism in architecture, as in all the arts, is another word for "who knows?" agnosticism is quite acceptable.

On the literature and lecture circuit, postmodernism still dominates. Its advocates appear so regularly that this year's pronouncements are almost passé, a carbon copy of other years'. The pink *Harvard Architecture Review* emerged as if to encapsulate the fire-engine red

Oppositions, and *Via* appeared for the first time since 1977. For the sin of literacy, folks of a philosophical bent may read such texts. But those who wanted to trip the trends more glibly could even have kept abreast at their newsstand this year where *Metropolitan Home*, the new incarnation of *Apartment Life*, showed how trends become trendy. "Ten years ago," this new middlebrow megaphone of postmodernism declares, "we probably would have been shocked at the things that preoccupy us now: putting down roots; equity; real estate and tax shelters; investing; creature comforts." Then, of course, the Apartment Lifers' walls were covered with the Dead at Fillmore or the Stones on Tour (*culpa sua*). "Now we're looking forward into the past and making sense of the new design controversy. Forget about what it isn't," *Home* bumbles. "Postmodern" is selective re-entry.

We're readmitting to the realm of okayness a whole vocabulary of design motifs and periods we had banished in the white-walled purist '70s. Some call it neoclassicism, but that's too stuffy. The '80s won't stand for hands-off reverence. Rather, it's a hands-on style; an audacious mix of elegance and comfort, personalized with the history of decorative arts to choose from. Relax. This is going to be fun." Well, whoopie!

On a higher plane, personalization if not "okayness" is the prerogative of Charles Jencks. Jencks' gift at nomenclature makes his at least annual self-described throwaway volumes a manifesto of the new for folks from Fun City and elsewhere. If his *Post-Modern Classicism*, an issue of England's *Architectural Design*, isn't all that much in advance of the fast-paced mass media, its play off the past—combined with Jencks' more fully conceived work on classicism underway (not to mention a handful of *real* works like Philip Johnson's rising AT&T) confirms that historical sighting has gone beyond the Beaux-Arts brigade of classical America.

Trends on every hand confirm *The Presence of the Past*, as the thick-bound record of the Venice Biennale by that name records. Even the *Progressive Architecture* awards issue looked backward with more than 50 percent of the winners confirming the historically conscious state of the moment. So, indeed does the literary attention paid to Romaldo Giurgola's axial plan for the Parliament House in Canberra, also shown this spring at the Max Protech Gallery in New York, a center for the visual-verbal focus on architecture. Even that man of the streets Edmund Bacon applauded Giurgola's plan as a fine classical sandwich around the detritus of the Australian capital. Such enthusiasm indicates the new luminosity

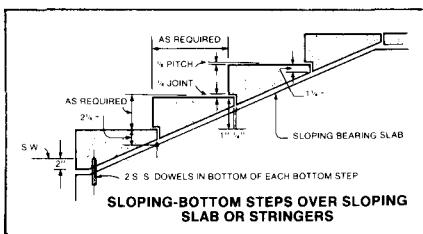
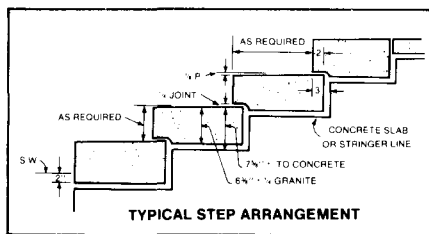
continued on page 124

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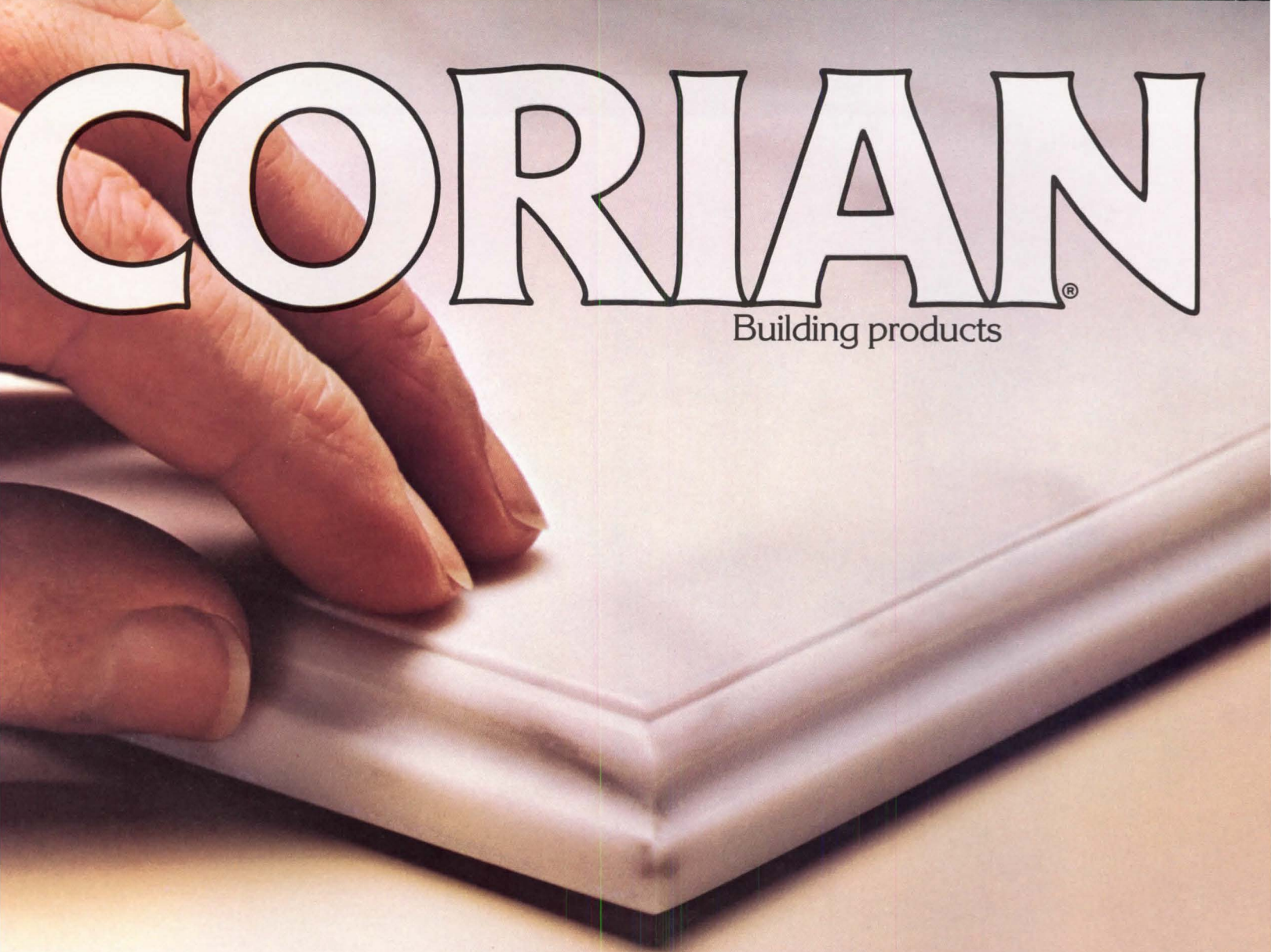
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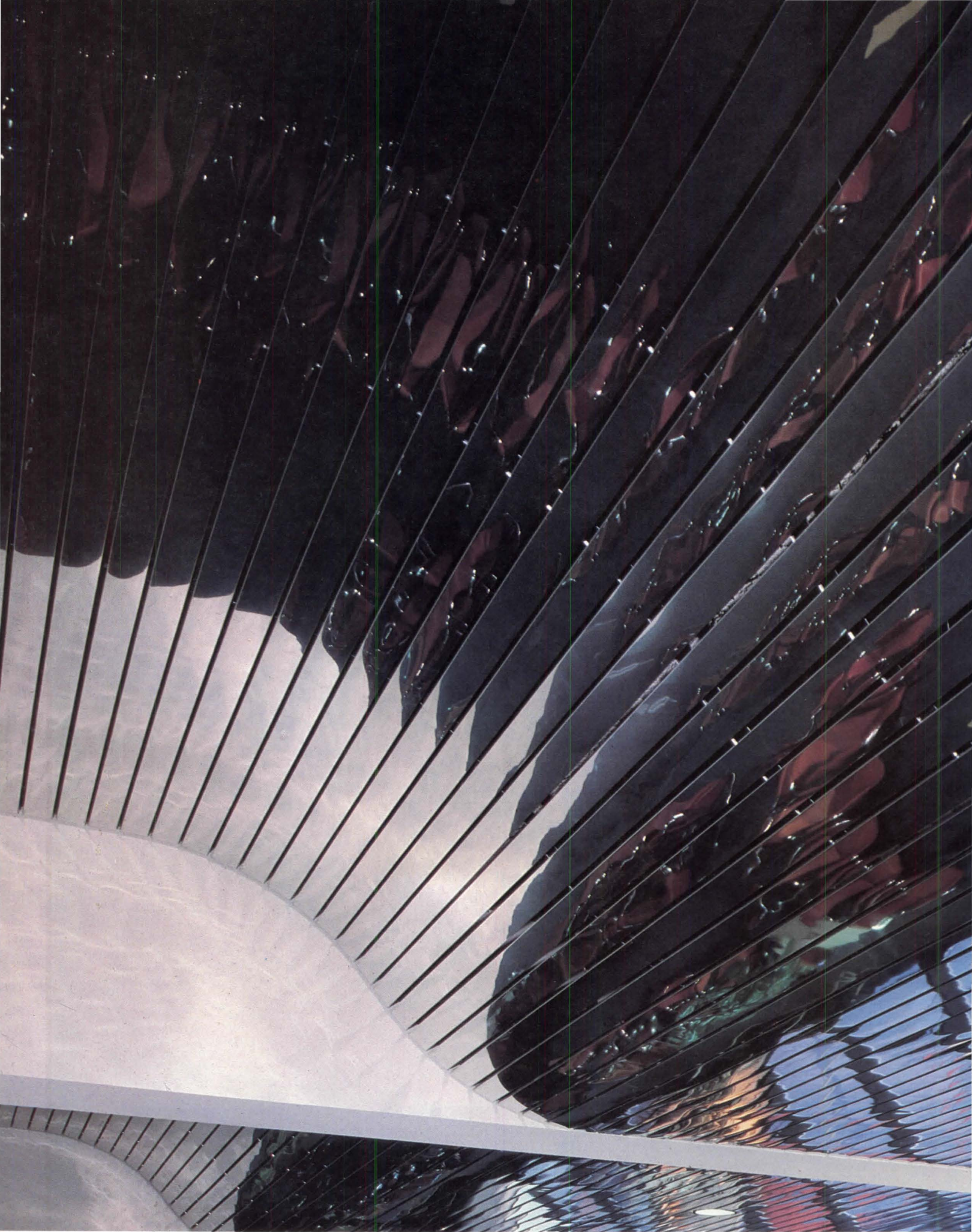
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The Year's Ideas from page 120 of White City planning ideas. (Populists here too may substantiate the presence of the past by consulting *Architectural Digest*. The wall-to-wall journal of the affluent consumer suggests that "In 15 years this house will look like an antique"—making one wonder who is the vanguard, who the derrière in shaping architectural ideas).

Away from the madding coastal crowds, how do such intellectual stylistic debates really touch America, though? Do those who inhabit or deal more pragmatically with what William Whyte so aptly called *The Last Landscape* care for the debates of the would-be formgivers? Looking at a land where housing isn't seen as Corbusian or neoclassical but as

"housing starts" (1.3 million last year), *should* they? Should even professionals? From this vantage point, the critics and designers who stand at the tip of the built environmental iceberg hacking at the frozen mass (and taking swipes at each other with their chisels) must look frivolous indeed.

After all, what most of us see in U.S. architecture is clone country: the old, sometimes seedy, wooden towns and masonry cities of the continent punctuated by an occasional new steel or mirror-glass building. There may not be any *there* there, nor much concern with Jencksian "isms" and "wasms," but a vast and growing constituency for the built environment has developed some hard feelings toward all new buildings; the hostility to con-

temporary architecture is evident in the casual amens to Hughes' "Shock of the New." For his negativism, the *Time* magazine critic earned professional ire. Harry Weese called his Salon of the Air a black-wash and attacked the "Trouble in Utopia" program vehemently for its "broad-screen approach."

But whatever the posturing polemics of this Peck's Bad Boy from down under, Hughes may have closed out the book of the year on "the atmosphere of millenarian optimism that surrounded the machine age . . . (in) a film that tried to describe how art gradually lost that sense of newness and possibility, as the idea of the avant-garde petered out in the institutionalized culture of late modernism."

In other words: They are not so sure that everything should-be-up-to-date-in-Kansas-City and the preservation, conservation and neighborhood movements, architecture's supposed kin, were handed manuals with a less than loving attitude toward new constructions this year. While postmodernists voice a feeling for "the context of the street," many both within and outside the profession feel this elite deifies form more than "cultural coherence." "The direction is at the Willard" (the recycling of the Washington hotel), as Alan Lapidus puts it, "not in Portland" (Michael Graves' government office building).

In cities where antique gargoyles face off with "10,000,000,000 sold," the reading matter for this para-architecture constituency is not offering instruction in *Learning from Las Vegas*. Quite the contrary (or, as Charles Moore observed, "Everyone has a threshold of tackiness"). Nor is it enthusiastic about the apt monument. The National Trust's published panel discussion on *New and Old Architecture* and Brent Brolin's *Architecture in Context* mostly conceived of contemporary designs as a matching act with historic ones. In these works, the past was not just prologue or valid pattern but paragon. If Brolin's romance with, say, the mansard roof seems as much an infatuation as the modernist's slavery to the flat, he still honed in on the basic issue of the philosophers of the streetscape: that is, that urban America is no longer empty turf. That there is no little house building on the prairie. That the prairie is, in fact, the suburb. The city is a neighborhood. And good manners are more important than mannerisms.

The popular scorn for a modernism that treated cities as clean slates for towers in parking lots wrapped by freeways parallels the professional's and leads to the spate of history books, too numerous to do more than mention this year. These range from individual profiles to Michael Raeburn's major edition of *Architecture*

continued on page 128

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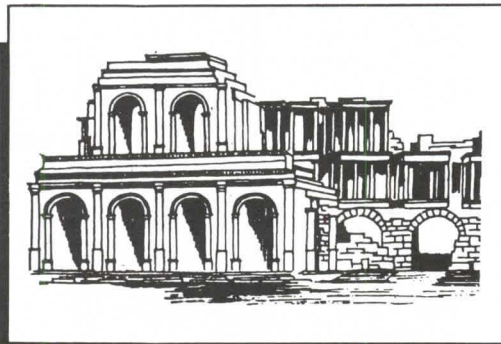
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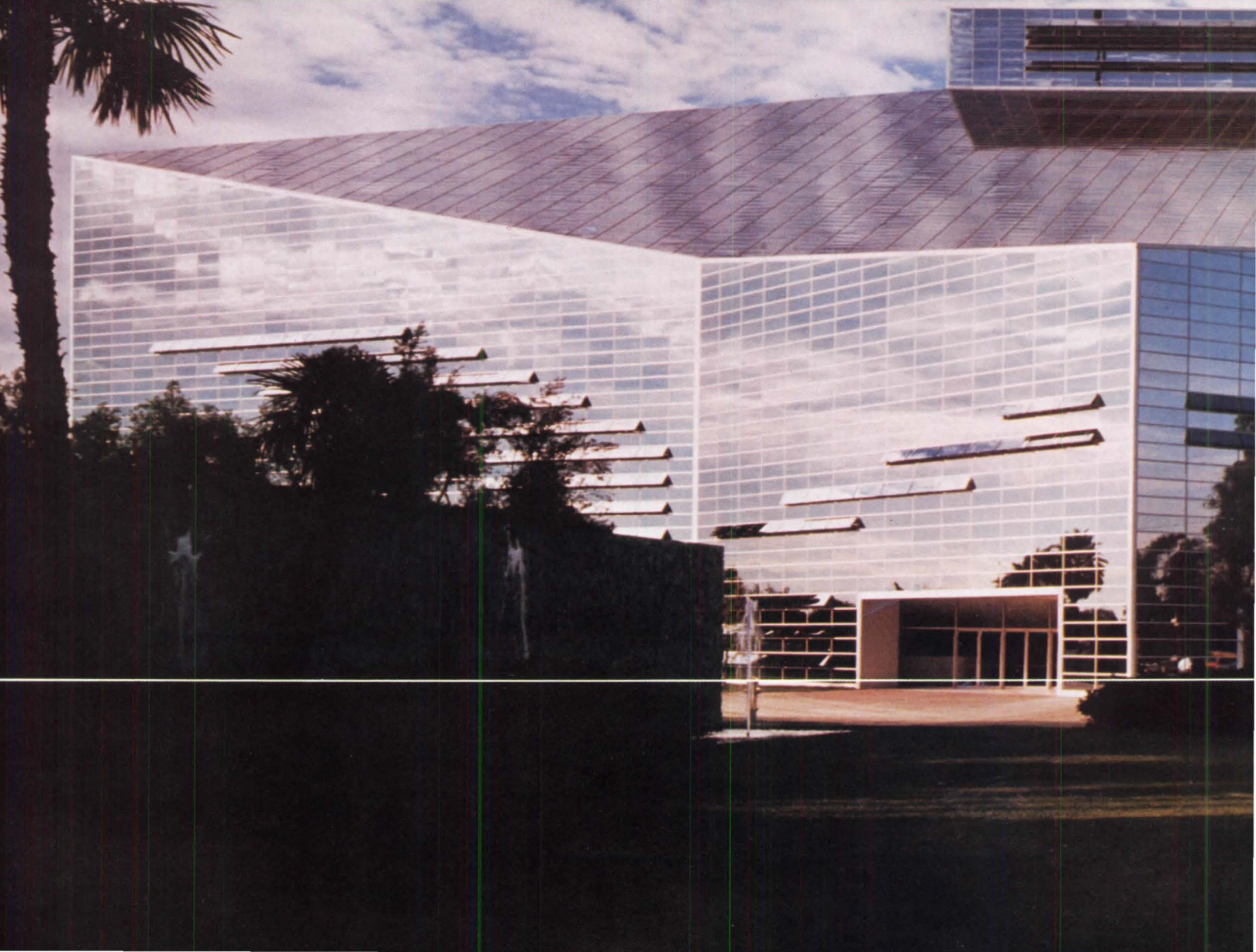
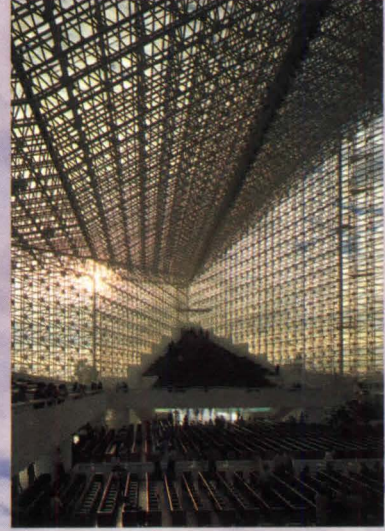
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The Year's Ideas from page 124 of the *Western World*, from volumes on the arts and crafts movement and Victoria Kloss Ball's *Architecture and Interior Design* to the series of studies of *Lost cities*; from the tidy exposition (*A Field Guide to American Architecture* by Carole Rifkind), to the poetic invocation (*America's Grand Resort Hotels* by Liverick, Ferguson and Oliver), to manuals on action to stop the erosion. *Livable Cities* by Robert Cassidy and *How to Save Your Own Street* by Raquel Ramati were the last primers by two planners and, in Ramati's words, Bibles for a period when community action must replace the ray-gunned federal aid.

Unfortunately for our shared landscape, such neighborhood books often perceive their audience as freedom fighters against conventional architecture; architects become the enemy—the personifiers of bigness. Since more and more designers do dismiss the '60s notion of architects as the "agent of social progress," they fit neatly into this popular notion as the culprit or agent of establishment architecture. The transformation of the Villard Houses into the urban center this year represents the ambiguity of these ideas. For all the fine focus given to the built environment exponents housed there and for all the glossing of the *Life Story*

of a *Landmark*, the overtopping glitziness of the Helmsley Palace behind shows the compromising—if not compromised—state of the art deplored since the days of Walter Gropius' Pan Am building.

Where once the word "megastructure" sufficed to label the whalopping new edifices of Late Capitalism, the latest phrase that crops into conversation and prose is "megalomaniacal structure." Harry Cobb laid the architect's involvement with "bigness" to the prodigious growth of institutions within the fabric of society—"institutions of government, institutions of business, institutions of education, institutions of culture." (In this last category, he might well have included the Promethean Museum of Modern Art; the emerging highrise will indeed have many messages of bigness *per se* to offer along with its inevitably expanding role in its expanded building.) "All," Cobb said of these institutions, "have proliferated and expanded during my lifetime on a scale that optimists see as enriching and pessimists as cancerous. For architects, the burden of this problem seems inescapable, since the source lies not primarily in our discipline but in the program of society."

Despite such disclaimers, architects tend as said to take part of the rap. When Robert Stern told this year's Aspen Conference on design that "architects do not

solve problems, they design responses to situations," the crowd boomed. No wonder, then, that the burgeoning neighborhood/preservation/conservation movement now looks to the design and urban values of their ancestors in a way not quite complimentary to their heirs.

Another way this year's intellectual currents crossed and ordered the past went beyond its lessons in design, ornament and context, however. Feminists and those seeking new ways of life ransacked the 19th century for housing and planning inventions and recalled them in ambitious social-architectural histories by Gwendolyn Wright and Dolores Hayden. Victorian domestic designers did not have a *laissez faire* attitude toward their environment. They wanted to do no less than mold humankind by remaking its surroundings; everything from health to family tensions were to be resolved by design, we read in Wright's *Moralism and the Model Home*. Even before housing reform became the stamp of the modern movement, U.S. reformers devised notions of a kitchenless home to free women from household chores. *The Grand Domestic Revolution* explored in Hayden's book also shows the fresh outlook the past can provide.

Although historicism abounded this
continued on page 132

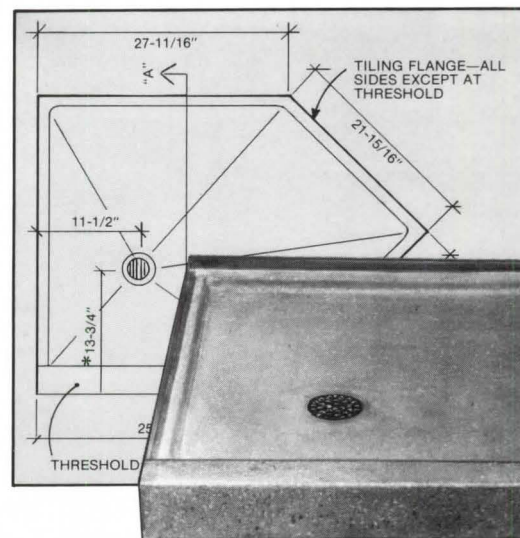
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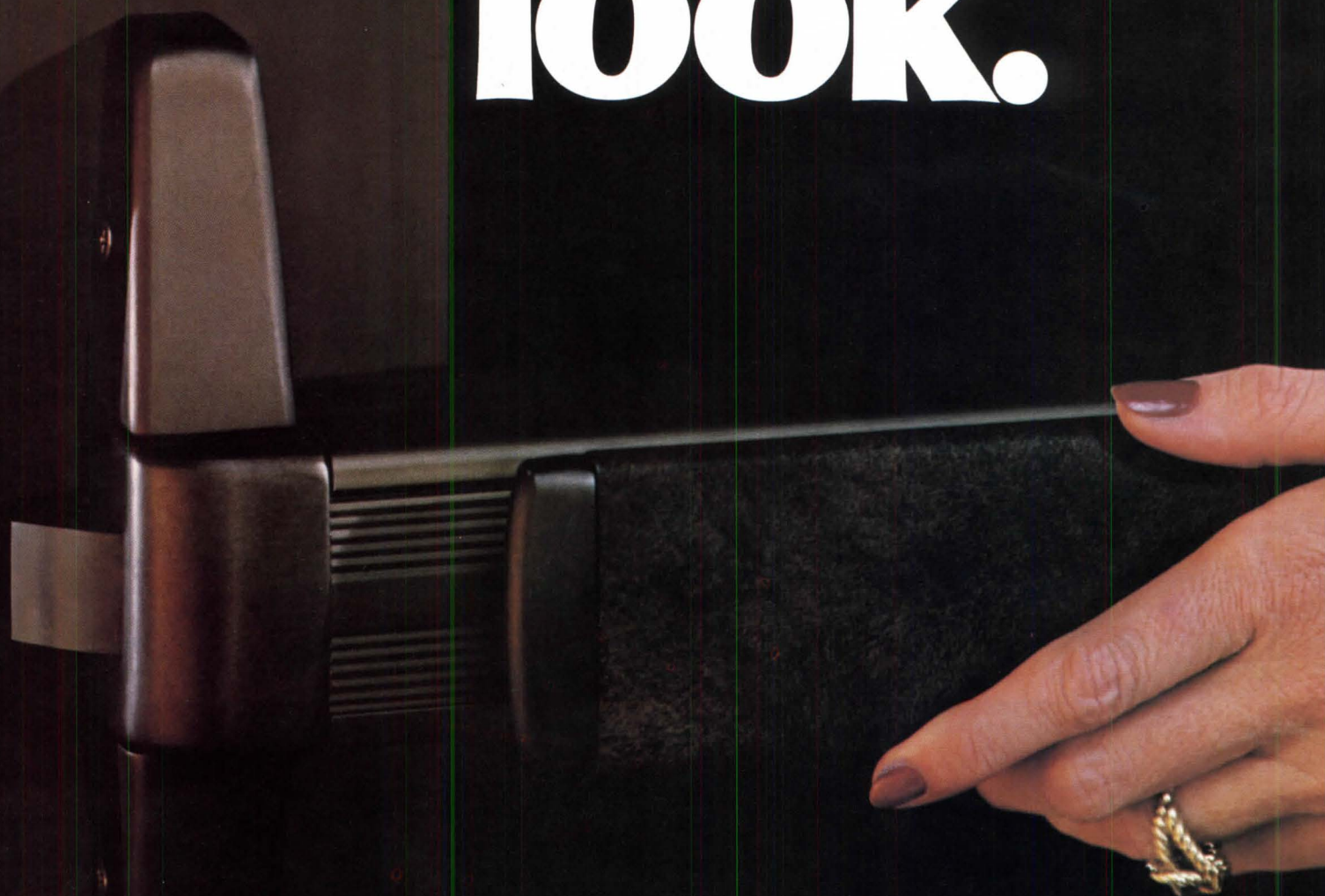
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The Year's Ideas from page 128 year, far too few books and speakers approached architecture from the inside out, from the point of social needs and built environment responses. In fact, the best summary statement of the year that I heard came from no enlightened professional but out of a dialogue with a real estate agent who chuckled with a knowing air as he repeated a house-hunter's demand, "Do you have," she asked, "an energy-efficient Victorian?" Not to belabor the point, but the woman was on the mark: She had combined the notion of a visually rich but environmentally lean architecture—a 1980s role model, indeed.

Certainly, the popular concern with fuel bills and the ecological anxiety for dwindling resources should have had more of an intellectual corollary within the field of architecture. If, as the World Watch Institute reported in November, nearly a quarter of our energy is consumed by heating, cooling and lighting buildings—plus some 5 percent more for new buildings—then it should have a design counterpart and more on-paper proliferation. Books from *Energy-Efficient Buildings* and the fascinating *A Golden Thread* to popular manifestoes like *Sunset* magazine ("Solar Remodeling Speeding Up: We Show 25 Houses") only begin to fulfill the need. Perhaps it

is because ideas in so visual a field still rely on visual, i.e., built, models.

Until we accumulate more samples, we might have done well to follow James Marston Fitch back to the basics in his introduction to a panel on *The Design Connection* published this year. Whatever higher levels of satisfaction architecture may afford us, its fundamental task is to create a new environment, a middle scale between the microenvironment of our bodies and the macroenvironment of the world, to manipulate the flow of energy in our favor. Modern technology permits us to do otherwise—to err; he said. From the energy point of view, his damnation was complete: "Many very sophisticated contemporary architectural constructions perform with grossly less efficiency than the Eskimo's igloo. One could say with complete confidence that, compared to the igloo, the great glass tower of the Hancock building in Boston is a primitive construction, if one takes as the criterion of architecture the wise and sane application of energy for human purposes." If, as the historian suggests, the sun will dictate the new geometries and if the essential condition of the '80s is the shrinking of natural resources and the diminution of our place as gods dispensing and depleting the gifts of the earth, then why did the early 1980s see so little of this from

architecture's plan painters, idea positors and book writers?

Taking an overview from Yale, Cesar Pelli suggests that the profession—at least as seen in its impressive students ("the head of the snake," says Pelli)—is going back to basics in still one last way: back to the basics of building. "About four years ago, the students were very interested in postmodernism," Pelli claims. "Now, words have ceased to have any meaning." The students want to see how drawings get off the boards. Thus, Hugh Hardy arrived with a speech on the pragmatics of building and no sketches while Gordon Bunshaft's savvy made a hit. The publishing version of the back-to-basics urge was Mario Salvadori's elegant and intriguing *Why Buildings Stand Up* and Edward Allen's lucid *How Buildings Work*.

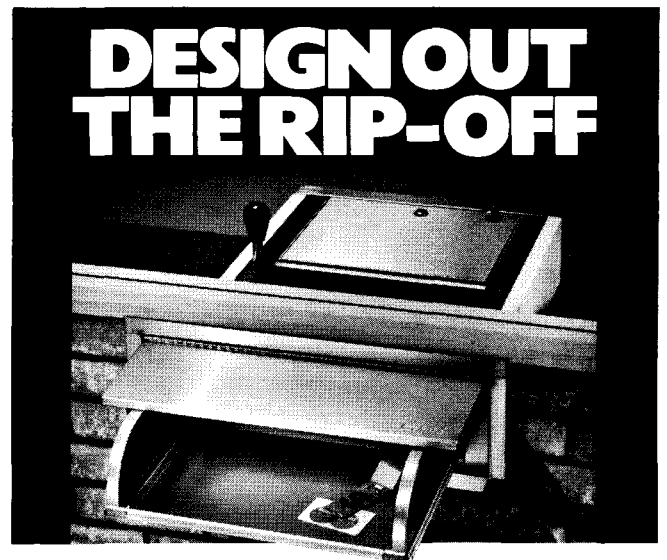
Nonetheless, one would have to use such erector set volumes as bookends paired with *The Architect's Eye*, a luscious collection of drawings, to sum the mental state-of-the-year. Together, they encase a shelf of books from the concrete to the celestial, the past to the future. It is a vast, and far too often verbose, literature for many harassed architects, not to mention mere aficionados, to master. Nonetheless, its tribe multiplies, as does its impact. □

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AIA JOURNAL

**The
Fourth
Annual
Review
Of
New
American
Architecture**

State of the Art

The term has passed from technology into common discourse, meaning, roughly, the best a given discipline knows how to do at this moment. Thus, it represents both a value judgment (what is “best”) and a kind of summing up.

In these dual meanings it has particular relevance to this annual review of new American architecture. The issue’s basic purpose is to measure the state of the art of architecture by assembling between a single set of covers the best of current buildings, according to our lights and AIA design awards. The term best has to be subjective, given limitations of time and human judgment (even that of juries). But, having looked at as many buildings as we do in the course of the year, we can confidently claim that these are representative of the state of the art.

There are some, of course, who would maintain that the art of architecture reaches its apogee in drawings and is somehow sullied by construction and use. Indeed, the architecture critic of our most prestigious national newspaper not long ago lamented the gulf between the small group doing “the most inventive architecture being made today, at least from the standpoint of pure form,” and the large corporate firms doing much of the actual building, especially large scale building, none of whom do work “that could be considered at the cutting edge of architecture.” The

former group, he acknowledged, is sometimes “as well-known for their exquisite, highly priced drawings, as for any real buildings.”

The assessment had a certain nostalgic charm to it. There were days, in the early and mid-1970s, when it seemed from press commentary as if all of the most exciting architectural ideas were emanating from certain corners of Manhattan—mainly on paper, of course. Somehow it’s a great deal easier to maintain the excitement of ideas, and the purity of form, on paper than in a habitable three-dimensional structure.

In the ensuing years the ideas have lost some of their freshness and persuasiveness—both qualities hard to maintain in a vacuum.

In fact, the critic went on to spend much of his essay on a third group of architects, some heading reasonably large firms, who are doing a great deal of actual building, and doing it in a way that he had to acknowledge was increasingly inventive. Here is where we believe the state of the art of architecture is to be sought: in what is being built, large or small. For architecture is a building art, and the art of human habitation, and does not exist until it leaves paper and reaches the ground.

The producers of the “exquisite” drawings themselves are beginning to do more actual building (one of the most prominent among them in the past year has won two major public competitions).

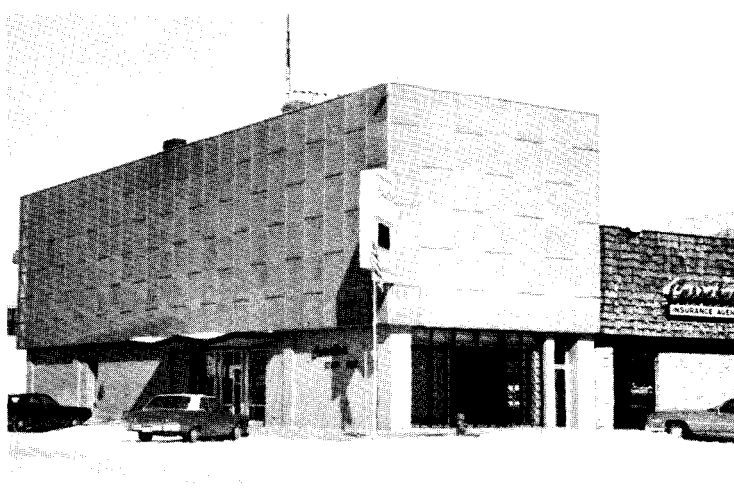
We look forward to the possibility of seeing their work alongside that of others in future issues of this annual assessment.

Meanwhile, the ideological and stylistic cross-currents, while subsiding in intensity and influence, have had two noticeable impacts on the architectural mainstream. One is diversity. Architecture has indeed grown more inventive, more experimental, more interesting (if sometimes more outrageous). The second impact, evident everywhere, is a new attitude toward the past. Both qualities are represented in the buildings in this issue, to individually varying degrees.

Consider the three religious buildings on the following pages, for example. The first, chosen for the lead position this year despite (partly because of?) modesty of size and means, is a highly personal, hand-crafted structure whose lineage clearly extends to Mr. Wright. The second is a bishopless cathedral, a huge filigree of space and light that carries no debt to any particular past or heritage. The third is a small suburban sanctuary that seems very much at home in the Old Dominion of Virginia without resorting to specific regional or historical motifs. All three are in some sense timeless.

The past is present in this issue, and in the current architectural scene, not just as a now welcomed shadow in new work but is also in a respectful, even affectionate, treatment of the old. This

is wonderfully symbolized in the remodeling shown below (the Casselton, N.D., State Bank; Seth W. Twichell & Associates, architect). The top photo was taken after remodeling, the bottom one before. Not long ago it might have been the reverse. *Donald Canty*





'A Building Of Great Integrity'

Fay Jones' Thorncrown Chapel, Eureka Springs, Ark. By Stanley Abercrombie, AIA

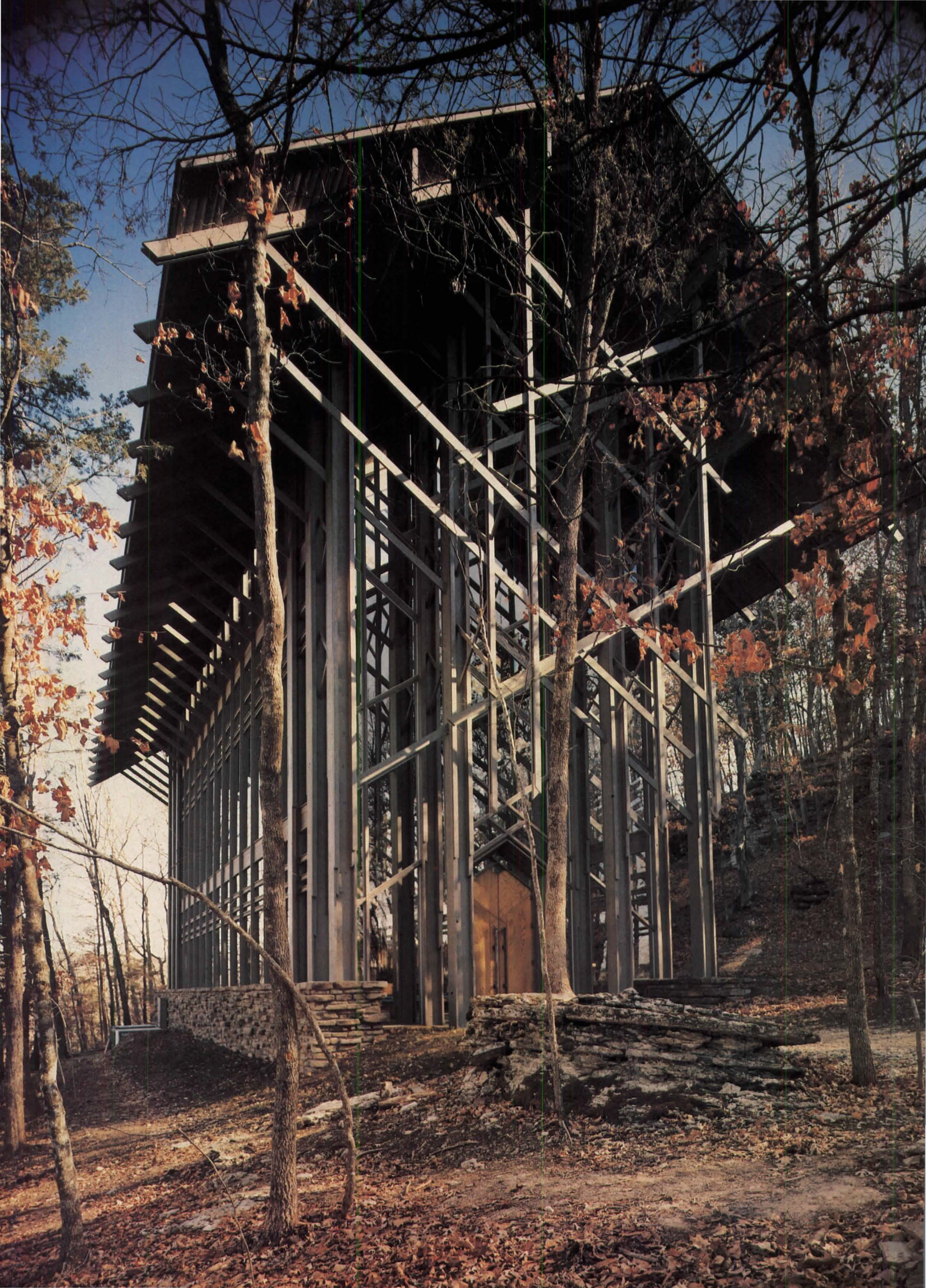


Hursley & Lark/Christopher Lark

Thorncrown Chapel, winner of a 1981 AIA honor award, is more than a striking building. It may well be turning up 50 years from now in anthologies of 20th century architecture, for it is an original. True, it owes something to Wrightian tradition (E. Fay Jones, AIA, was an apprentice at Taliesin in 1952), perhaps most apparently to the California "Wayfarers' Chapel" of 1951 by FLLW's son Lloyd Wright; also true, it is closely related to Jones' earlier works. But it hews remarkably faithfully to the demands of its location, of its program and of Jones' personal vision, with not a glance toward any current design fashion. It is a building of great integrity.

Jones points out that Thorncrown reverses Gothic construction: Rather than being pushed together by outside masses in compression the building is pulled together by light interior members in tension. But there is also something here in common with Gothic structure and with so many works in which we find special poignancy: the use of the sparest means.

Also evident is a rare concern for fitting the Ozark Mountains site, a steep slope thick with oaks, maples and dogwoods. One might expect the chapel to point toward the valley view, but Jones' solution is less obvious. Lying along the slope, the building has one glass wall facing the valley, an opposite wall facing the rocky, wooded hillside and an altar end opening to a small grove of trees, a rock outcropping and a steel cross. The cross





Materials hand-carried through the woods.

is placed a few feet off center of the otherwise symmetrical composition, and the unexpected placement gives it a visual interest it would otherwise lack. Nowhere, therefore, is the chapel thrust out into the open; except where a gravel path leads to the entrance, trees are close to it at all sides.

The desire to save as much adjacent growth as possible determined the construction technique. Heavy equipment was ruled out, and materials were limited to those two workers could carry through the woods. (Most members are pine 2x4s; the heaviest—in corner columns—are 2x12s.) Trusses were fabricated on top of the floor slab, not to one side. The necessary stacking of the completed trusses provided a check for the precise alignment of members that was desired. Beneath the wood structure are two long walls of stone, the one on the uphill side serving as a retaining wall, and both serving as duct work. Insulated cavities within the walls feed air into the space through hardly visible gaps in the mortar joints between the stones. The overhanging deciduous trees, of course, are great assets in temperature control, and the flooring of native flagstone beneath a large skylight provides an element of passive solar heating in winter.

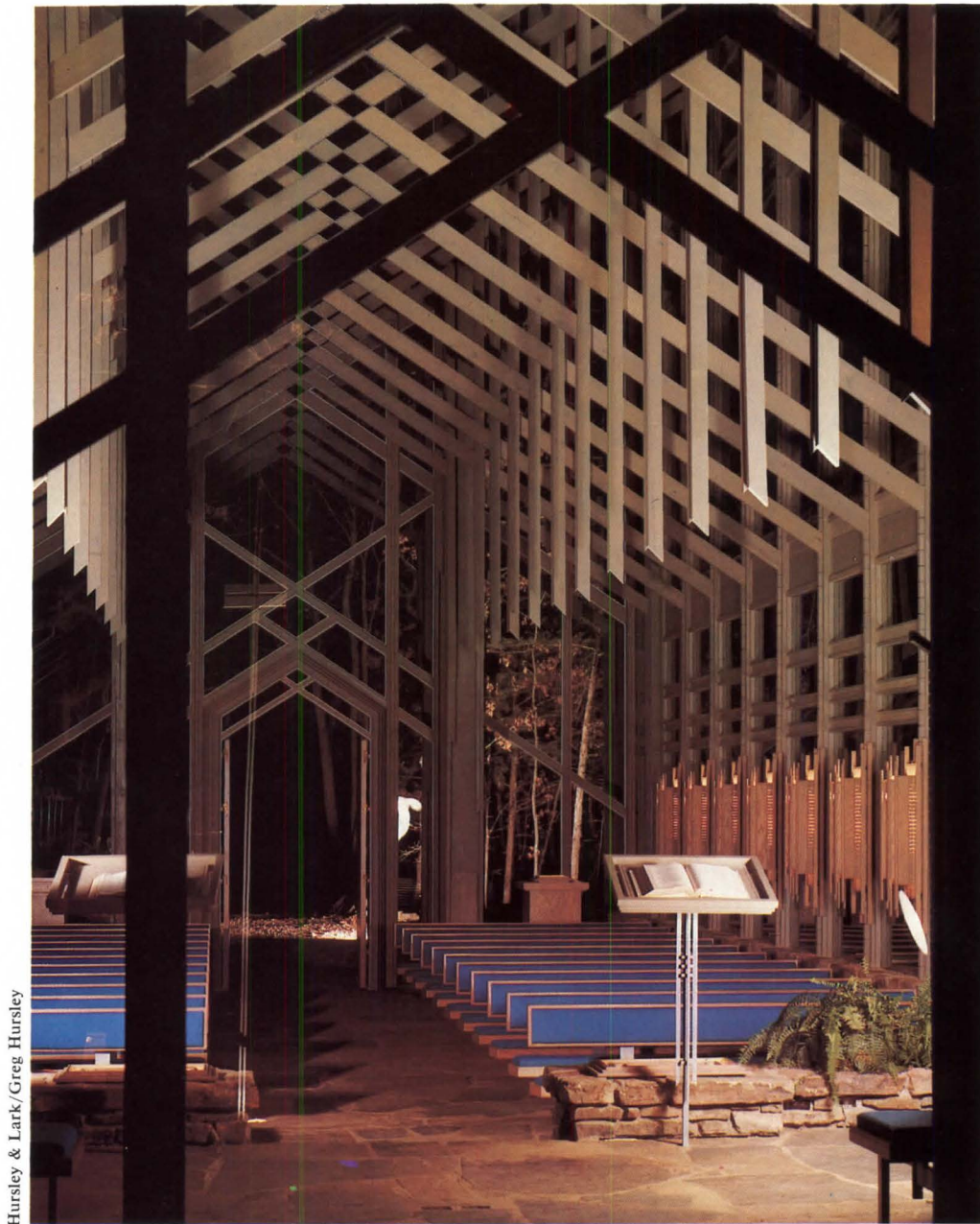
But it is the delicate web of overhead structure that most commands our attention. Jones and his office did their own engineer-





An 'eye' at the crossing of the connectors.

ing, as is their custom whenever possible, aided in this case by a half-inch-scale model that was tested for reaction to applied loads. The result is a remarkable array of minimal elements. Some of these are frankly decorative, but the decoration is derived from the nature of the construction, and some vertical elements that may appear nonstructural do serve the function of stiffening slender diagonal members. A significant detail is the hardware at the central crossing: steel truss connectors made of four members that intersect like a slightly askew tic-tac-toe game. The felicitous touch is that the centers of these connectors have been left empty, providing unexpected sparkles of light at the heart of the structure. These connectors, as well as lecterns, pew supports, door pulls and the exterior cross, are painted an icy blue; the wood is tinted—and preserved—by a gray stain.



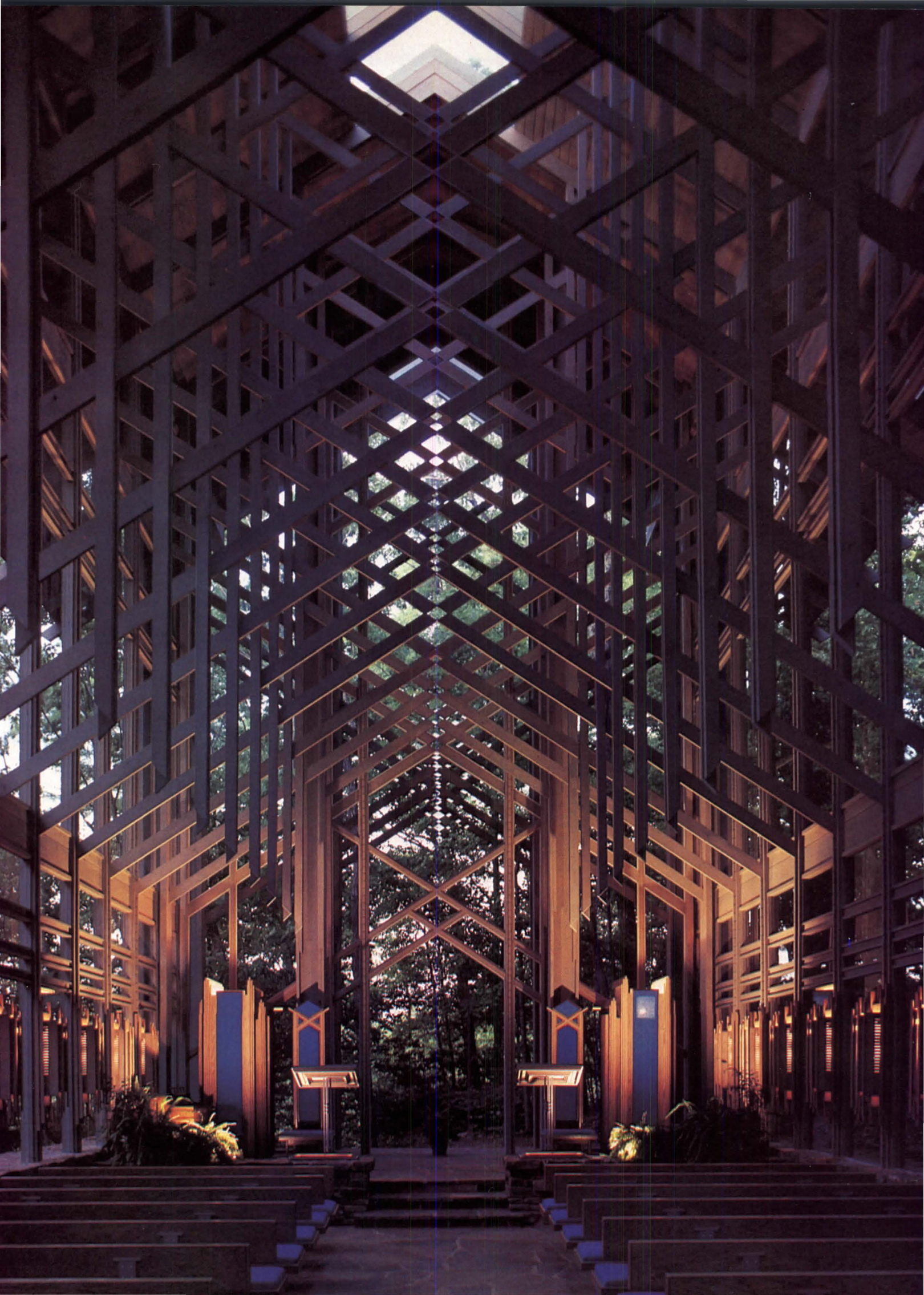
Hursley & Lark/Greg Hursley

A caring and sparing touch on details.

Furnishings echo the structure's repetition of thin elements. Lecterns screw into plugs recessed into the stone floor and can therefore be used in several different locations. Two tall wood cabinets at the altar end hold music equipment and speakers. The blue speaker cloth and pew upholstery provide a touch of strong color.

Jones, assisted by Maurice Jennings, AIA, one of his firm's two associates, has created a chapel that seems to inspire visitors. Whatever its purpose, it is a building that should inspire architects as well.

Architect: Fay Jones & Associates. Client: James Reed. Structural, mechanical and electrical engineer and landscape architect: Fay Jones & Associates. General contractor: Jerry Labounty. Completed in 1980. □



Soaring Space Wrapped In Metal and Glass

*Crystal Cathedral, Garden Grove, Calif.,
Johnson/Burgee. By John Pastier*

We live in a time of resurgent Christianity, yet up to now there has been scant architectural testimony to that pervasive movement. The great churches of this neofundamentalist period may still be in the design stage, but it is also possible that current forms of belief are not conducive to worldly monuments of brick and mortar.

Our national religious experience is becoming increasingly an electronic one. Syndicated television programs that straddle the ground between variety hour, old-time singing and preaching, talk show and on-the-spot healing have become a familiar if not standard video format. Accordingly, the quintessential meeting place of God and mortals is no longer a cathedral, church or chapel, but a broadcast studio housing evangelistic and performing stars, an audience of the faithful and sophisticated equipment and technicians.

For an architect concerned with the expressive possibilities of structure and space, this is not a very promising building type. Nevertheless, the most generally celebrated American building of the past year grew out of nearly similar requirements. The Crystal Cathedral, centerpiece of the Garden Grove Community Church, serves as a shooting set and studio, but assumes the size and purpose of a traditional church as well. It is undoubtedly one of the high points of Philip Johnson's long and varied career, but, even more significantly, it owes its existence to a rare patron of seemingly boundless optimism and energy.

Robert H. Schuller, the church's senior pastor, is no novice at finding world-renowned designers for his buildings. He began his career preaching from the roof of a refreshment stand at a local drive-in theater, but when it came time to build a conventional structure in 1959, his choice of architect was no less than Richard Neutra (see May '79, p. 48). That conventional church turned out to be anything but—Schuller insisted that his drive-in congregation also be accommodated on the new premises and Neutra, always receptive to technology, responded with a building that allowed the young minister to part the church walls with the touch of a button and preach from a cantilevered balcony to an outdoor congregation neatly parked in concentric semicircular rows. As Schuller's ministry grew, so did the sanctuary, and structures were built, including a 14-story office "Tower of Hope," designed by Neutra (with his son Dion) and surmounted by a 75-foot-high neon cross (left in photo).

Even with these additions to what Schuller has termed "a 22-acre shopping center for Jesus Christ," the Garden Grove Community Church's parishioners continued to be cramped in the several buildings and parking lots. In 1970, Schuller took a step that helped relieve the need for more space, but which also cultivated that need in the long run: He began broadcasting Sunday services on television. A congregation that could choose to worship indoors, outside on folding chairs or outside in vehicles (listening in on its dashboard radios), could now also choose to attend services in its living room or den.

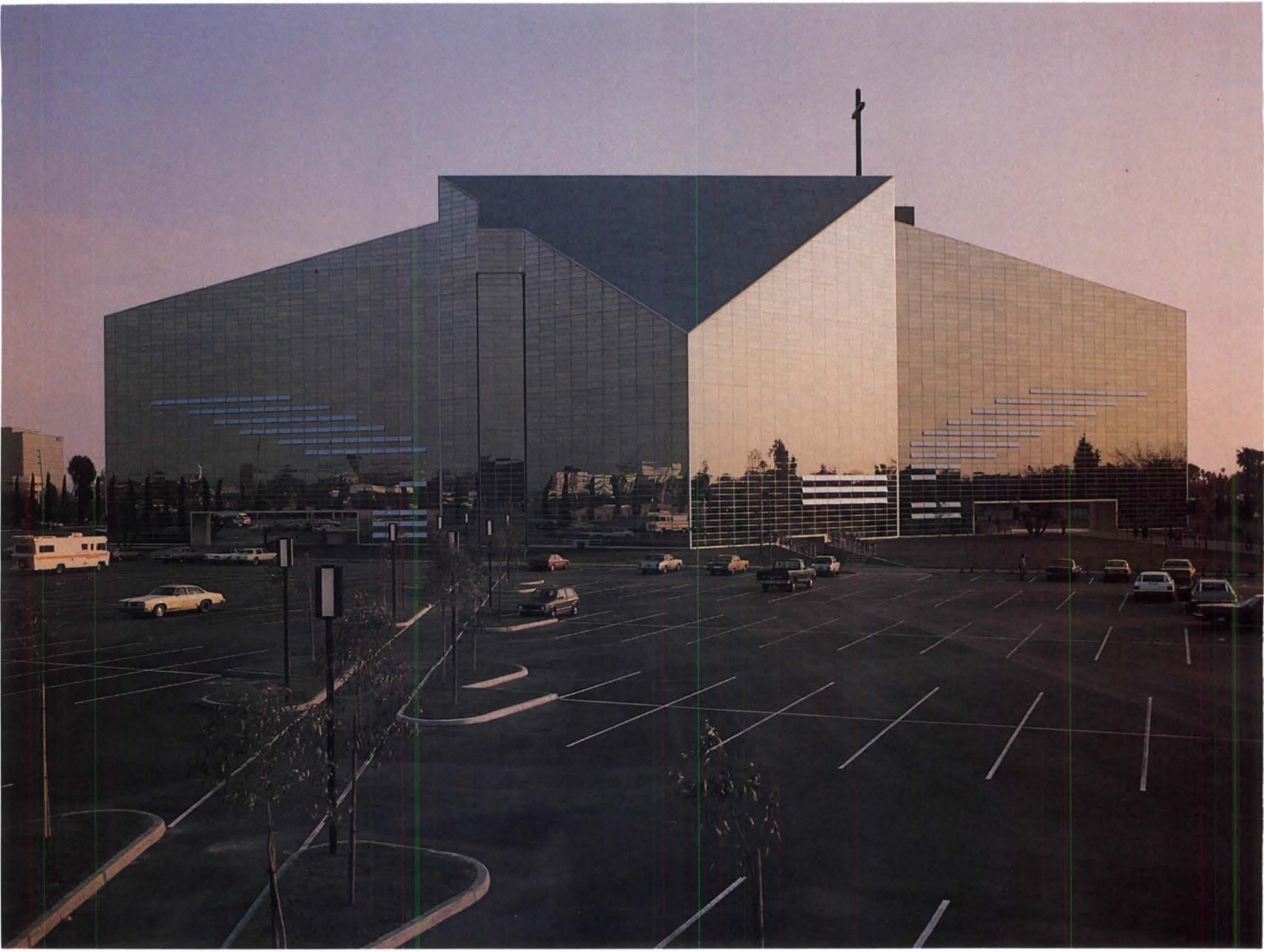
According to conventional wisdom, one would think that Schuller's space problems had finally been solved. The "global

Mr. Pastier, a teacher and writer in Los Angeles, is author of *Cesar Pelli* and has begun work on a history of Texas architecture.





Photographs by Joshua Freiwald



Top photos show the cathedral, sitting in a sea of parking like an unearthly visitor to a suburban shopping center, changing in the changing light. Above, the cathedral announces itself to the street and right, an entrance to the parking lot.





'Please, can't you make it all glass?'

village" of electronic communication is supposed to make physical proximity unnecessary, if not actually undesirable, yet the church's flesh-and-blood congregation kept growing. Television had made Robert Schuller an even bigger magnet for worshippers, and even as it provided an alternative to seeing him in person, it also stimulated the desire to do so. After embracing a new technology, Schuller's logical next step was to return to an old one—architecture.

When he did, it was not an act of mere necessity but a recognition of the creative and symbolic possibilities that a new building represented. Schuller wanted nothing less than the world's best architect, and upon seeing a magazine photograph of Philip Johnson's Fort Worth Water Gardens during a transcontinental flight, he became convinced that Johnson was that person. Landing in New York City, he sought an audience with the architect by telling the receptionist that he "had worked with Richard Neutra on several projects." This message failed to bring Johnson out of his office, and Schuller now laughingly deduces that he was mistaken for a draftsman seeking work.

Soon after, however, better communication was established, and Johnson set about designing a major church. The client's wishes were clear and simple: The building should seat 4,000 people, be flooded with light and respect the older Neutra structures. A budget was not specified.

When Johnson's first design was unveiled, it was not greeted with applause. "He nearly threw us out of the room," chuckles the architect. "I was politely nonaffirmative," says the positive-thinking pastor, tongue obviously in cheek. The problem was sight. The church had a transparent roof but opaque walls,

rather like Johnson's art gallery on the grounds of his Connecticut home, and this was too confining visually for Schuller's taste. Accordingly, he asked the architect, "Please, can't you make it all glass?" Johnson did; the church gained a catchy nickname, and a few years and \$18 million later, network television and the weekly newsmagazines were there to cover its inaugural event. By now it has become a small part of our native folklore and an Orange County tourist attraction.

Connoisseurs may consider Johnson's own house as his finest design, and the new AT&T headquarters as his most controversial, but this will very likely be the one that is most widely remembered. Credit for that must go to Robert Schuller. His love of architecture for its own sake has not obscured his understanding of its value as a promotional device, and his disavowal of grandiose intentions has not kept him from taking out a full page ad in the *New York Daily News* to announce the telecast of its opening service. Beyond that, the building is an integral part of Schuller's weekly program, broadcast over nearly 200 stations around the world. Here is one case where insufficient recognition of an architect's efforts is not a problem. It is also a rare instance of a building within the high modernist tradition that manages to please a significant portion of the lay public.

Viewed as architecture, however, the Crystal Cathedral is not such an unequivocal success. Like religion itself, it requires some faith on the part of the beholder, and it is vulnerable to the workings of a skeptical mind. The faith that it demands is not a blind one, just one willing to overlook certain lapses and inconsistencies. And even the most hardened skeptic should be able to appreciate its Apollonian fusion of light, space and structure. That triune quality pervades the interior, and is the essential proposition and achievement of Johnson's design.

The texture of the structure serves the space.

The impact of the interior space is also due to its scale. Shaped like a distorted four-pointed star in plan, the building measures 207x415 feet along its two axes. Because of its unusual geometry, these dimensions are a bit misleading: The Crystal Cathedral's ground coverage is equivalent to that of a rectilinear building about 186 feet square. It is not, as has been repeatedly claimed, larger than Notre Dame Cathedral—in fact it is little more than half the size of the Parisian church. Nevertheless, it is a monumentally conceived structure, 128 feet tall at its high point and spanning as much as 200 feet without recourse to interior columns.

This is accomplished by space frames of welded steel tubing that comprise the walls and roof. The latter is made up of three sloping planes plus a vertical clerestory element, arranged asymmetrically above the symmetrical plan. That syncopated configuration produces a soaring, raked space that is given added dynamism by slanting triangular balcony sections in three points of the star.

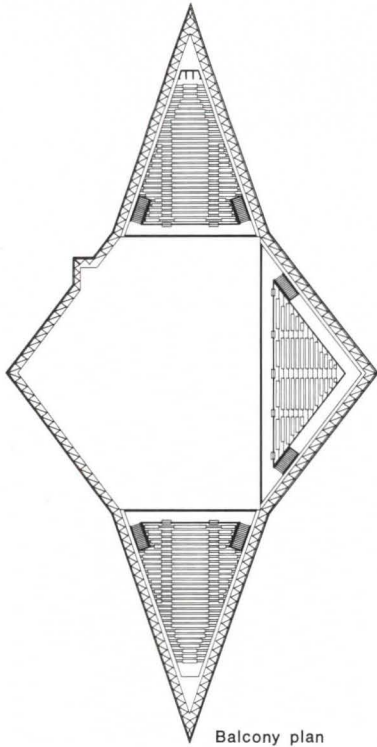
Although this space is elaborately inflected and hierarchical, the structure that bounds it is surprisingly uniform. The three-dimensional, white painted trusswork is modular and continuous, and repeats its basic pattern so many times over that it assumes the nature of filigree rather than of a distinctive structural assemblage. Since it reads as undifferentiated texture rather than a more dominant framing pattern, it serves the space by granting it visual pre-eminence. It also underscores the sensation of light inside on clear days when the sun plays over its latticework.

But the pairing of space and structure also has some drawbacks. It is visually busy, and since the basic geometry of the interior space is already quite complicated, one might prefer a slightly more serene ensemble. Unlike most other such structural tours-de-force, this space frame is made subservient to a rather arbitrary volumetric conception; its own inherent properties were not used to give discipline to the process of planning the space. Johnson has cited Norman Foster's Sainsbury Centre as an influence on his design, yet that building is at an opposite pole of logic and rigor. Its uniform structure is used to generate a classical and regular space.

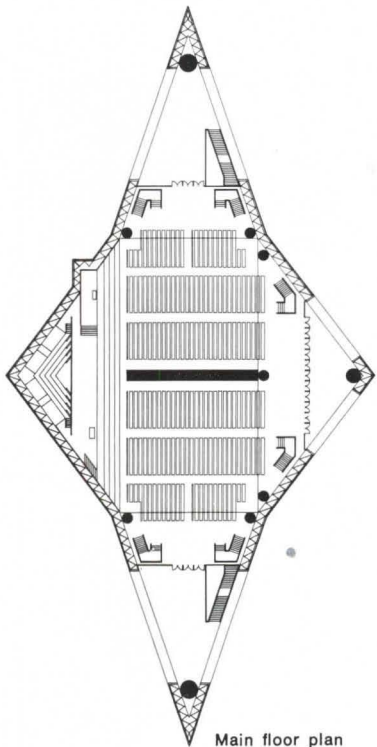
Foster's building also frames an important view by leaving two glass walls free of primary structural elements. This benefit of a simple trabeated space frame was not available in Johnson's picturesque application of a similar technology—the Crystal Cathedral has 15 bounding planes, typically intersecting at odd angles, and there is no distinction possible between bearing and nonbearing surfaces.

One can argue that a view was not as important in Garden Grove. The setting is flat and suburbanized, with neither the pastoral quality of an open landscape nor the built drama of a real cityscape. Still, view was essential to Schuller's vision of what the building should be. He wanted to see God's creation around him, yet it is the architect's handiwork that dominates the scene, especially on the main floor where most of the seats and standing room are found. What one sees there is the usually cloudless Southern California sky, with welcome light and sun flooding the sanctuary, but not Schuller's hoped-for vision of nature as a reminder of the Garden of Eden.

The effect of light and space is undeniably awesome and even inspiring, but in a curiously secular sort of way. Its gestalt is not mysterious but matter-of-fact and physical, almost as though the building were a splendid gymnasium for an enlightened band of 1920s European naturopaths devoted to sunbathing and hydrotherapy. (Pools and fountains abound in and around the structure.) These associations should not be seen as miscalculated architectural imagery, but as appropriate symbolism for Schuller's particular form of religion. It is a modern faith in that it seems based more on psychology than upon tra-



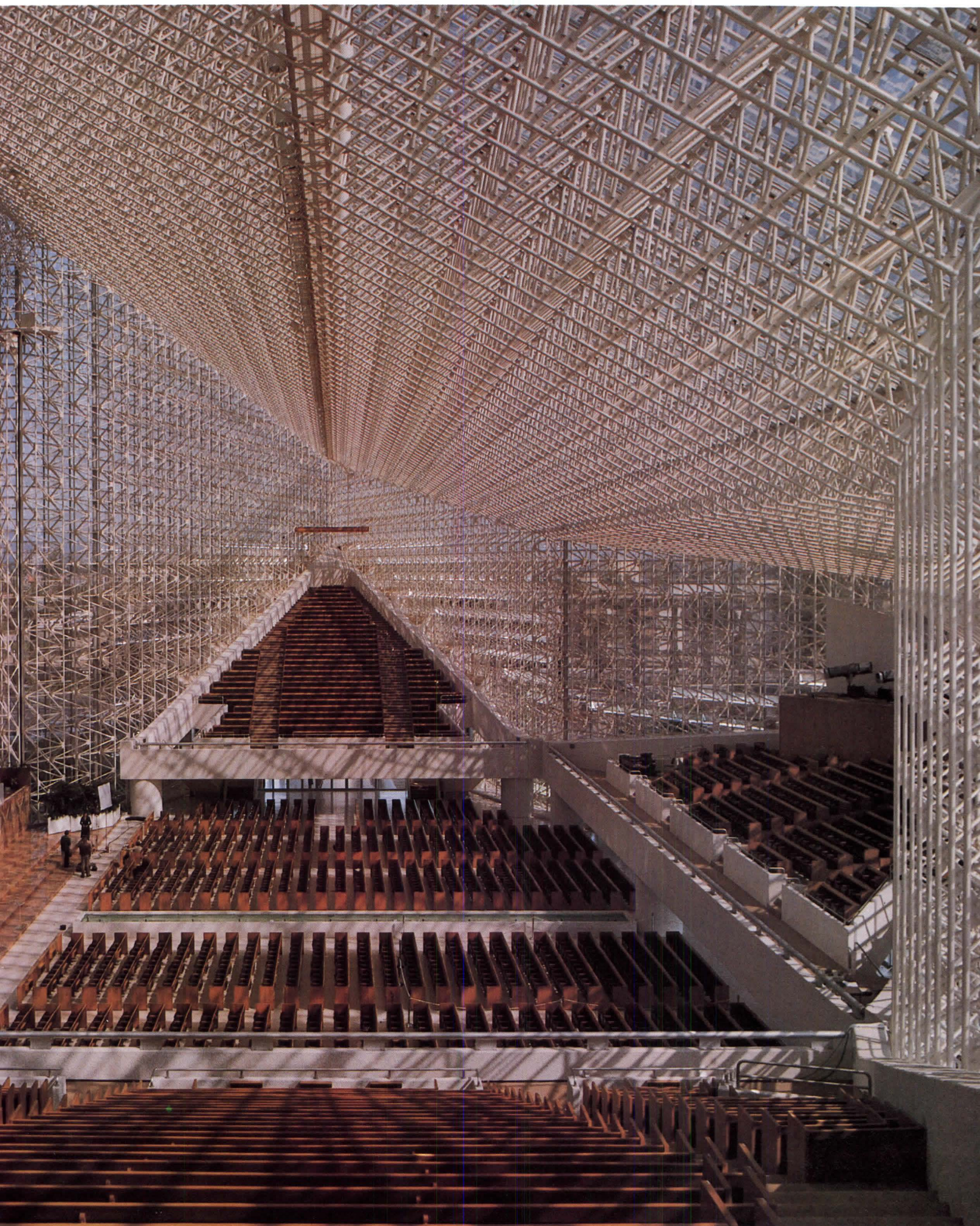
Balcony plan



Main floor plan

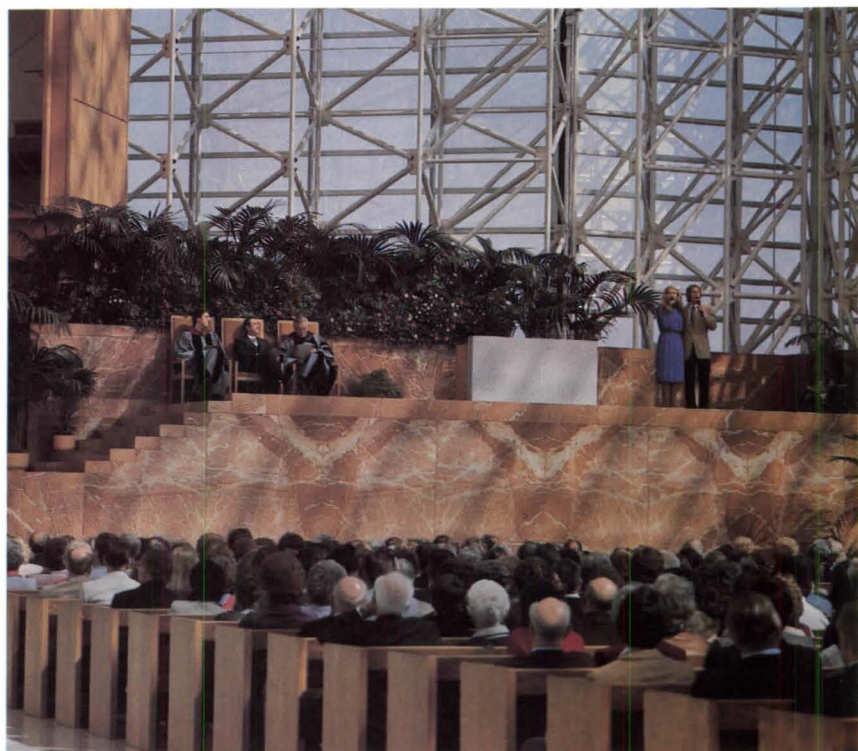
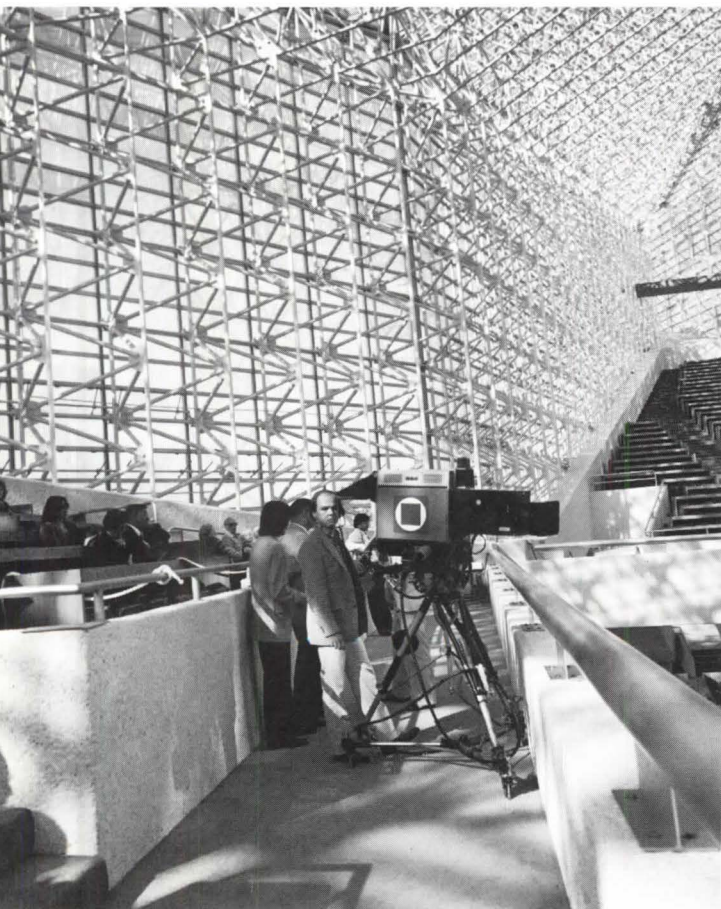


Joshua Freiwald

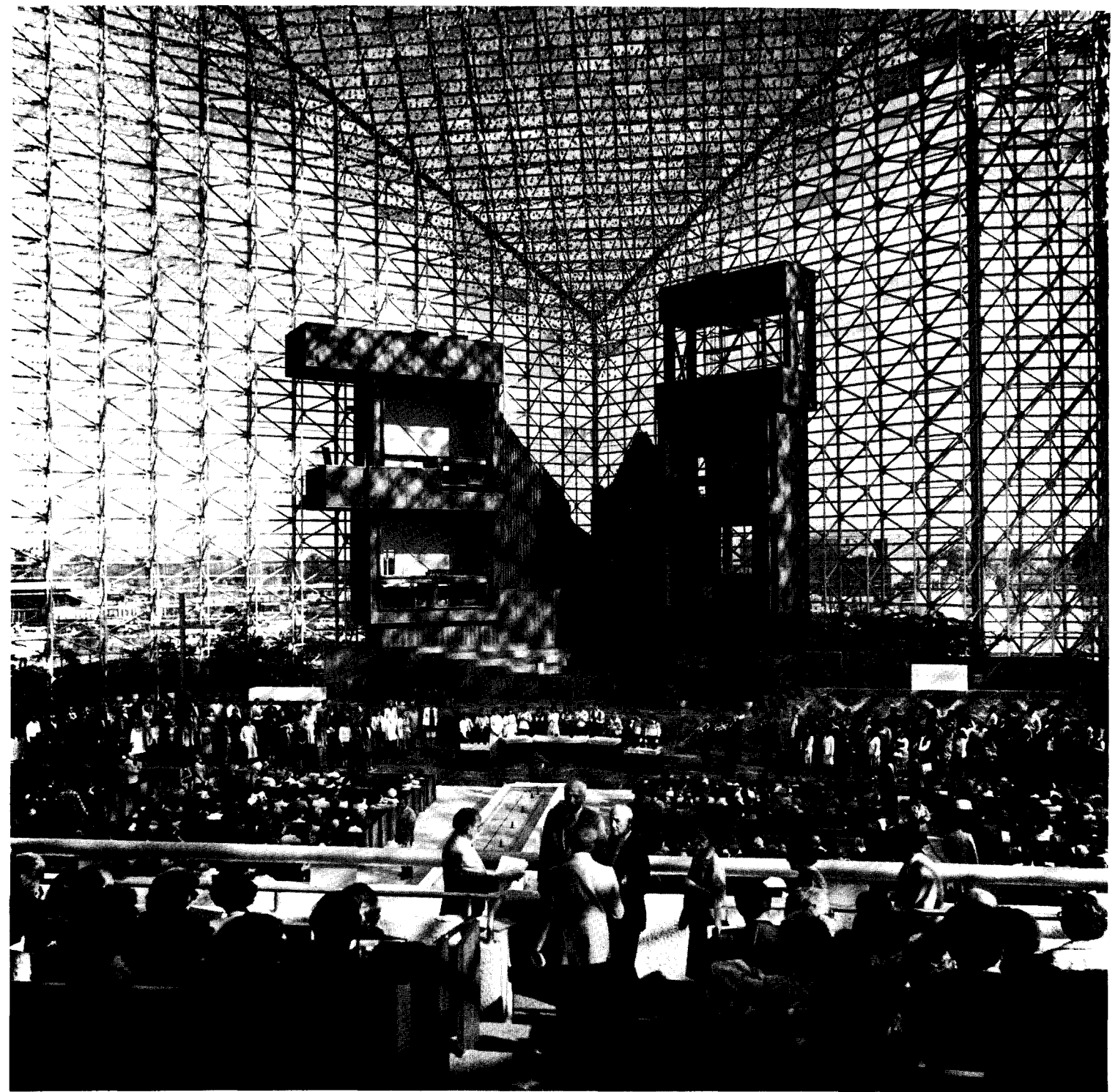




During services Schuller reaches three audiences: those in the cathedral; those in the parking lot, to whom he turns through a tall slot in the wall, and millions of others through the television cameras, for whom the cathedral is a highly dramatic set. Right, the giant organ enclosures.



Photographs by Joshua Freiwald



Eclecticism on the part of client and architect.

ditional Christianity. It is ego-centered and motivationally directed, practical and focused on the here-and-now. Getting things done constitutes one of Schuller's prime messages, and his own technological bent is demonstrated by his recent Sunday-morning advocacy of nuclear power. Schuller's vigorous pragmatism can perhaps best be summarized by two of his book titles: *Move Ahead with Possibility Thinking*, and *Self-Love, the Dynamic Force of Success*. His eclecticism is illustrated by the churchmen that he cites as his greatest influences: Norman Vincent Peale, Billy Graham and Bishop Fulton J. Sheen.

In designing the Crystal Cathedral, Philip Johnson appears to have been equally eclectic in his choice of models. In addition to the Sainsbury Centre, he also identifies Mies van der Rohe's angular and faceted Friedrichstrasse office project of 1919 as a subliminal influence. But, for a student of architec-

tural history as informed as Johnson, there could have been many others. The lattice structures of Buckminster Fuller and Konrad Wachsmann come readily to mind, as does Bruce Goff's 1950 project for a "Crystal Chapel" and student religious center for the University of Oklahoma. This last design anticipated Johnson's work to a remarkable degree, not just in its nickname but in its exclusive use of glass for walls and roof, complicated nonrectilinear geometry, sparkling pendants suspended over the sanctuary, indoor and outdoor fountains and pools of water, its method of ventilation and even in the basic arrangement of its site plan.

This, of course, is speculative. Johnson characterizes the design process as one of solving specific problems rather than looking for convenient precedents. When asked teasingly whether the Crystal Cathedral was his last modern building, he laughed before answering: "I've never stopped being a modern architect in the sense that modern architecture starts with struc-

A 'problematic piece of architecture' redeemed.

ture and with function. That is, we find out what the purpose of the building is, we find out what the best way of building it is and we suit things to that purpose."

A functional discussion of the church would therefore be very much in order. Some advantages and drawbacks of the structural system have already been touched upon. The planning of the sanctuary is decidedly odd for a church, since the chancel is placed on the long dimension of the building, and since Schuller's pulpit is about 50 feet off the central axis of the nave. This produces some very uncomfortable sight lines for several hundred parishioners on the west half of the main floor, and puts the congregation in the west balcony a hundred feet more distant from the pastor than their east balcony counterparts. The extremely broad shape of the nave, expressionistic though it may be, defies functional logic and generally places worshippers farther away from the services than a plan predicated on comfortable seating and viewing patterns. Even with viewing distances as long as 220 feet, the designers fell 1,134 seats short of their goal of 4,000. And, due to bends in the wall planes, Schuller cannot be seen from certain east balcony seats—this in a column-free space!

Of course, people in poor seats can console themselves by looking at a spectacular building when seeing the pastor proves difficult. The ears, however, are not as lucky as the eyes, for the only way to characterize the cathedral's acoustics is hellish. In this ultrareverberant room, the spoken word is not distinct and even some forms of music suffer badly. When Beverly Sills gave a fund-raising recital prior to the building's dedication, the \$1,500 ticket holders and the soprano were assaulted by cacophonous echoes that would have driven a less secure performer

At right, the client beneath his gleaming canopy. In photo below, horizontal stripes on building are operable windows.



Photographs by Joshua Freiwald

to tears. On a television talk show a few days later, she joked that her voice is probably still ricocheting from one glass wall to another, trying to find a way out.

Johnson says that he is not surprised by the problem, since the church was not planned as a concert hall. Music, however, has long been essential to Schuller's services, and continues to be so. The architect explains that the space was not designed for acoustics, but for electro-acoustics. In essence, this means using amplified sound to augment or to override the natural sonic properties of the structure. Even with this palliative, Schuller's words are not always intelligible. Installation work is now underway for a million-dollar organ of 12,688 pipes, which may benefit from the cathedral's highly reverberant space.

Structural integrity is especially important in earthquake-prone California. The triangulated framing is designed to withstand a major quake of 8.0 Richter scale magnitude, but the glass would begin to break well before that point. This problem is not really avoidable, but it has been mitigated by allowing for play in the glazing joints and by the use of tempered glass.

Because of the region's mild winters and dry summers, the Crystal Cathedral's main space has no heating or cooling plant. Winter temperatures can be kept above outdoor levels through solar gain, the greenhouse effect, and the body heat of the congregation. Mirror glass with an 8 percent transmission factor will reflect most of the summer sun, and operable windows at the balcony lines and in the roof clerestory, along with open banks of entrance doors, will create a chimney-like draft that should prevent any build-up of heat beyond ambient shade temperatures. Since some of the congregation used to sit in the sun on folding chairs, Schuller reasons that these comfort conditions will be acceptable. Further ventilation is provided when a pair of wall sections swing open to create a 20-foot-wide opening, 90 feet tall, that allows the minister to metaphorically part the Red Sea and be seen intermittently by people in their parked cars. These doors are oriented to catch the notorious Santa Ana winds that roar out of the desert, and their use on gusty days has created difficulties.

The operable windows create an esthetic effect that is quite marvelous. Seen from outside, the mirrored skin is not executed with the skill that one would expect from an architect of Johnson's caliber. Although it can be made to appear interesting by a good photographer, its awkward detailing (aluminum cover plates as wide as a foot, and obtrusive metal trim pieces at every opening and edge) combined with a paucity of interesting reflected objects make the church's exterior seem dull and ponderous, particularly on cloudy days. Its accommodation of the cathedral's central and corner entrances is especially ill-considered. But when the awning windows are open, their strong pattern of diagonally rising horizontal stripes gives life and functional expression to walls that are otherwise anonymous and curiously similar to those of recent midrise office buildings a few blocks away.

Evaluating Johnson's design by his own functionalist yardstick, it is more a failure than it is a success. Responding to its esthetics, one must lament many of the interior details as well as the blank exterior that hides the dazzling interplay of space, light and structure taking place within. By ordinary logic, this costly effort (over \$250 per square foot for a building that has half its space in the basement) is a problematic piece of architecture.

But ordinary logic is not really the most appropriate form of judgment in this case. The Crystal Cathedral's essential idea—its soul, if you will—its mystic union of elements to form a great central space, is sufficient to outweigh whatever went wrong in its execution. The point is not whether another architect (or even Johnson himself) might have devised a better church, but rather that this evangelistic vision came to earth in tangible form. The Crystal Cathedral is a parable. It is the word made flesh; its virtues redeem its sins. □







Pert and Plainspoken Sanctuary

Hartman-Cox's addition to the Immanuel Presbyterian Church, McLean, Va. By Andrea O. Dean

Like a proper but classy lady, this church addition in suburban Washington, D.C., has a decorous sense of quality and grace because of its simplicity. Architect Hartman-Cox used forms and materials comfortably familiar to the local landscape and put them together inexpensively (\$302,000 for 4,500 square feet) to create vernacular architecture with smart and spiffy ideas. "Designing with both hands, one contextual, the other moderne," as Warren Cox, FAIA, describes it, has, in fact, become the firm's trademark.

The six-acre site in McLean, Va., is a rolling, partially wooded area that had on it an expendable, twice-appended farmhouse that had housed sanctuary, fellowship hall and school. The most notable asset stood behind the ramshackle

structure, namely a pair of old linden trees, perfect, it would seem, as centerpieces for an outdoor courtyard, or so the architect thought. In fact, the trees, plus George Hartman's recent six-month study of contextual architecture in Rome, conspired as formgivers for the project. Parishioners were split between wanting a Georgian addition and a spanking modern one, but Hartman persuaded them to accept something that would give them both continuity and a degree of change.

The new addition consists of a white, wood framed, barn-like building parallel and south of the existing structure. A U-shaped, covered arcade links it to the original building while tying together the old structure's disparate parts and creating a courtyard around the linden trees. Hartman also relocated the en-



Photographs by Robert Lautman



Robert Lautman

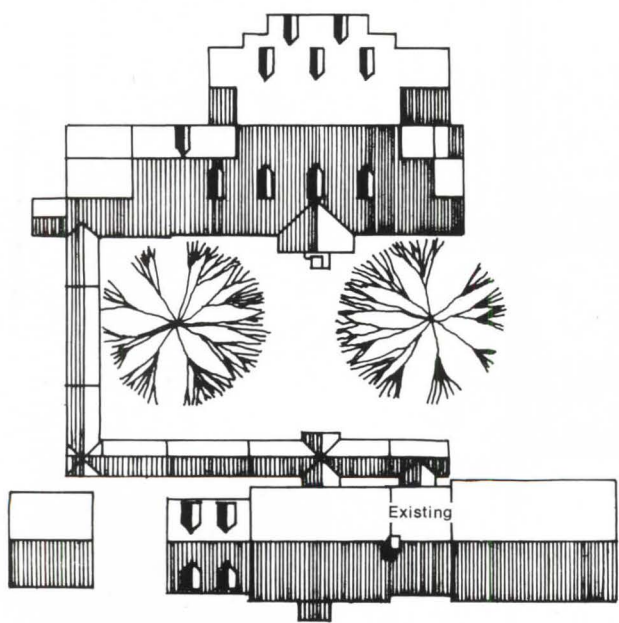
An arcade joins new to old and creates a court.

trance from the north side of the old farmhouse to the east edge of the arcade. In effect, now, the original building and its accretions have become ancillary space; the new addition is "the church." Its central focus is the outdoor courtyard where parishioners congregate after services or social events in the fellowship hall.

"Normally, when you talk about contextual work you think of starting with a good context," says Hartman. "Here we began with a not very good context and a very bad building and we didn't follow the dictum of one of our office wits: 'When you have a bad context, you do a bad building.'"

On its north side (above), where it faces the old structure, the addition looks much like a Southern farmhouse. Dominating its ground floor is the mullioned window wall of the fellowship hall, which could be an enclosed porch but for the chimney bisecting it. Above are dormers that admit light to the back of the sanctuary. The building's south face is all windowless wall except for high dormers. *Hartman* reduced its large space to residential scale by stepping the pitched roofline first from its central and highest point, where it contains the sanctuary, down a notch to the narthex and then down again to form a low structure housing coatrooms and lavatories near the entrance.

The division into discreet spaces is continued on the interior, despite the fact that it is in principal a large barn or hayloft. "The whole thing started in a hayloft, so we thought, why change it?" quips Hartman, adding, more seriously, "It's the easiest way to build cheap, big space." In the sanctuary, the chancel faces south, on the west is the choir, balconies are ranged along north





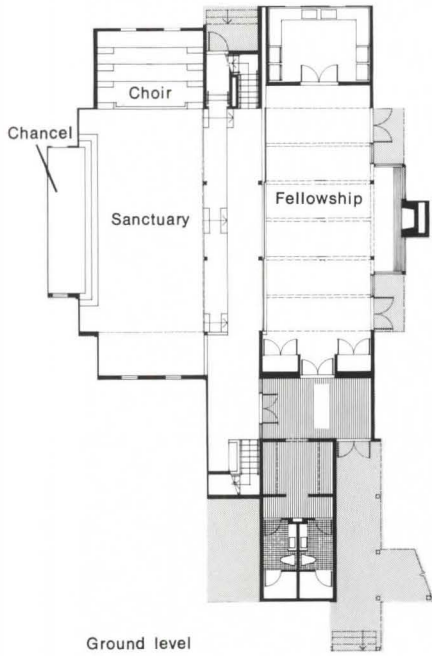
Robert Lautman



Allen Freeman



Allen Freeman



Ground level



Allen Freeman



Robert Lautman

A hall behind a sliding wall handles overflow.

and east walls. Separating sanctuary from fellowship hall is a mullioned window wall, which can be completely opened to make out of two rooms one huge space, transforming the sanctuary's plan from Greek to Latin cross. The feeling in the fellowship hall is old Virginia, cozy and warm. The scale is purposefully intimate with low, heavy overhead beams containing lighting. The ceiling above is gabled and there's a fireplace with brick seating on the north wall. It is intended to contrast to the cooler, more formal tone of the sanctuary with its much higher ceilings, wide open spaces and cooler colors.

In the 1971 chapel for Mt. Vernon College in Washington, Hartman-Cox used long spans and heavy screens to wall areas off from one another. In the McLean church, only reminders of screens remain (in the form of encased columns) to separate balconies from the central sanctuary area, and long beams have given way to braced and tied timber framing—a less expensive, simpler way of building. The idea was to make the job as easy as possible for the contractor, because money was tight. The

The fellowship hall viewed from the sanctuary, across page above, and at closer range, left. The sanctuary looking toward the altar is shown above.



Timber framing, diffuse light entering from end and dormer windows and views into fellowship hall give the sanctuary an air of openness, yet formality (right). Across page, the sanctuary looking toward chancel and choir.

Dormers fill the sanctuary with soft, diffuse light.

diamond-shaped large east and west windows that are fitted into the roofline were a consequence of the structure; the architect simply glazed what was left between the framing.

Although it is brighter in the sanctuary than outdoors on a cloudy day, there is remarkably little glass—the large diamonds east and west, five dormers on the south, three on the north. With exception of the two end openings, windows are all 2.5x5 feet. Because they are high, they provide ample light and because they are encased in dormers, light is bounced, diffuse and soft. Since openings are few and small and walls are eight inches thick and filled with insulation, the building is far more energy efficient than is required by codes.

The only uninterrupted vertical wall in the building is at the west, providing space for the choir, and looks somewhat incongruous and oddly proportioned with two low windows and a round one high up under the pediment. Explains Hartman, “The

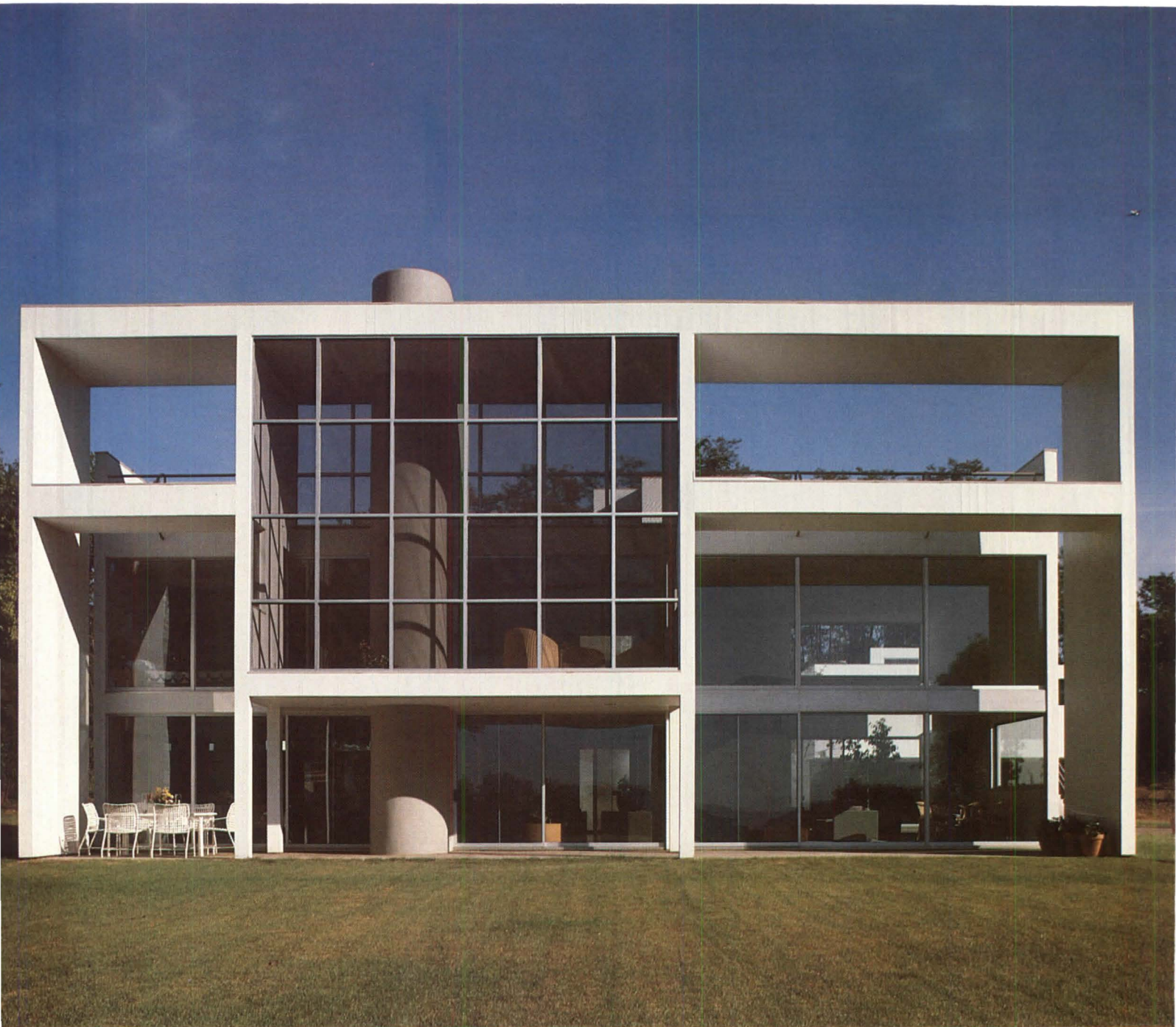
choir is the single most important group in this congregation, so we felt we had to give it a throne.”

Even when providing throne space the architect did the simplest thing throughout the building. He took stock windows and put them in the wall, put down drywall rails without wooden caps in most places, used standard columns and boxed them in with plywood and ordered the removable white and dark wood pews ready-to-go. When the contractor put ugly shoes on the base of the columns on the exterior arcade, the architect simply put a galosh, or box, over it, with somewhat mixed results.

The only really bad result of trying to build inexpensively and accommodate the contractor’s mistakes is the roofing, which is an ugly, striped and cheap-looking, asphalt shingle. “It’s an error,” admits Hartman. “The builder got started with it and we couldn’t bring ourselves to have them tear it off and start over. It would have caused a delay. When something would go wrong on this job, we redesigned rather than tearing it out. It’s a scheme that doesn’t hinge on pickiness of detail.” □



Robert Lautman

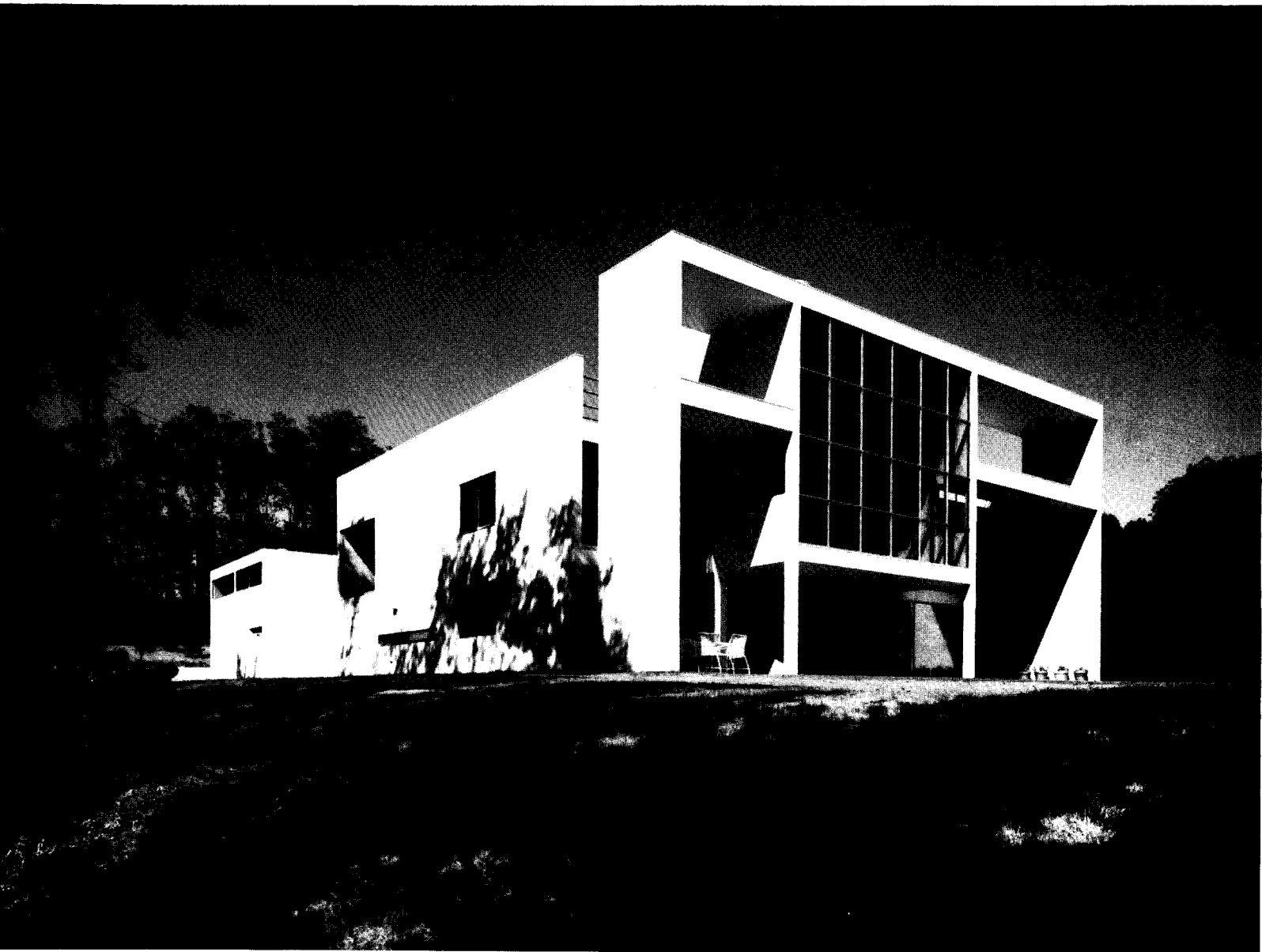


Photographs by Richard Payne, AIA



Clarity Behind a Projecting Facade

House near Cincinnati, Gwathmey Siegel Architects, By S.A.



A large house—over 9,000 square feet—in a wooded suburb of Cincinnati has given Gwathmey Siegel Architects the opportunity for exercising their residential design talents in an interesting new direction. Throughout a career unusually productive and distinguished for such young architects (Charles Gwathmey is 43; Robert Siegel 42), the firm has explored varying relationships of whole compositions to their parts. Beginning with the 1967 Long Island, N.Y., house and studio (for Gwathmey's parents), which were compact, isolated objects in a field, this exploration has approached an apparent limit in the Cincinnati house, its elements having been stretched as far apart as possible without disintegration of the whole. It is almost as if an explosion had occurred near the house's center, jarring even the main element's facade partly loose. Yet the dispersion has not gone too far: The house still has coherent unity, and the breaking down of mass mitigates against the pomposity this size house could have.

Not that the elements of the house have been scattered in a chaotic way. The imagined explosion has instead driven walls and masses apart strictly in accordance with a horizontal and vertical planning module of three feet, six inches, based roughly on Le Corbusier's *Modulor*, that dominates throughout.

The dispersion of parts is not only esthetic, of course, but also soundly functional. The organization of the plan is almost



Photographs by Richard Payne, AIA

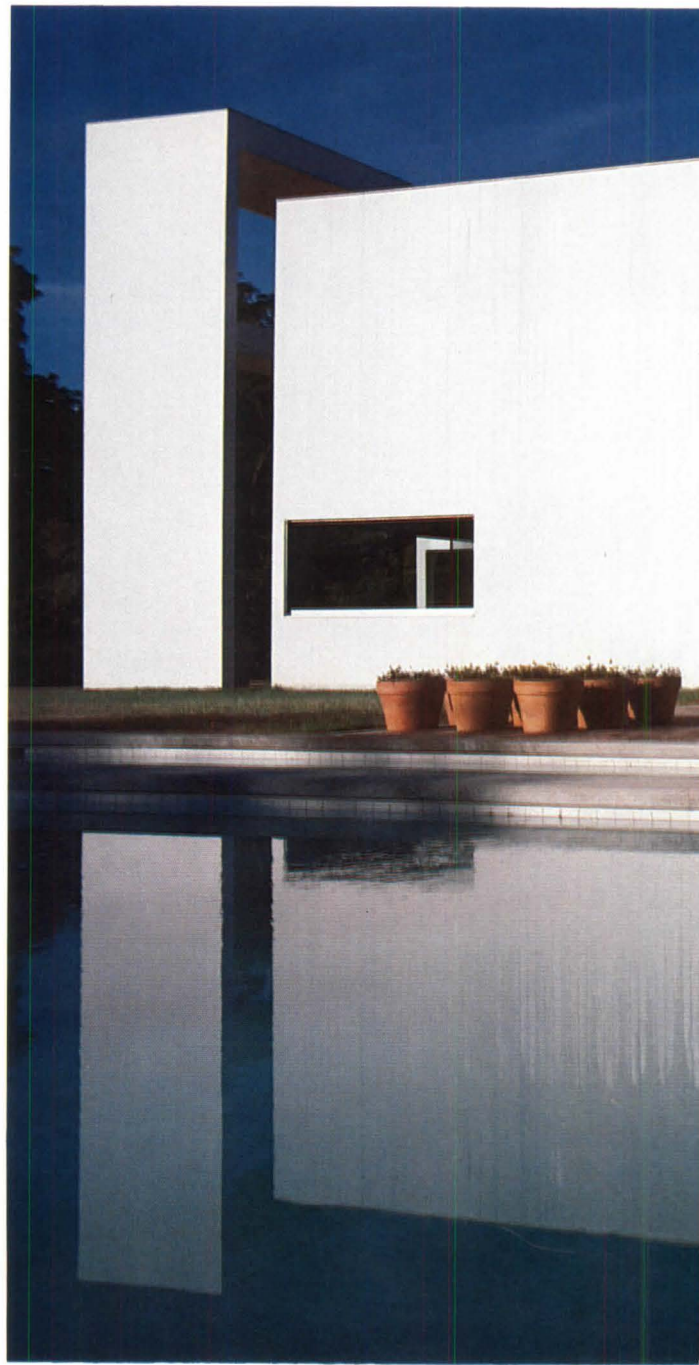
diagrammatic in its clarity: From the driveway, an entrance between two rather unassuming subsidiary elements (on their upper floors, a pair of guest rooms in each; on their lower floors, a garage in one, a pool-oriented recreation room in the other); next, a long circulation element, open on the lower floor, enclosed and faced with panels of glass block on the upper floor; finally, the main element, with kitchen, dining room, breakfast room, and a double-height living room below, a master bedroom suite with dressing and study areas above. All parts of the house have thus been given appropriate degrees of privacy and independence. The master bedroom area supervises the living spaces below, but all other parts are isolated. Even guest quarters are divided, so that one pair of rooms can be used by children home from school, for example, another by friends of the parents.

If one part of the house is suspect of being unfunctional, it is the elaborate facade construction attached to the south face of the main block, but this not only acts as an effective sunshade

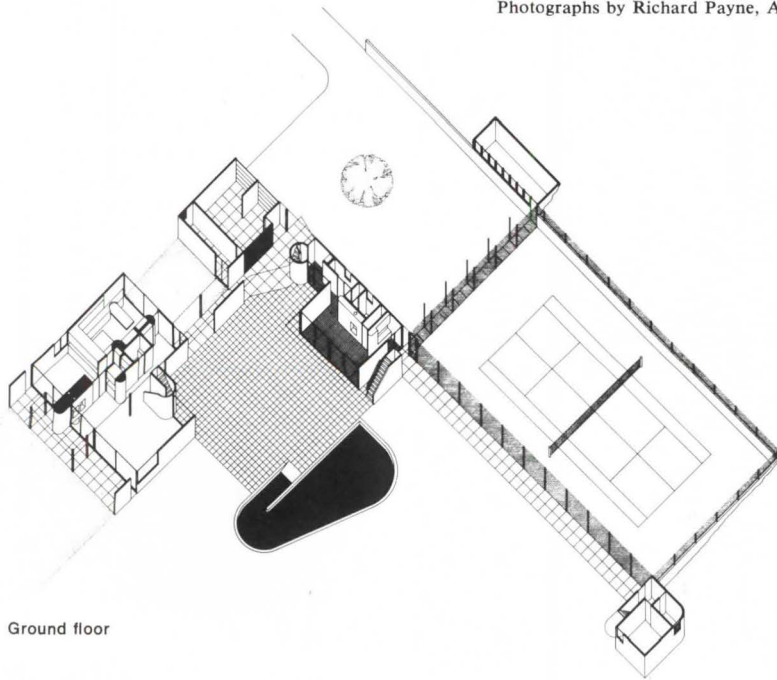
Above left, a view from the southwest of the partly freestanding sunshade that incorporates a double height screened porch; beyond it, the house's main living and master bedroom element; beyond that, separated by a small courtyard, one of the guest wings. Above, a night view from the southeast.

for the glass areas of the house's major rooms, it also accommodates a delightful double height screened porch, entered from either master bedroom or study and rising beyond the roof deck, thus engaging even that topmost level in the house's play of space and form. As part of the overall composition, this sun screen is indispensable. It is clearly part of the main element, rather than another individual element, and it therefore announces clearly that the cluster of parts has one dominant focus; it also relates the house to its site by emphasizing, like giant blinders, the view south over the crest of a hill to the Ohio River valley beyond.

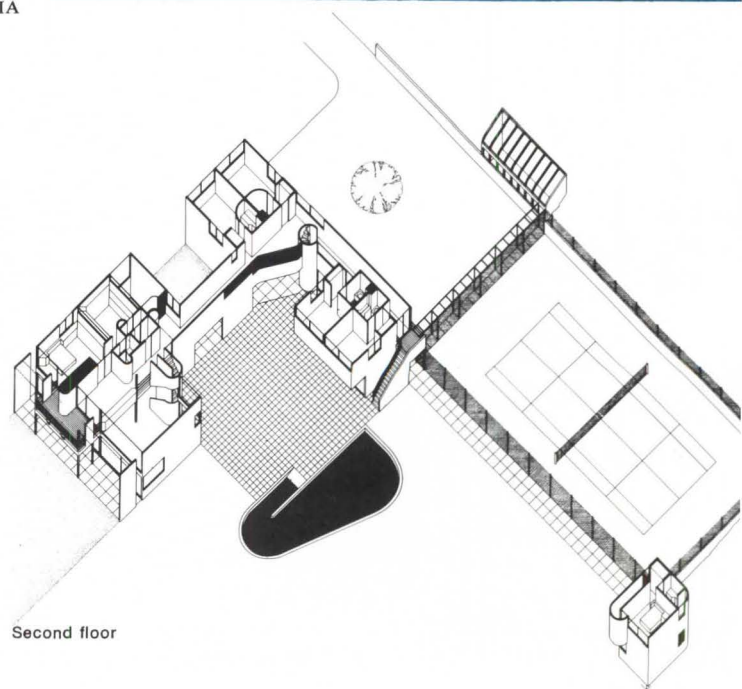
Complex as the composition is, it is not coded or devious or literary. Appreciation of the design is wholly dependent on appreciation of the geometric forms, their relationships to each other and their relationships to the functions they support; we need not look for allusions to other buildings or other times. Such self-evident directness requires consistent and impeccable detailing; if we are to depend solely on form, it must be perfect form. The house does not disappoint on this level: In proportions, finishes and such refinements as alignments of tile joints, junctions of railings, provisions for heating and airconditioning, and precise white oak cabinetwork, the house has been thoroughly considered. It is a freewheeling composition meticulously executed, and it is an exciting achievement. □



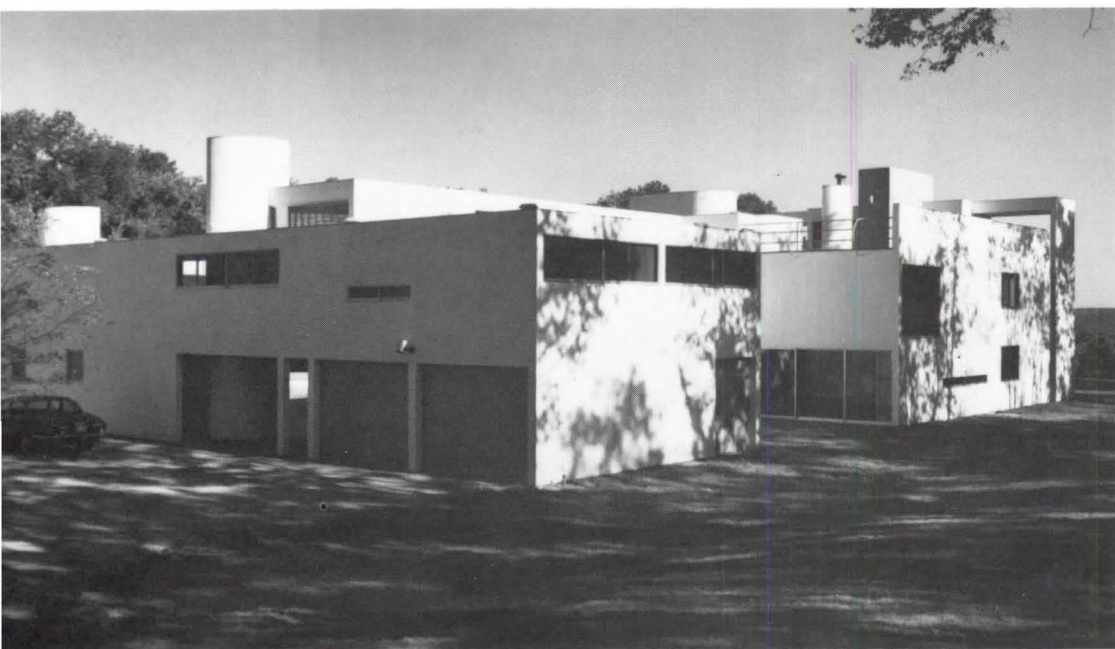
Photographs by Richard Payne, AIA



Ground floor



Second floor



In both photos above, the circulation link from entrance drive to main living element, its enclosed upper floor lighted by diminishing panels of glass block. Far left, axonometric views of the lower and upper floors; the tennis court and small guest house beyond it have not yet been built. Left, view from the entrance drive, the sunscreen element glimpsed at far right.



Above, the roof deck with view through the sunscreen at right. Below, master bedroom opening to the second floor screened porch. At right, a small study area overlooking the double-height family breakfast room, which opens in turn to the kitchen; other glass areas overlook an interior courtyard. Across page, the double height living room shaded by the sunscreen element.



Photographs by Richard Payne, AIA

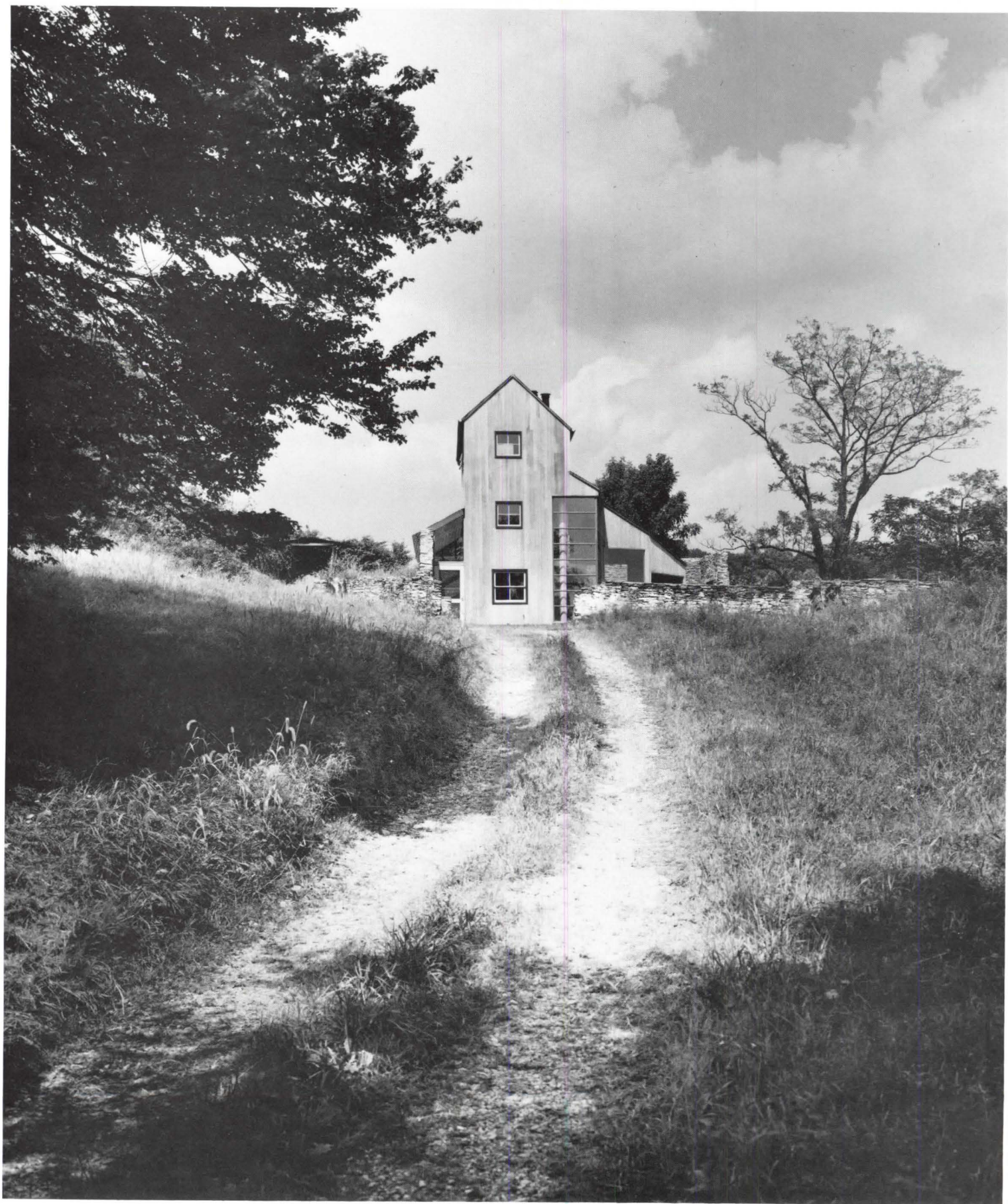






Richard Payne, AIA

At the guest room end of the second floor corridor, the wall undulates to allow space for a small sitting area. Typical of the careful detailing is the heat supply, through metal-lined circular openings in the wood sills beneath the glass block panels.



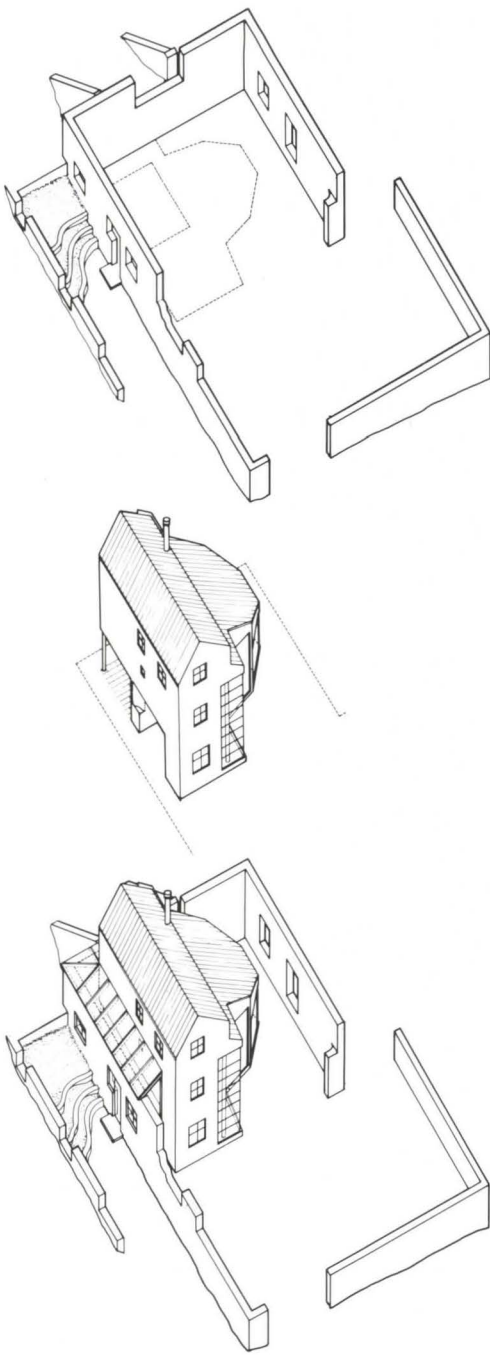
Joseph W. Molitor

Simple but Sophisticated Farmhouse

Norman Gaffney Residence, Coatesville, Pa., Bohlin Powell Larkin Cywinski. By A.O.D.



Linking the old foundation wall, with entrance, and the new house is a plexiglass-covered corridor; in the attic-study (across page), a stair with Corbusian rail rises through an angled slot. The room is multi-colored but muted and proportions are in miniature.



Photographs by Joseph W. Molitor

This small house for a man of modest needs is designed to revive and capture the owner's fond memories of time spent abroad in courtyard-style houses while he served in the Peace Corps and of his childhood on a Wisconsin farm. A simple residence filled with comforting allusions to delights of childhood, the house rests within the stone wall foundation of a barn that formerly occupied the site. It is perched on the southwest corner of a nine-acre plot overlooking rolling farmland in southwestern Pennsylvania not far from the timeless countryside of Chadds Ford conjured up in dream-like fashion by painter Andrew Wyeth. But where Wyeth's images are silver-point sharp, the Norman Gaffney house is purposefully soft-edged, as if unfocused; it is soothingly skewed and distorted, as is memory.

On first sight, from an unpaved road to the southeast, the building, its red shed roof tumbling in steps over grey wood siding, blends with neighboring farmhouses. At closer range, flat on, it looks far more singular. Set within the rough, low foundation walls, it rises smooth and narrow, a box with three small windows running down it, off center from the peak of the gabled roof. To the right (east), cutting into the edge of the box, is glazing, behind it a column, then off to the side, a pavilion-like

living area with angled corners. The entrance to the house is a rust-red door set into the west side of the stone wall; to either side of the entrance are small, low windows, one blue, one green. The scale is miniaturized and cozy, the impression a cross between a small farmhouse from southern Europe and an illustration from a children's tale, perhaps by Beatrix Potter.

Allusions to images from childhood continue on the interior, which reflects Gaffney's desire for openness without loss of privacy. The entranceway links the box of the house to the foundation wall via a plexiglass skylight. On its left and set at an angle to it is a single-counter kitchen, its chest-level window overlooking a small, raised garden. To the right of the entrance, a low-ceilinged dining area with round, small, stocky table and a low window opens onto a wide open living room. At its southwestern corner stands a two-story column, left exposed and unpainted as an allusion to the house's predecessors. The semicircular living room with high pitched ceiling is surrounded by glazing that masterfully manipulates views, which is one reason the building was selected for a 1981 AIA national honor award. Looking south, one sees the broad front courtyard and hills beyond. To east and north, the stone wall is only four feet



The view framed by an opening in the foundation wall (above) is what one sees looking east from the living room. The north or back side of the house (across page top) nestles in a small hill. It gives the incongruous impression of a simple shed with high-tech, black ducts perched on a greenhouse.



Joseph W. Molitor

Nothing in the house is quite symmetrical.

away, giving a feeling of enclosure and intimacy. But in the wall is a good-sized opening framing a view of meadowlands.

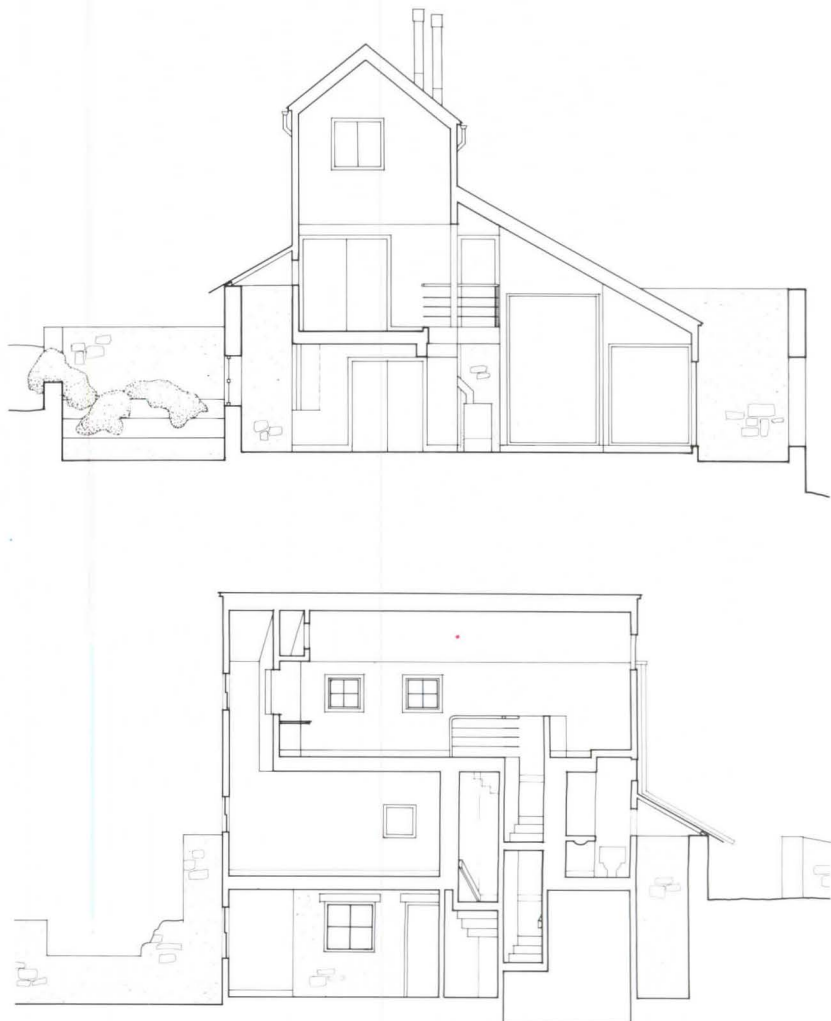
Furnishing is spare throughout. In its way, the little house is a completed artwork in which personal possessions would jarringly intrude. In the living room are only wicker chairs and a low, round white table with a bite-like chunk taken out of it to replicate a partial plan of the house. The table has three differently shaped legs.

Nothing in the house is symmetrical or four-square, mainly because of angled elements. One is the oak barn beam supporting the second floor between dining and living spaces. The beam and exposed framing beneath the second floor balcony are the house's only raw elements, left rough as reminders of what is beneath the building's skin. The stair leading up from the living room is also set at an angle. Just right of it is a cylindrical wood stove backed by a two-story, jagged edged, striped brick and block wall that acts as a heat sink. On it is a band of tiles with colored beasts and plants.

Color is one of the unalloyed pleasures of the house. The principal one is a soft gray; moldings are a darker shade. Muted rose, greens, gray blues are used for pipe columns and rails.

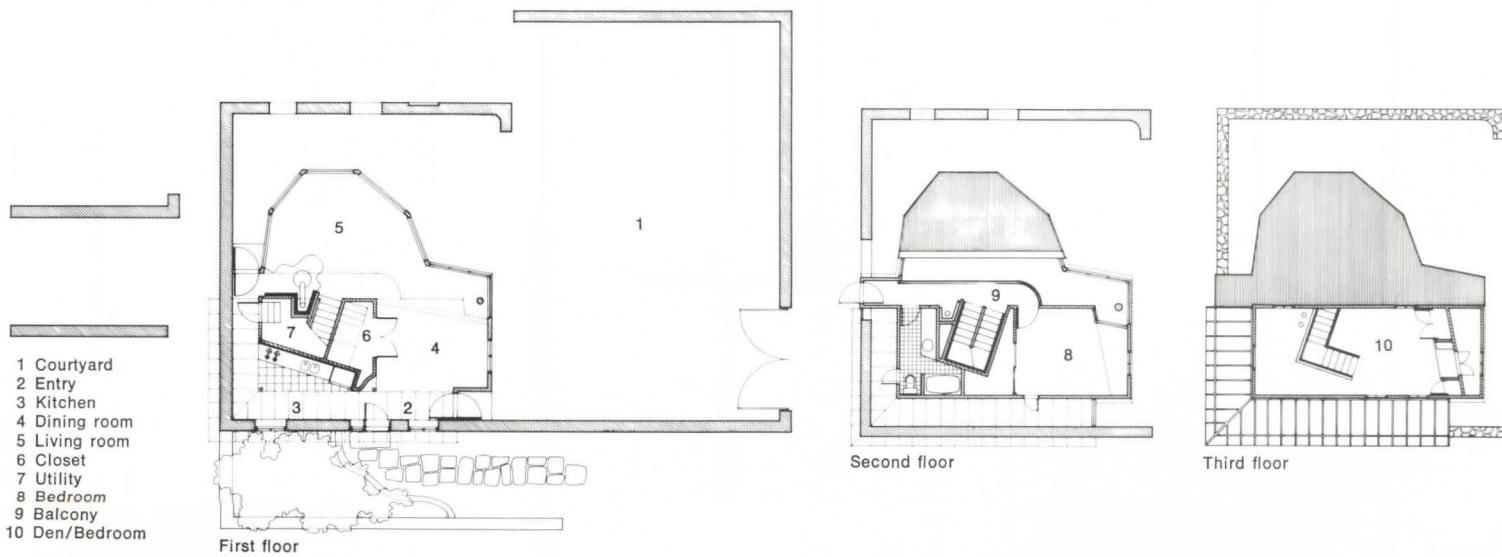
A slick, gray steel pipe rail with rose trim wraps around the second story balcony overlooking the living room. On the second floor is a small bedroom and lavatory, on the third an attic-study, with exaggeratedly childlike proportions and images to recall memories of attics past. The stair punches through here with a Corbusian rail. As the architect, Peter Bohlin, AIA, says, "the style of the house is a soft stew."

Architect: Bohlin Powell Larkin Cywinski. Client: Norman Gaffney. Structural engineer: McCormick, Taylor & Associates, Inc. Mechanical engineer: Thomas E. Melia. Landscape designer: John Brown. General contractor: Grant Benham. Completed in 1980. □





Joseph W. Molitor



Above left are living and dining rooms with second story balcony. Slick, painted rail; old, raw barn beam, and corner concrete column contrast with one another. The living room table misses a bite-like chunk in the shape of a partial plan of the house. An expanded view of the living room, across page bottom, shows the wood stove and glimpses of the stone wall. From the southeast, across page top, the house looks much like neighboring farm structures.



Joseph W. Molitor

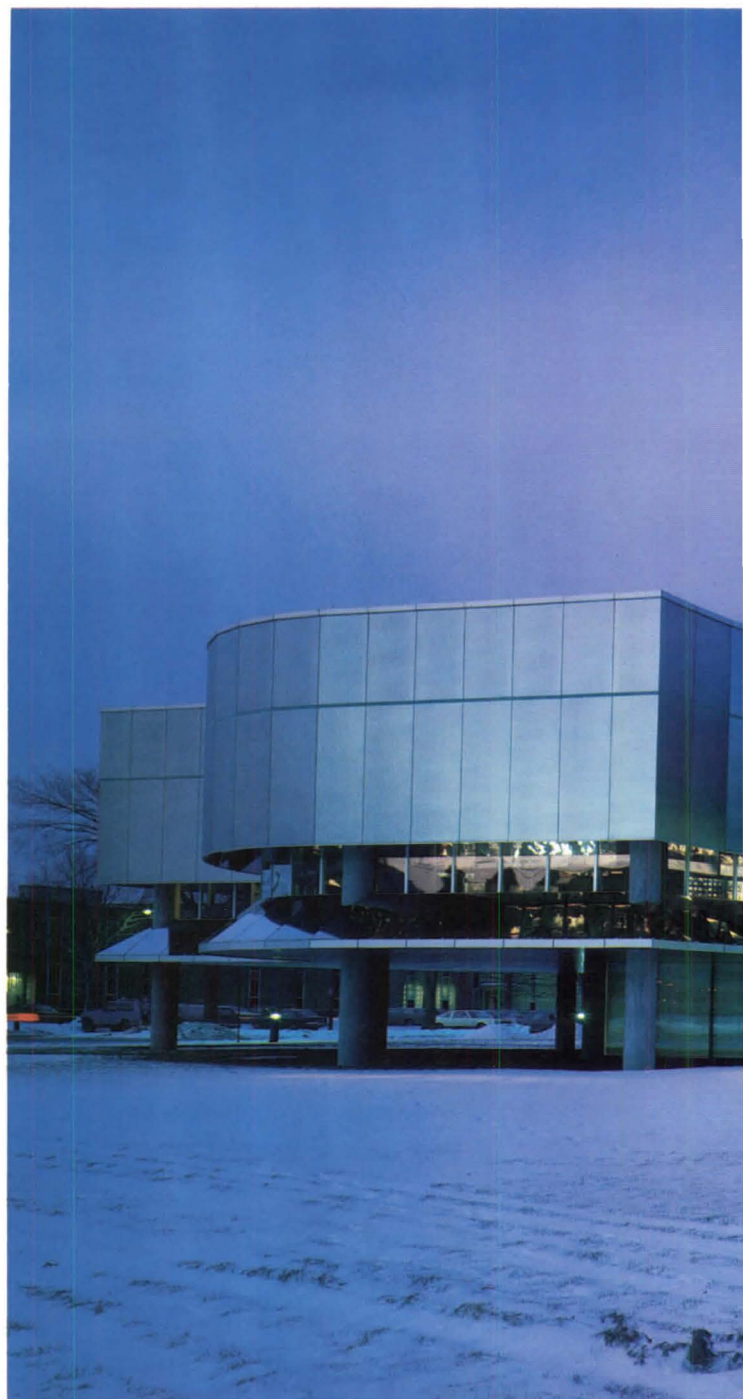
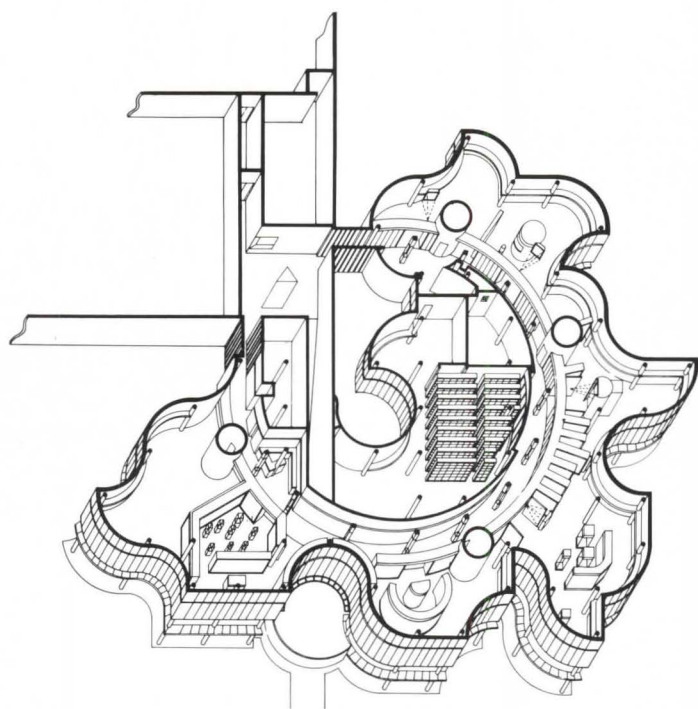


THE CORNING MUSEUM OF GLASS



Shining and Sinuous Structure

*Corning Glass Museum, Corning, N.Y.
Gunnar Birkerts & Associates. By S.A.*



Along with the crystalline fantasies of Bruno Taut, the glassiest projects of modern architecture—indeed, the glassiest of all architecture to date—were the two skyscraper projects Mies van der Rohe designed in 1919 and 1921. Delighting in the play of alternating transparency and reflection in the glass, Mies experimented with models hung outside his window to catch the light and revised forms that curved back on themselves, mirroring their own surfaces. Now a building even glassier—and looking very much like a one-floor slice through Mies' 1921 project—has been built. Appropriately, it houses a museum of glass.

Appropriately, too, it is in Corning, N.Y., home of the Corning glass works since 1851 and, since the company's centennial in 1951, of the Corning Glass Center, an educational institution dedicated to the history, art and science of glassmaking. The center's original building, which now houses lecture halls, technical display areas, a snack bar and the Steuben factory, was the work of Harrison & Abramovitz; the new museum, for all its individuality, is an addition to that building. But as a site Corning has problems as well as appropriateness: In a picturesque river valley, it is susceptible to flooding, and in 1972 Hurricane

Agnes did its worst there, bringing 60 inches of flood water to the town and damaging over 500 objects in the collection as well as all the center's rare books on the history of glass.

The facility had also begun to suffer a flood of visitors. Planned for an annual attendance of 60,000, the museum in the Harrison & Abramovitz building was handling more than 800,000 people a year, at an annual density of 133 visitors a square foot. (Comparable figures for 1977 were seven per square foot for the Metropolitan Museum and 21 for the National Gallery.) The collection had burgeoned as well, with overflow stored in a former supermarket.

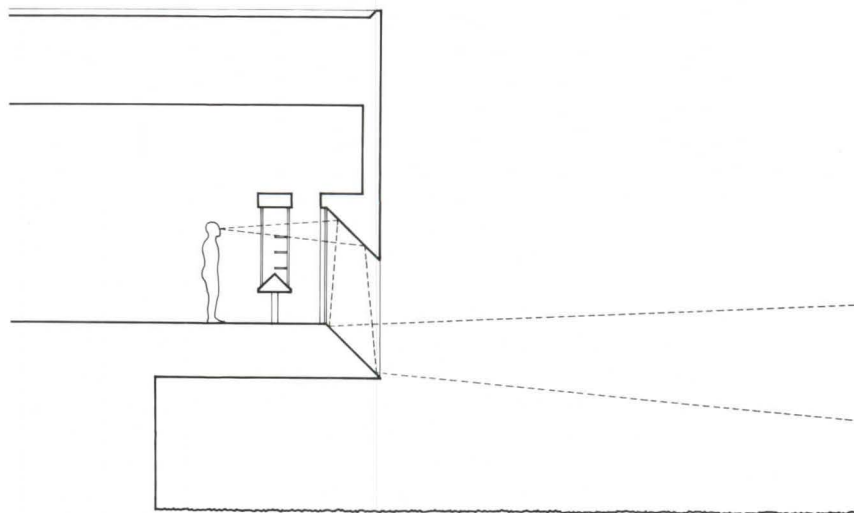
Gunnar Birkerts, FAIA, who had designed a dashing little firehouse near the site, was chosen architect for a new museum, and he was chosen early enough to participate with museum Director Thomas Buechner in the conceptual planning that determined the building's remarkable shape. Part of the concept, translated literally into Birkerts' plan, was that the library was the central information source for the museum's subject. Another part specified the way the gallery spaces were to be used: They should present the evolution of glassmaking chron-



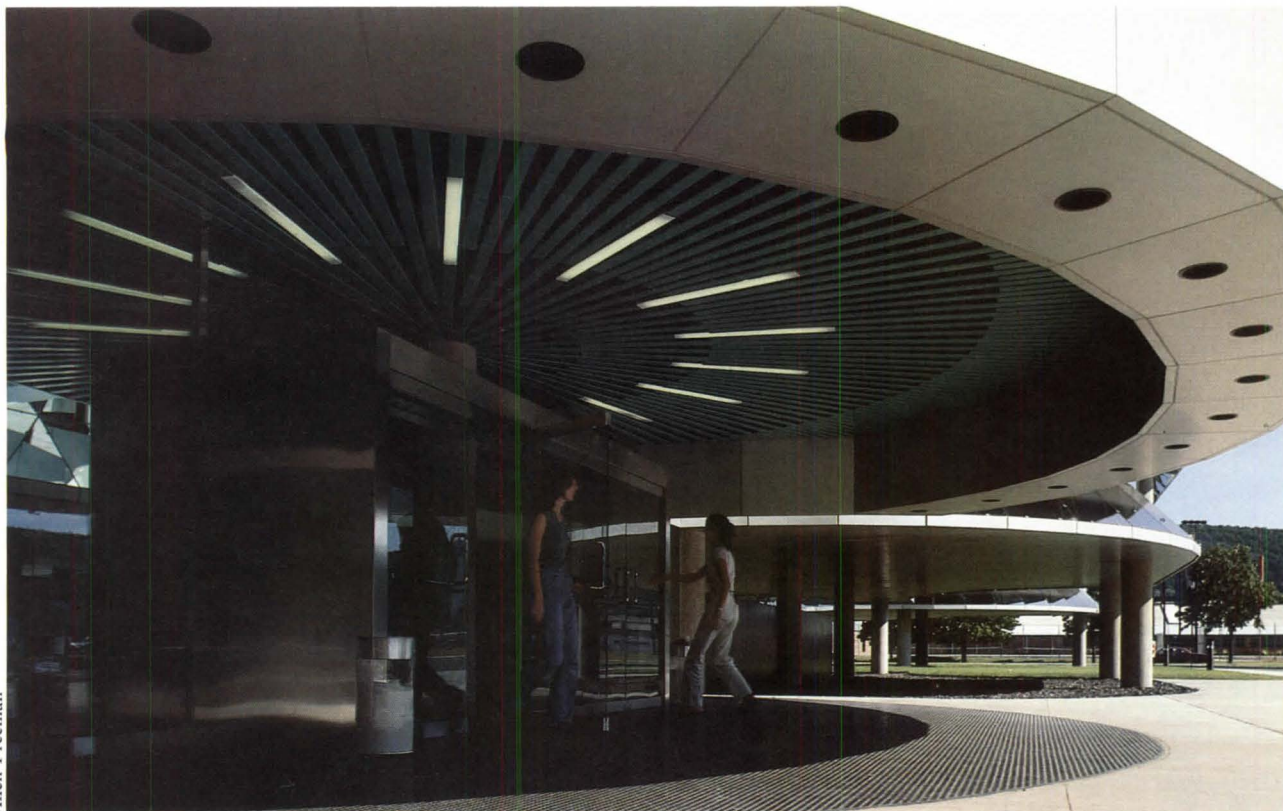
Timothy Hursley/B. Korab, Ltd.

ologically, but they should also accommodate a wide range of viewing tastes and needs—quick surveys of glassmaking highlights for tourists in a rush, but also detailed study of particular areas for specialists and scholars.

Birkerts' ingenious response to these requirements is a series of concentric exhibit areas. The innermost ring, closest to the central library, is the museum's broadest circulation path, and punctuating the path are 12 "masterpiece columns" that display the greatest treasures of the collection, beginning with the oldest, a miniature glass head of Amenhotep II. Opening outward beyond the masterpiece ring are galleries that elaborate on each of the 12 periods represented. Exhibits here (designed by Paul Seiz) are of two types: in display cases for visitors with general interest, and in jam-packed study cases for those interested in seeing many examples of each type. Because the museum collec-



Raised above the flood plain, gallery spaces of the museum radiate from a central library. Diagram at right shows how wall section shields exhibits from direct sunlight, yet provides views of the surrounding countryside reflected by a pair of angled mirrors.



A skirt of mirrors on the curving upper walls.

tions are not equal in size for each of the 12 periods, it is natural that the galleries housing them are not equal in size. The building's eccentric perimeter, therefore, is less whimsical than it appears, and is actually tailored to fit its contents.

Another remarkable feature of the museum perimeter is its wall section. Because direct sunlight might fade colors or perhaps even crack delicate glass objects, it had to be eliminated. Yet there was a strong desire to see the collection sparkling in the changes of actual daylight, and also a desire to visually relate the museum environment to the landscape, dotted with working glass factories, that surrounds it. Birkerts' wall accomplishes it all by means of what he calls a "periscope window" running continuously around the perimeter close to floor level. Over a recessed ground floor (housing only those service facili-

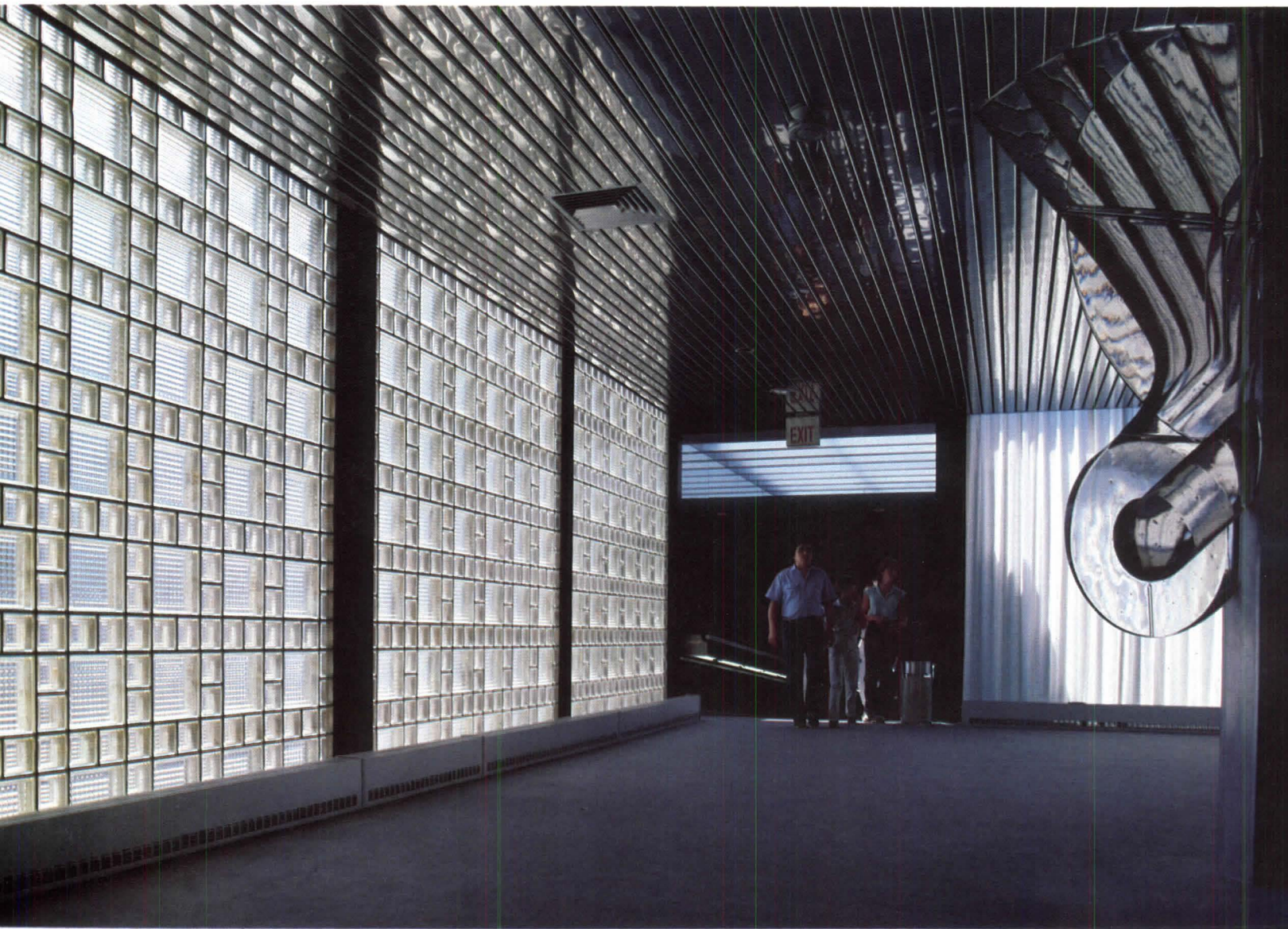
186 AIA JOURNAL/MID-MAY 1981

ties that would not be destroyed by possible future floods), the upper level of the building is skirted with a band of mirrors tilted at 45 degrees. Above an angled slit that terminates in clear glass is an opaque vertical wall surface, and even this has been faced with glass—a custom-designed panel with a textured face and with its back coated with powdered stainless steel. At the very top of this dazzling wall, just one final touch: a thin horizontal band of bright aqua, recalling the color of a glass panel seen on edge.

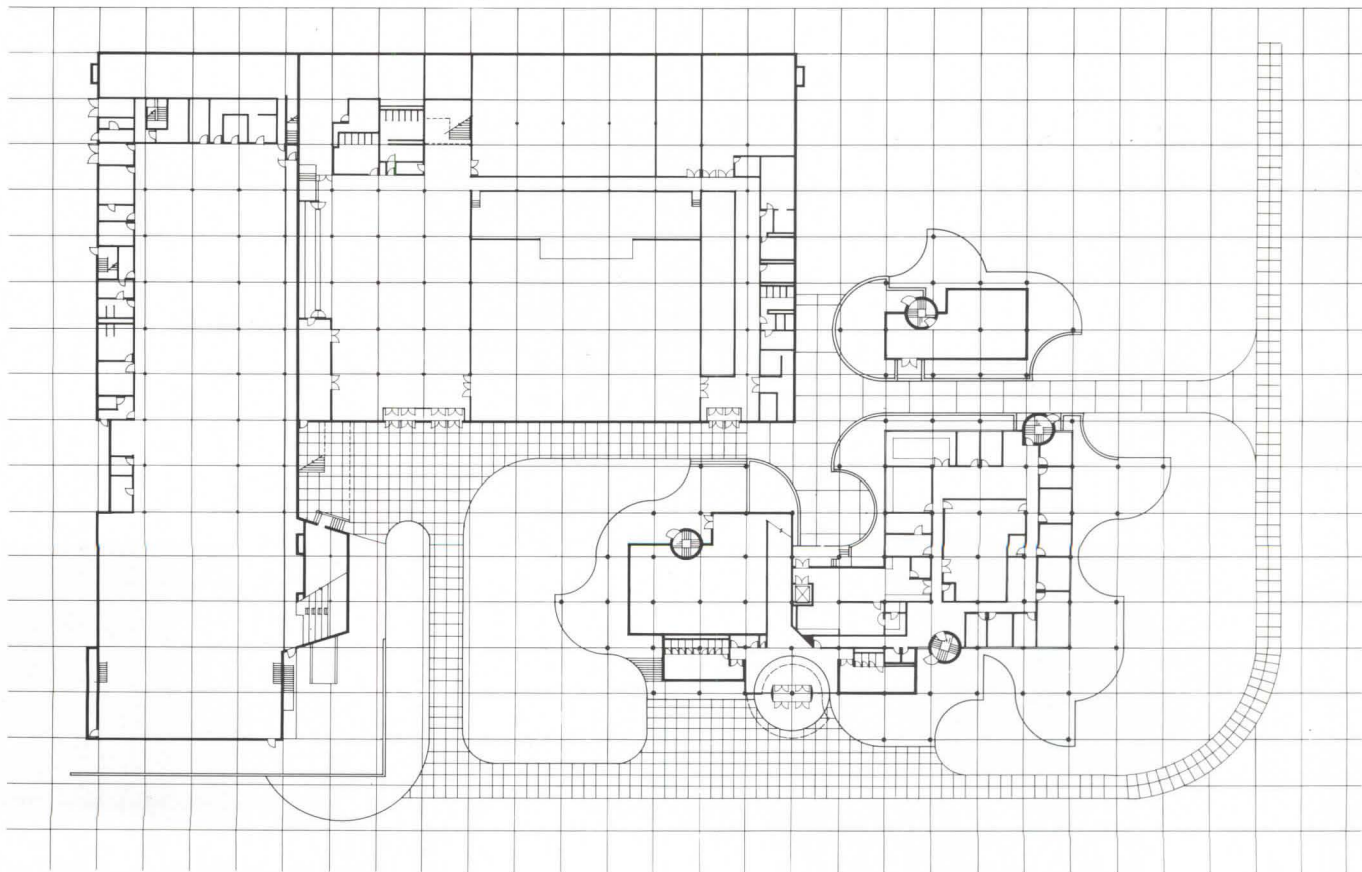
In an impressive variety of intelligent ways, Birkerts has created a museum of glass. □

The circular entrance canopy, seen in both views above, is tucked into a recess of the gallery perimeter. Beyond the entrance, a ramp leads up to a second floor lobby, and from there a glazed bridge, right, leads to the gallery spaces.

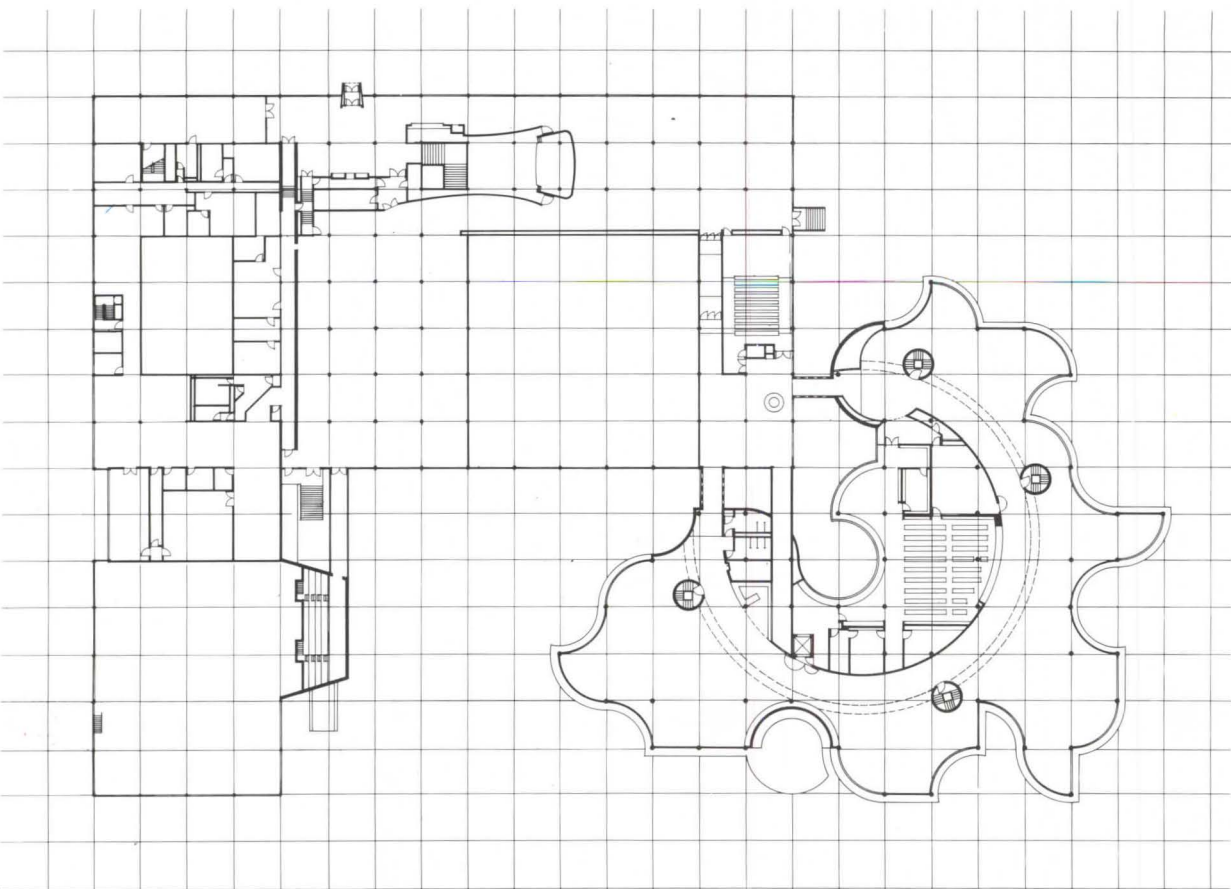




Allen Freeman



Lower level

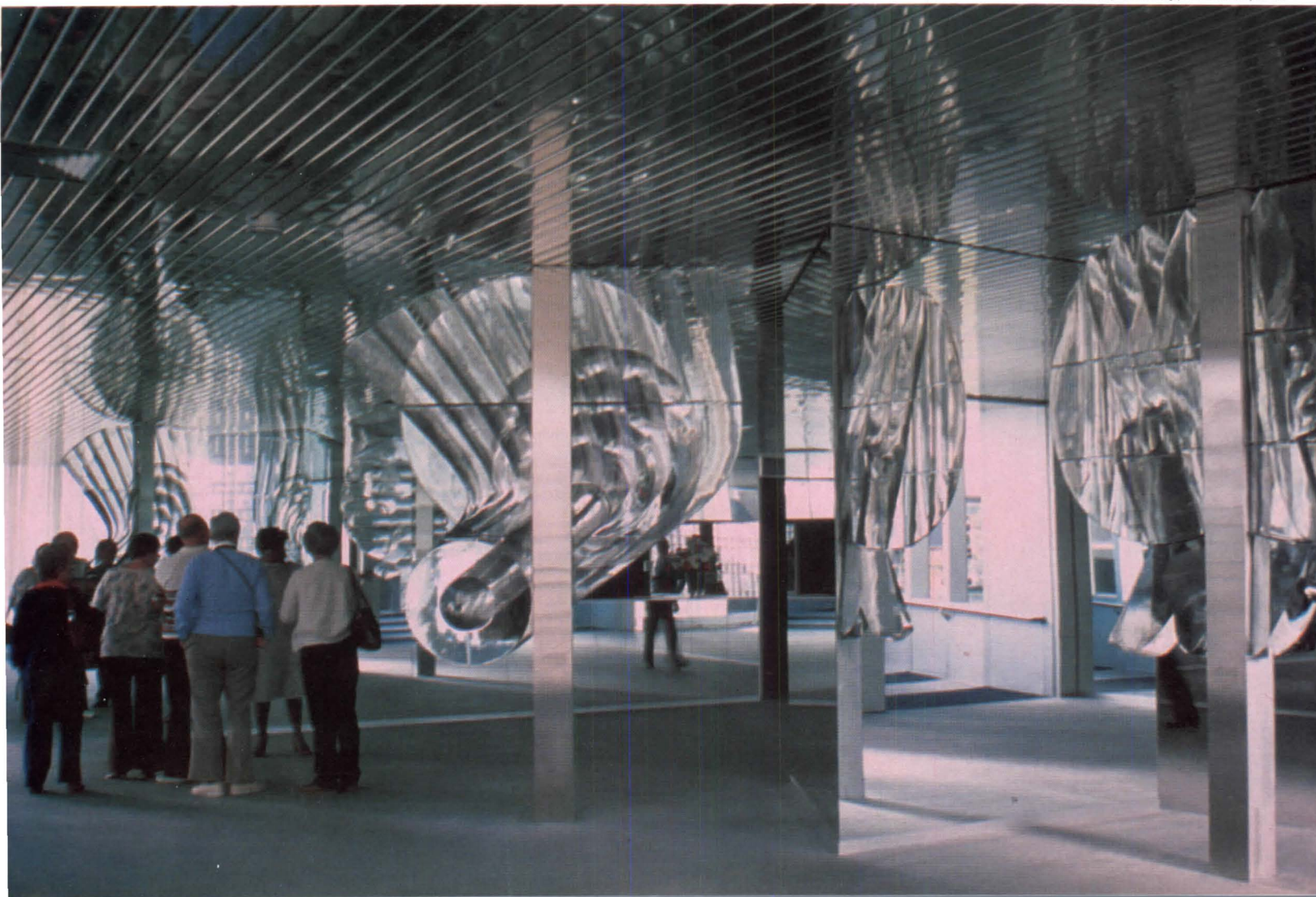


Upper level

The second floor lobby, remodeled from a corner of the original building, serves both old and new facilities. One wall is of glass block, others are mirrored; ceiling is of stainless steel. The glass sculpture, sym-

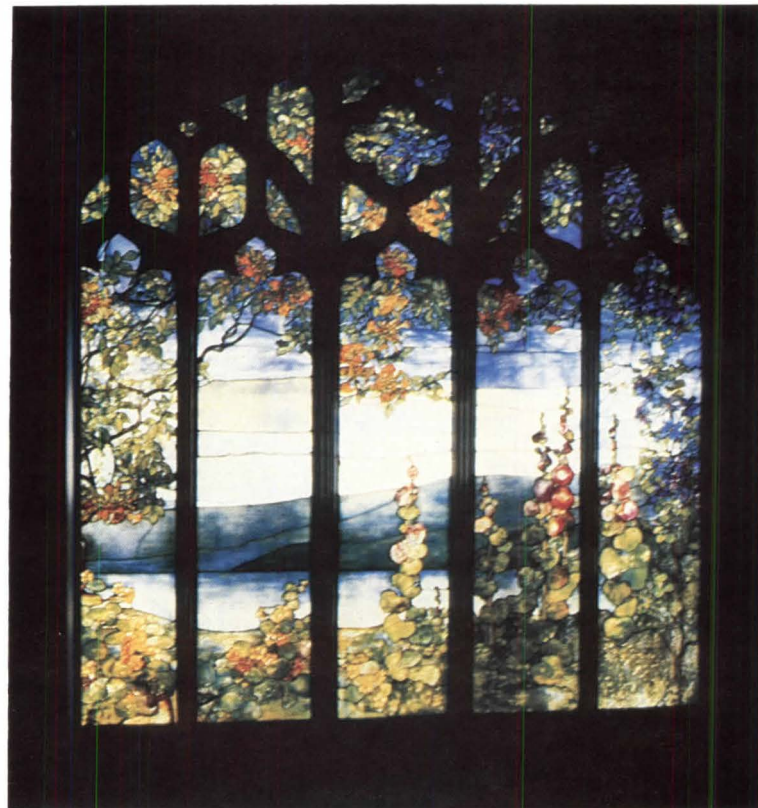
bolizing a meteor, a bird and a flower, is by Stanislav Libensky and Jaroslava Brychtova. Upper level plan shows how clockwise passage through the ring of gallery spaces returns visitors to this lobby area.

Timothy Hurstley/B. Korab, Ltd.





Above and far right, some of the installations against the galleries' curving perimeter wall. Mirrors provide fragmented views of the neighboring glass factories and river valley and provide reflected daylight to make the exhibits sparkle, but prevent direct light that might harm some glassware. Near right, from 'Tiffany's Tiffany,' the museum's first temporary exhibition, a window from Louis Comfort Tiffany's own house at Oyster Bay, Long Island.

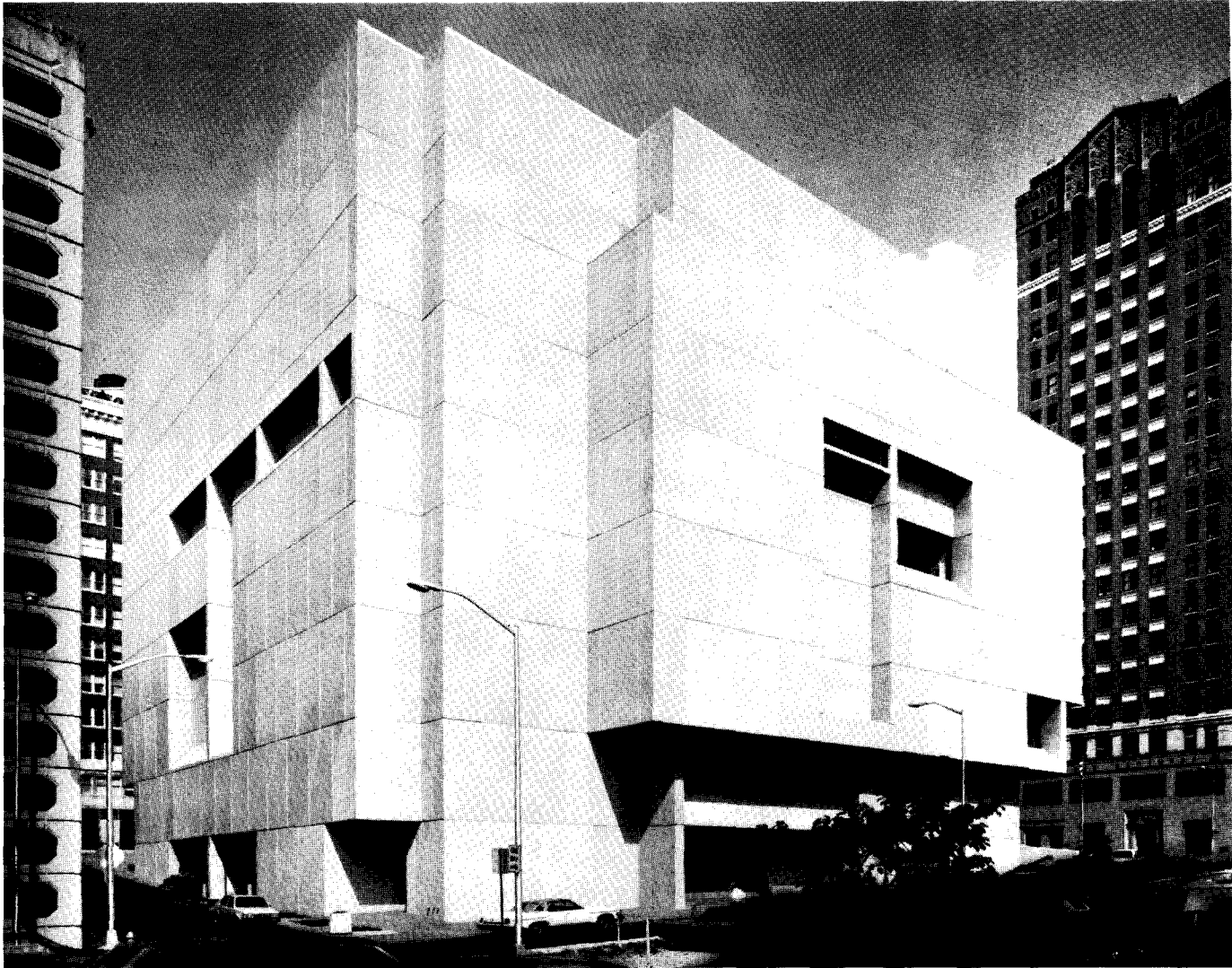


Stanley Abercrombie, AIA

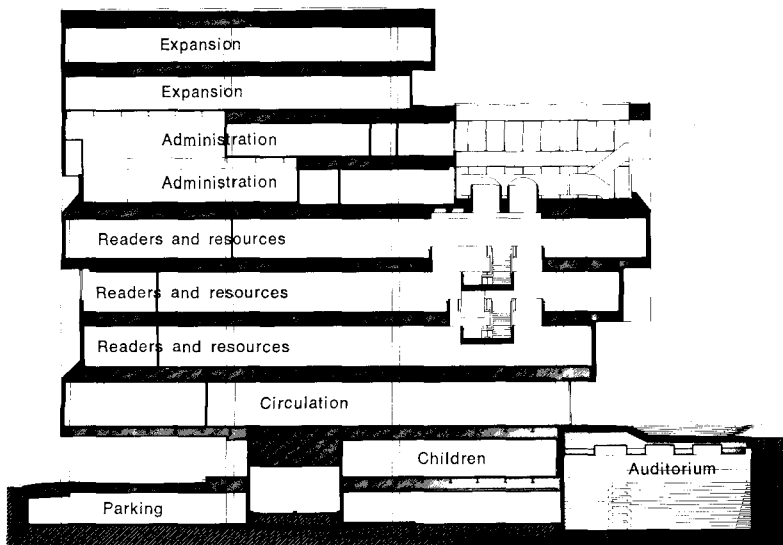


Burly Presence on a Significant Site

Atlanta Central Library, Marcel Breuer & Hamilton Smith with Stevens & Wilkinson. By S.A.

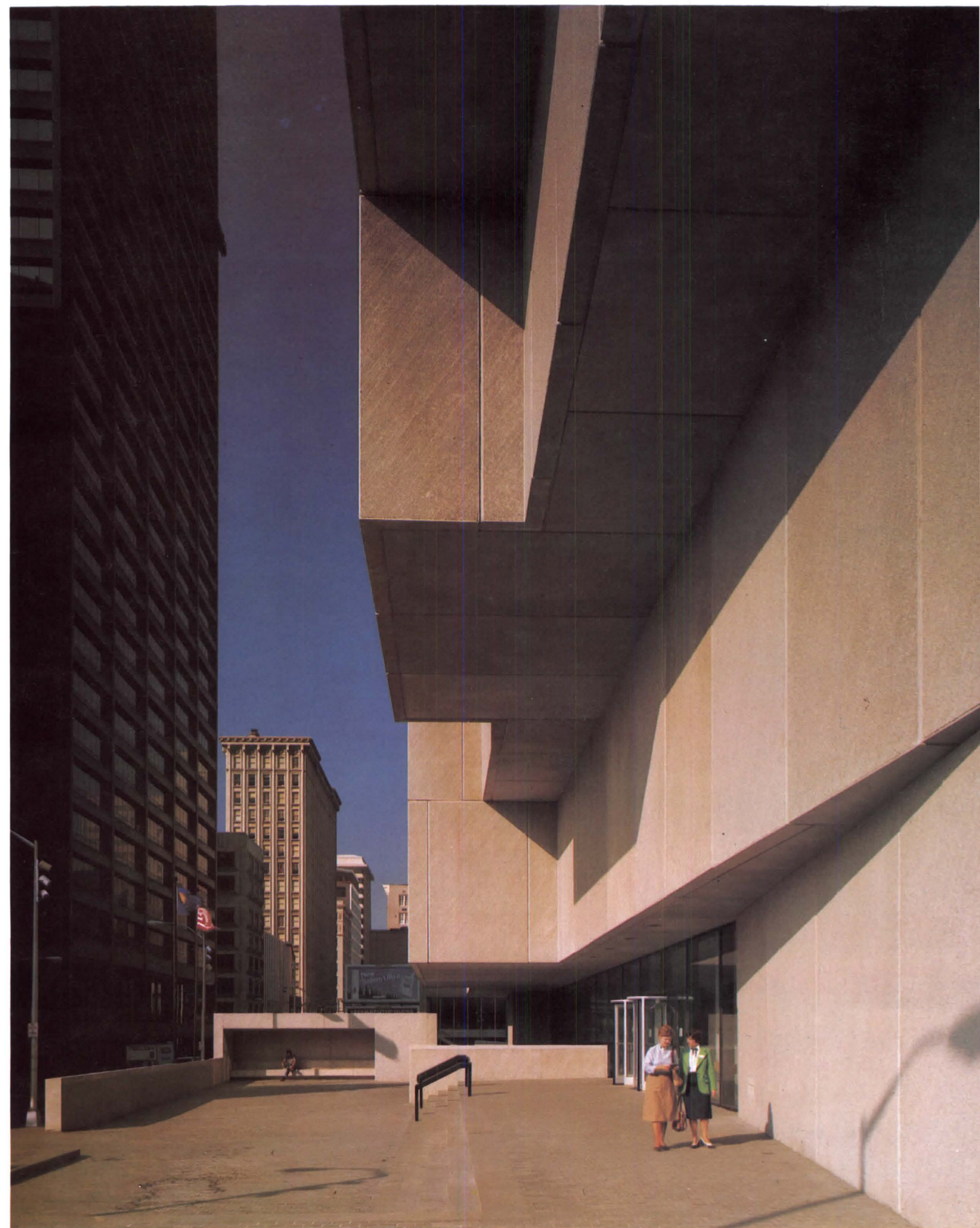


Photographs by Rick Alexander



This is the very heart of Atlanta: the intersection where Peachtree seems to splinter into a fan of other streets. At one corner is the venerable Candler building, one of the city's earliest large office blocks (named for the family of a local druggist who concocted something he called Coca-Cola). At another corner once stood the Loew's Grand theater, scene of the premiere of "Gone With the Wind," (now the site of the Georgia Pacific tower by Skidmore Owings & Merrill). At another, a central station of Atlanta's rapid transit system is under construction. And at still another there was, until recently, a diminutive neo-classical library faced with white marble—an agreeable little building, but one grown hopelessly inadequate for providing the services Atlanta needed. These could have been relegated to a less densely developed area, of course, with the old facility used as a branch library, but the city authorities decided to help strengthen both the library and the business district by keeping the central location and replacing the building.

Its replacement provides the needed services, with expansion room to spare, and also provides a visual focus for the area. Big





Stanley Abercrombie, AIA



Rick Alexander

Complex composition reminiscent of the Whitney.

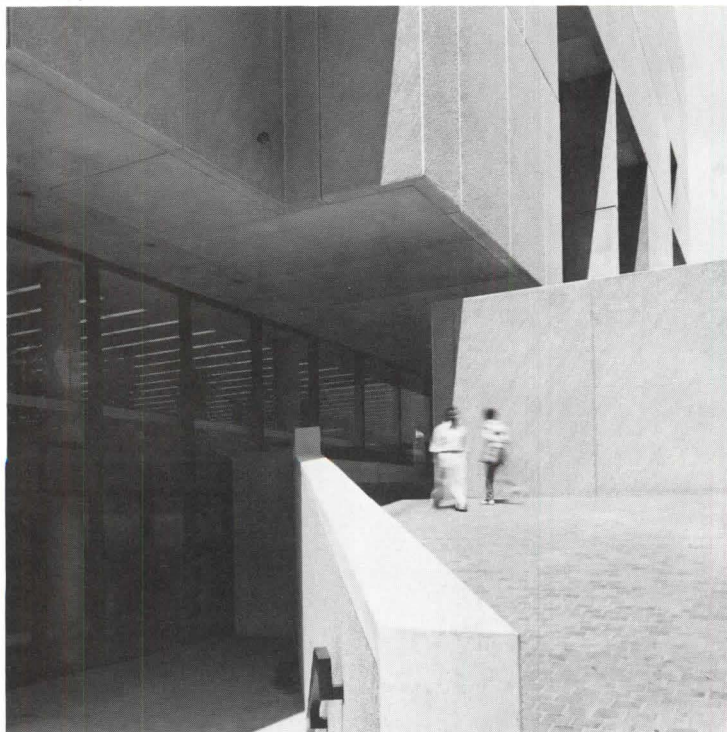
compared to the previous library, it is still considerably smaller than most of its neighbors, but it has a presence that does not depend on size. It is an important design for an important function at an important site.

The architects (Marcel Breuer, FAIA, and Hamilton Smith, FAIA, with Carl Stein, AIA, and Frank Richlan Associates, and with Stevens & Wilkinson associate architects and consulting engineers, William H. Barnett, AIA, partner in charge) have capitalized on the building's freestanding site by providing a composition of robust forms and interlocking setbacks, sheltering sidewalks and street level public spaces and, incidentally, recalling the bold masonry cantilevers of Breuer and Smith's 1965 Whitney Museum. These complex forms respond closely, for the most part, to complex program requirements, but, again as at the Whitney, sometimes also serve as a freestanding screen, punctured for a framed view, around an upper level terrace that is generally unsuspected from street level.

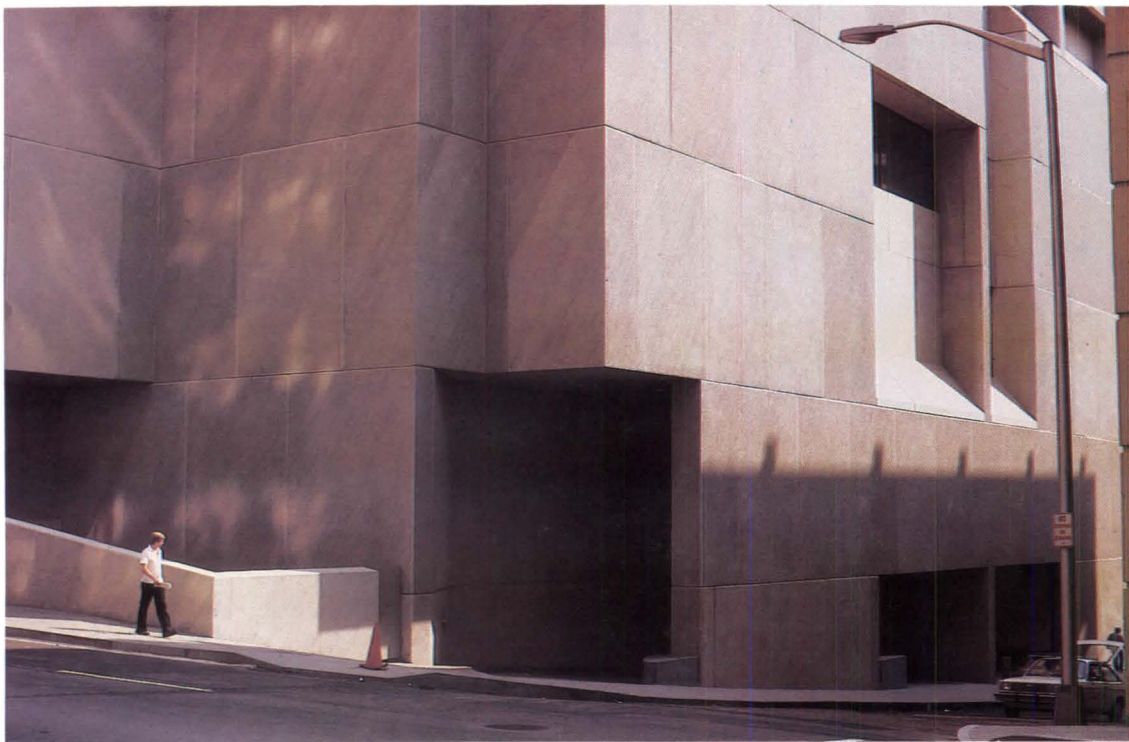
Important to the success of such a composition is the use of an exterior material that has considerable mass, thus dramatizing the cantilevering of weighty parts, and that has the capacity for consistent use in a variety of situations, thus emphasizing the building as a complex monolith rather than as a collection of pieces. The material chosen for a similar task at the Whitney had been granite panels, but these read as a thin screen facing a masonry structure and the cost of such panels able to span from one floor level to the next would have been prohibitive. In Atlanta the choice was precast panels that can, indeed, span the 15 feet between floor levels, that can be given interesting textures with exposed aggregate, that can be formed in L shapes that turn a corner, further emphasizing the sense of a monolith, and that can be used without additional masonry backup.

Inside the library, a major central stair linking the three main reading levels continues some of the volumetric excitement of the exterior, and provisions for a million volumes, for auditorium, conference and exhibition space, and for a wonderland of electronic equipment are all a modern library could want. □

An opening in the main facade, top left, provides a downtown view for the staff's roof terrace, top. Top right, a corner of the structure cut away for a drive-in book drop. Left and right, views of the main entrance plaza; beyond a freestanding bus shelter, stairs lead to the lower level children's library.



Rick Alexander



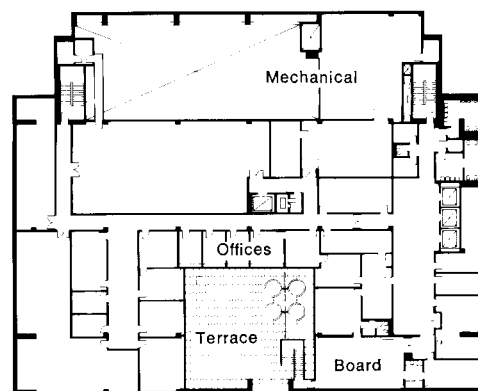
Stanley Abercrombie, AIA



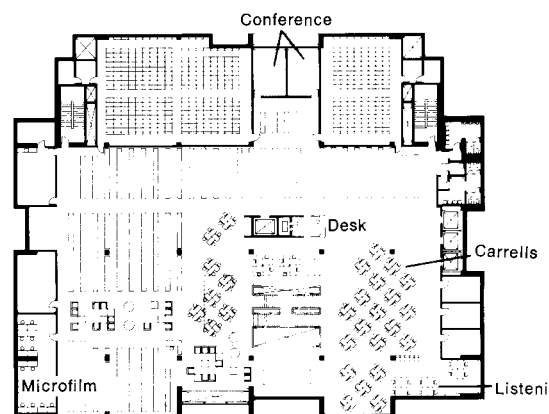
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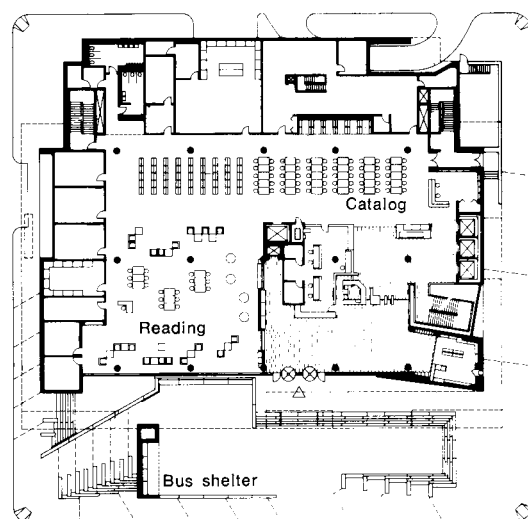
Above, an area on the lower level for young readers; a story-hour alcove is in the background. Below, a stair near the main entrance that gives access to the lower level and the second floor. Right, the skylit central stair that connects the reading rooms on the second, third and fourth floors and provides a sense of openness at the heart of the building. At both stairs, concrete surfaces—some bush-hammered, some with form board marks exposed—are warmed by massive oak handrails.



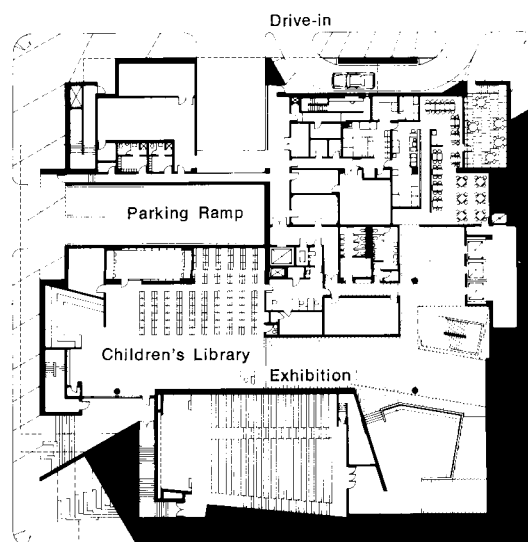
Sixth floor



Third floor



Ground floor



Basement



Photographs by Rick Alexander





University Arena Finely Crafted of Brick

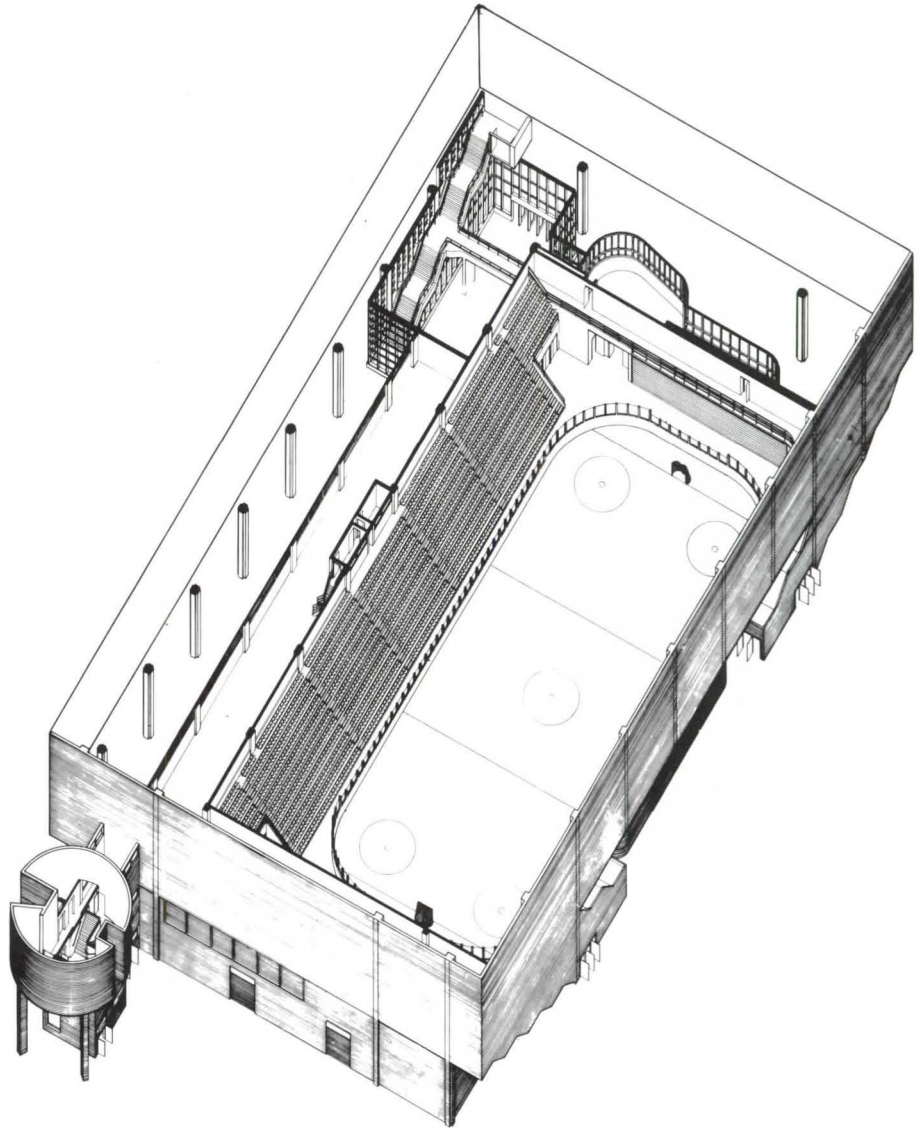
MIT Athletic Facility, Cambridge, Mass., Davis, Brody & Associates. By A.O.D.

The firm of Davis, Brody & Associates is known for urban design work sensitive to context and social needs. The architect has put these skills to good use in this gymnasium on MIT's west campus. Before completion of the project, the quadrangle containing Aalto's Baker House dormitories, Eero Saarinen's Kresge auditorium and chapel plus an undistinguished concrete student housing block leaked onto a shapeless greensward. Davis, Brody's two-story athletic building and special events center, the first phase of a two-stage project, was intended to define and contain the quadrangle, blend respectfully with the Aalto and Saarinen structures while creating an architectural statement of its own expressing "more than jockville," as Lewis Davis, FAIA, puts it.

The large brick building, with expanses of clear and block glass on its first floor, echoes surrounding structures in color, texture and roofline. A 50,000-square-foot, second story field house cascades via outside stairs echoing those of Aalto nearby over a smaller, 30,000-square-foot volume serving as hockey

rink and site for commencement exercises and other events. The building's large, mostly windowless mass is reduced by lifting it onto cruciform-shaped piers that create an arcade linking the gymnasium to neighboring buildings and walkways. The vertical line of the piers is extended on the second story by stripes formed by small bricks edged with a straight, thick line of mortar, which further break down the building's large volume and add interest to the facade. Except to differentiate piers and their vertical extensions and the cupola-like structure containing services for handicapped on Vassar Street to the north, Davis, Brody has used its characteristic jumbo bricks throughout. The cage-like cupola is intended to give the northeast elevation residential scale.

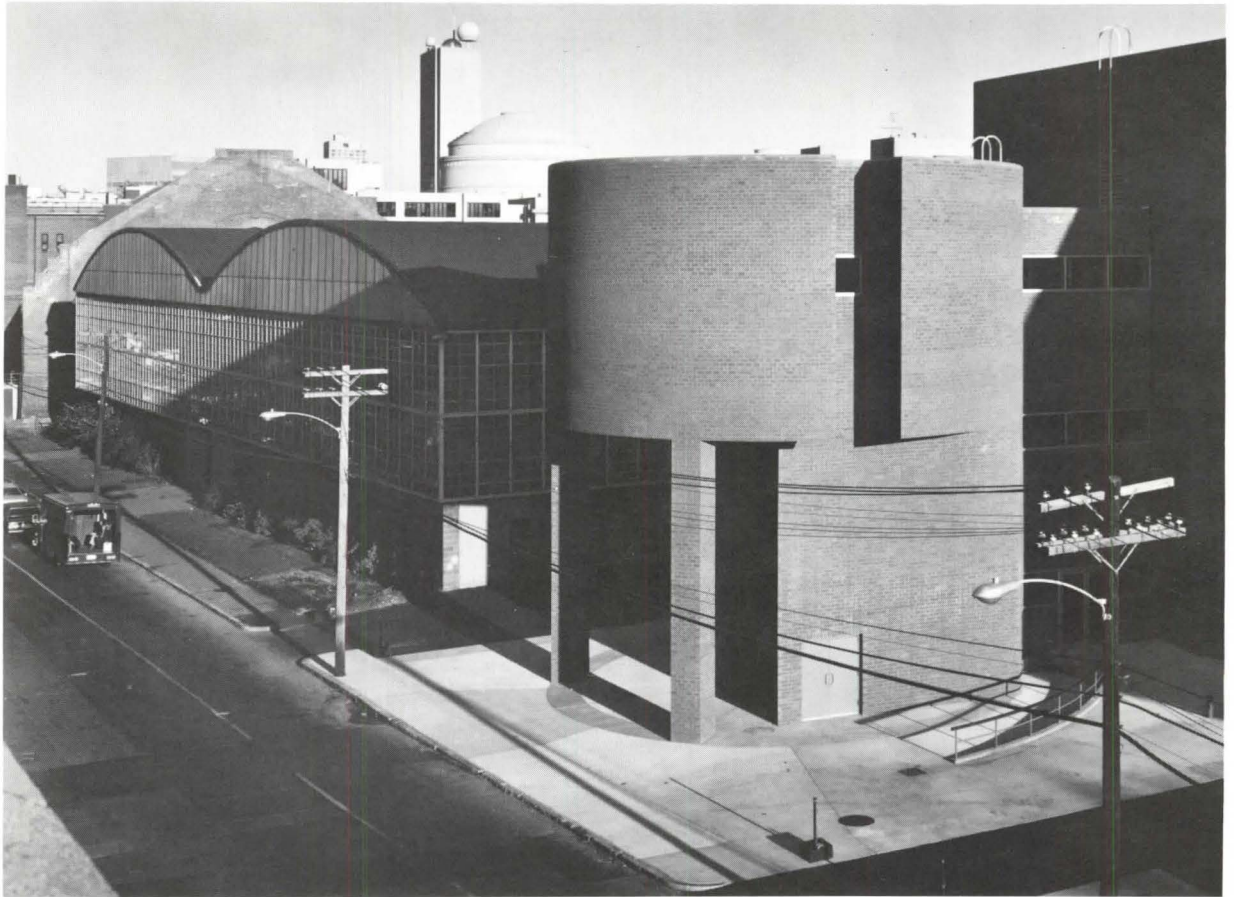
The glassy, double height lobby overlooking Kresge and Baker is unusually light and airy for a gymnasium and spruced up with interior trees. Detailing and workmanship outside and in the building is superior, especially for a structure costing \$50 per square foot. □



Photographs by Nathaniel Lieberman © 1980

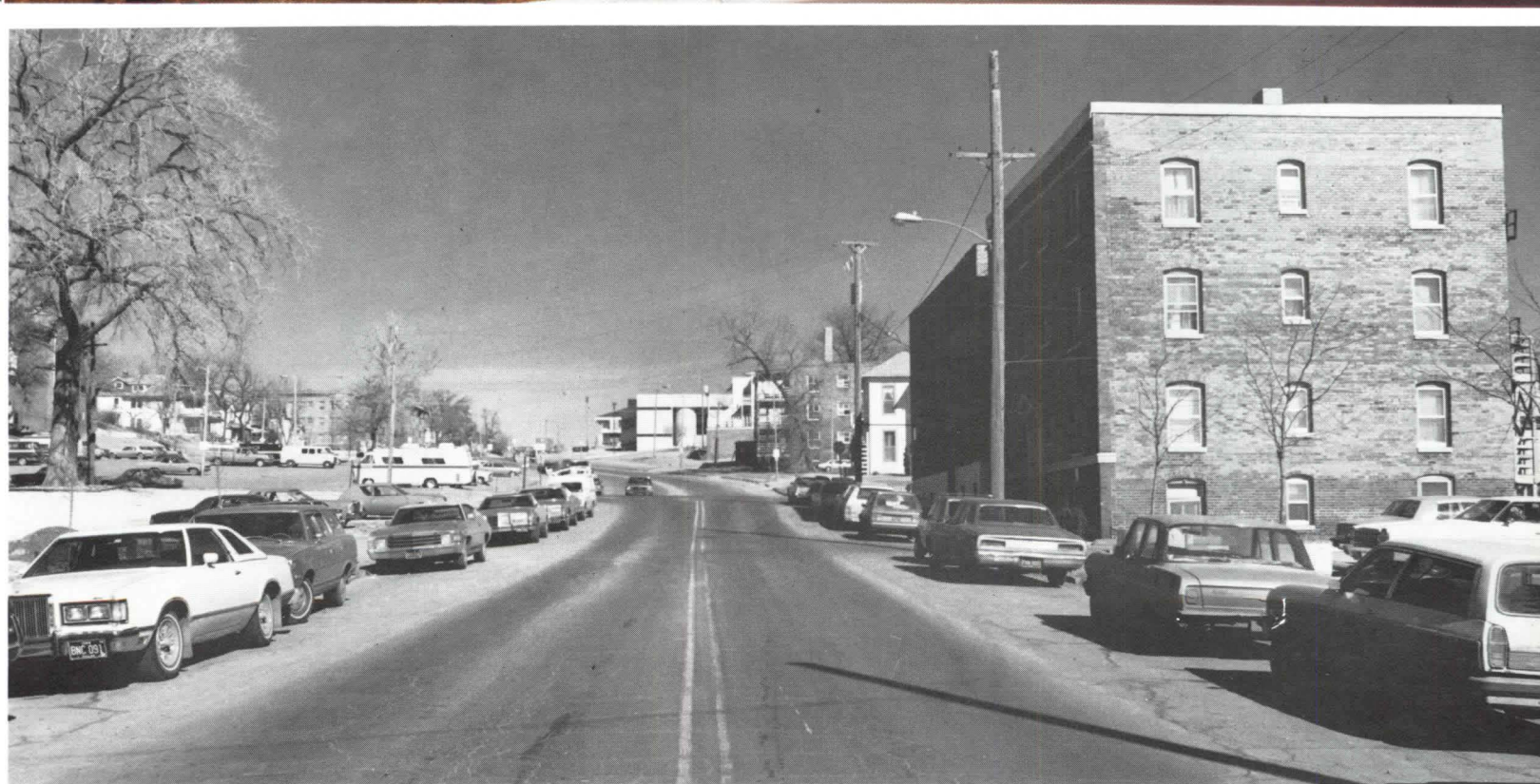
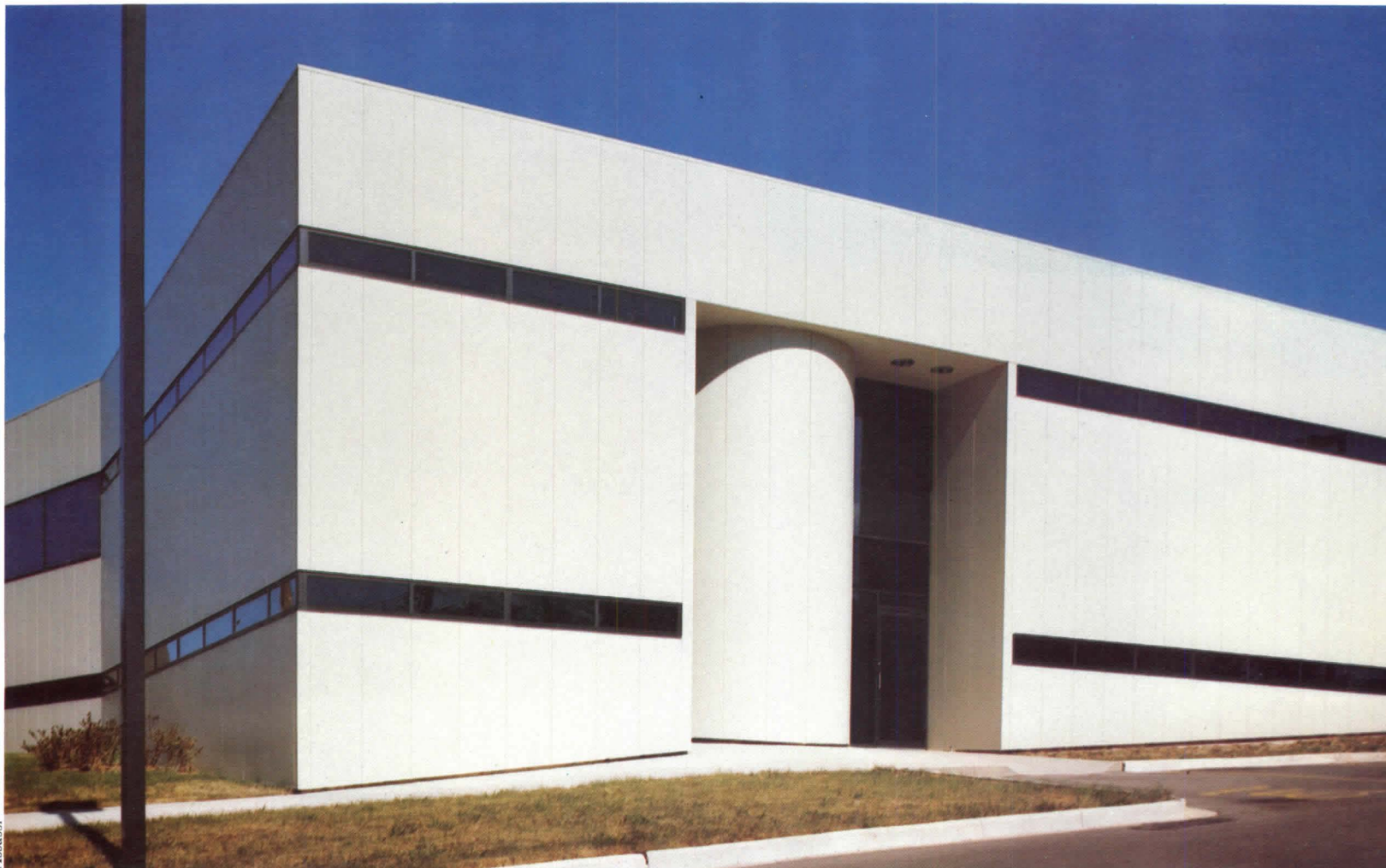


The cupola (below) gives residential scale; though Rockwell Cage field house next to it will be demolished for new squash courts, it will be recalled by the cage-like entrance. The glassy lobby expresses far more than 'jockville.'



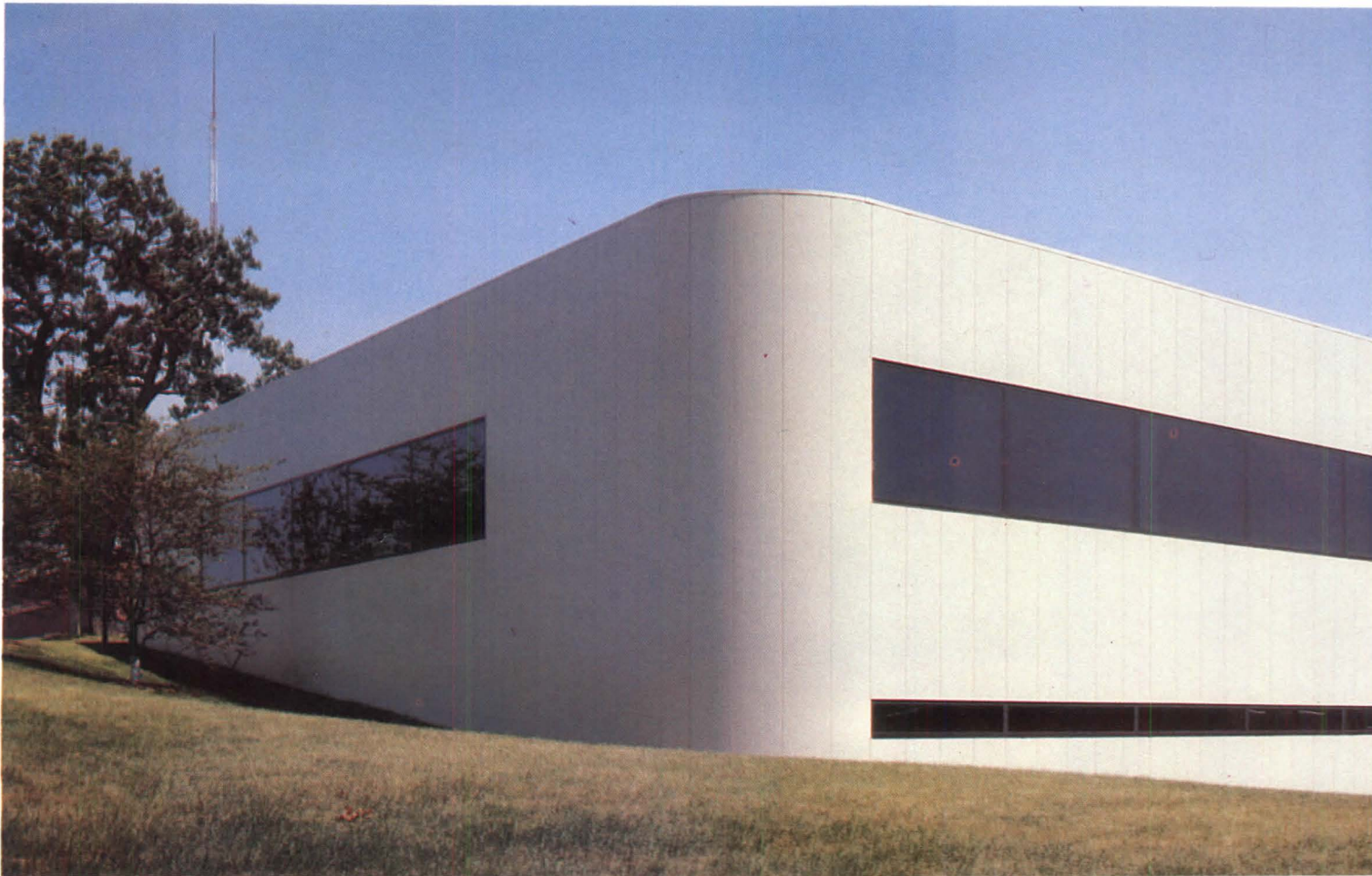
Photographs by Nathaniel Lieberman © 1980





Sleek Object in a Shaggy Neighborhood

Des Moines Medical Building, Charles Herbert & Associates. By Nora Richter Greer



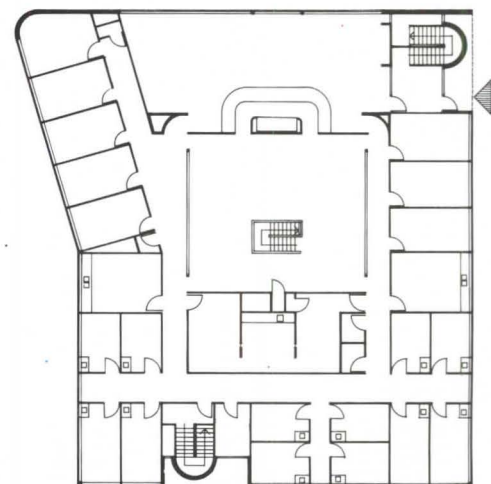
Located in Des Moines between lowrise hospital service buildings and an older neighborhood of multifamily and single-family houses, this speculative medical office building links the two environments both physically and symbolically. Its crisp, white image reflects the medical profession's garb and is in sharp contrast to the houses' shabbiness. Yet the medical building respects the scale of the residences.

Each level of the center has its own entrance, helping individual tenants to think of the building as their own, a design device often used in town house developments. Since the site slopes 20 feet down from its highest point, separate entrances to both floors could be placed at the parking lot level. At each entrance are exaggerated cylindrical forms that house staircases (photo right and preceding page).

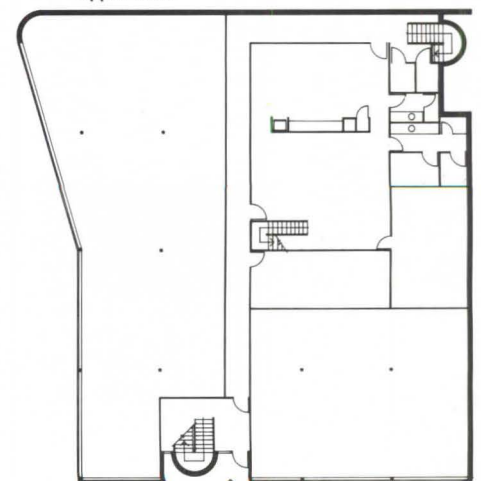
The building has a lightweight steel frame with bar joists and metal deck. Stretched tautly around the frame is a skin of foam insulated metal panels and gray insulating glass. Architect was Charles Herbert & Associates of Des Moines (D. Bryan Shiffler, AIA, associate in charge) and client was the Sherman Hill Real Estate partnership.

The fenestration varies with the interior plan. At each entrance, the glass is recessed for weather protection. At the office and reception areas, the glass extends from the ceiling to desk top level. At the examination rooms, the windows are six feet, six inches above floor level, providing privacy for patients while admitting natural light.

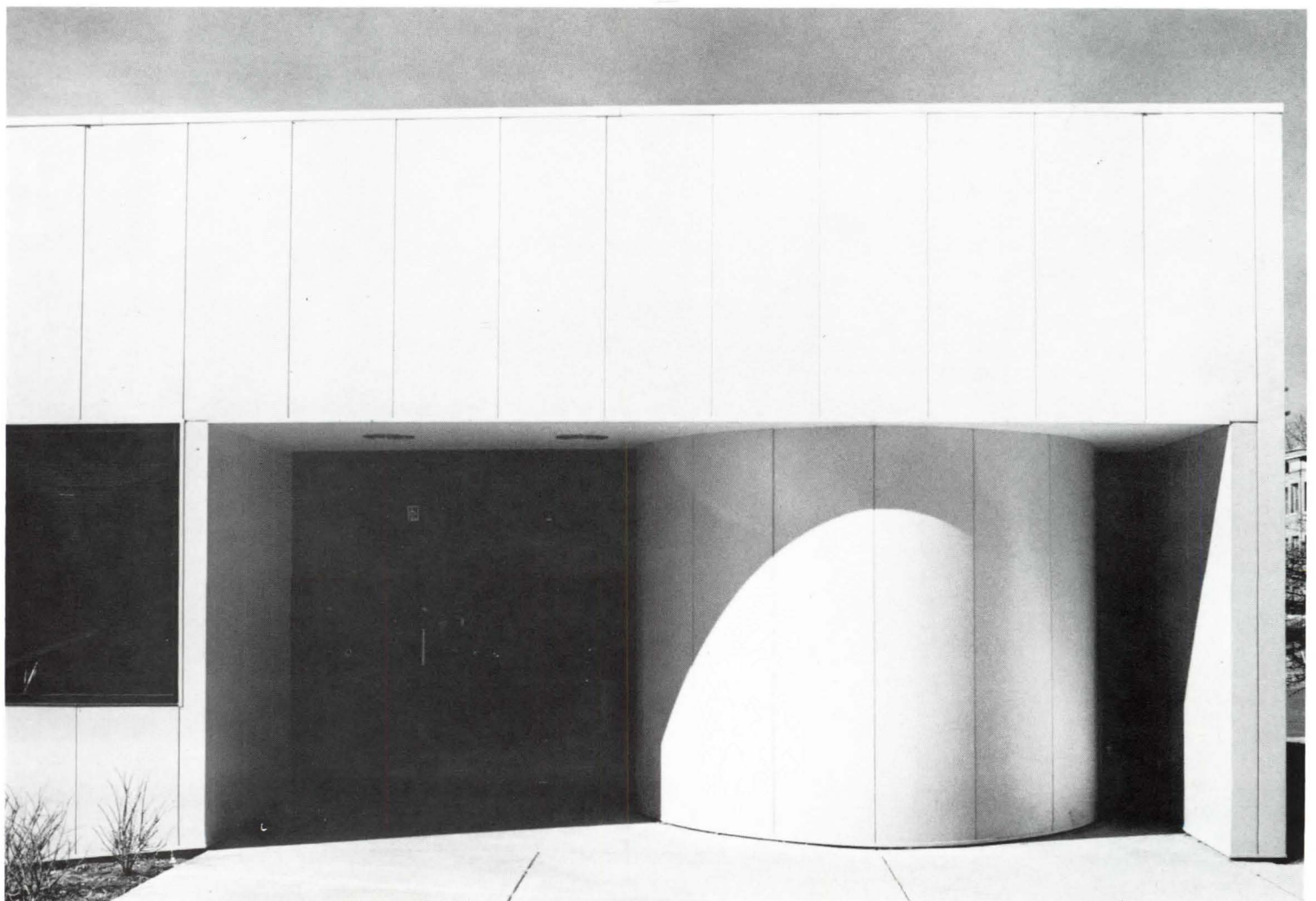
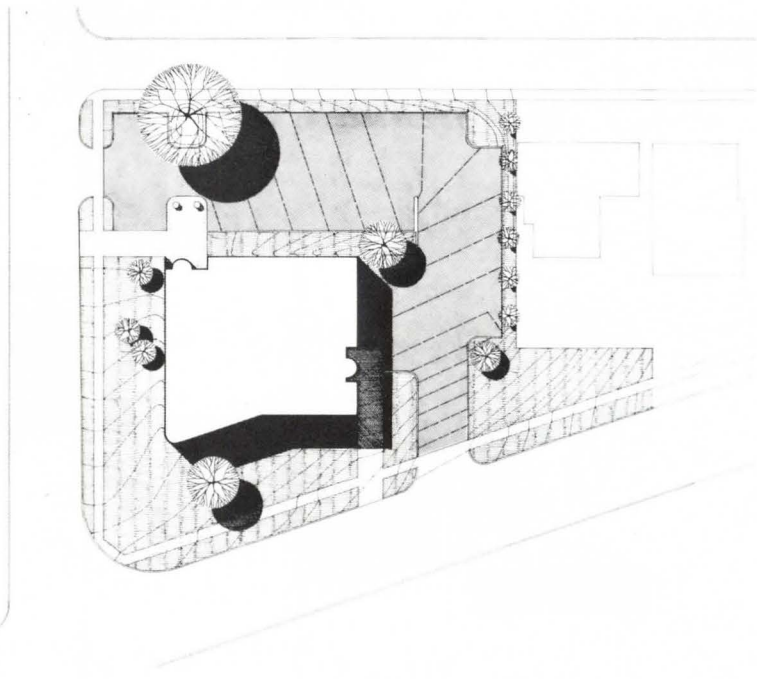
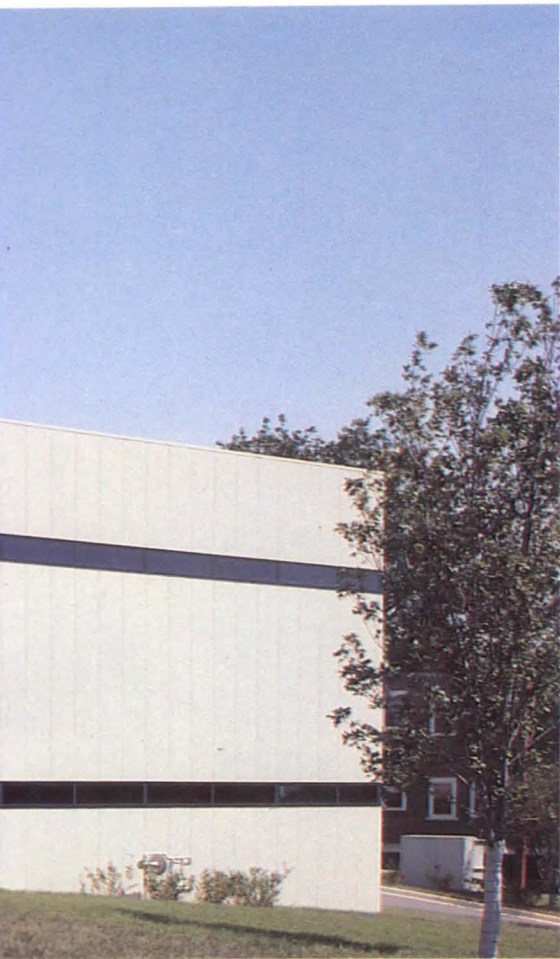
The lower level was designed with open rental spaces and the second level was planned for use by eight doctors, of whom only three will receive patients at the same time. Twelve examination rooms are clustered in three pods "to save the doctors distance and time traveled between patients," in the architect's words, and eliminate long impersonal corridors. Common rooms—such as the X-ray suite, restrooms and secretarial area—were placed in the center of the office. □



Upper level

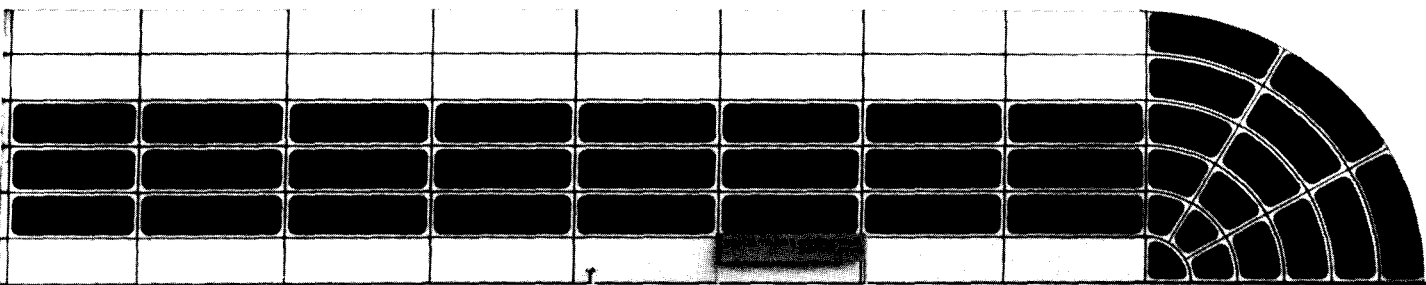


Lower level





Photographs by Sadin/Karant



Streamlined Bank in a Chicago Suburb

Newman/Lustig's Skokie (Ill.) Trust and Savings Bank. By N.R.G.

In elevation it looks like something that should have wheels, perhaps a 1930s streamlined train. In reality it is the Skokie Trust and Savings Bank by Newman/Lustig & Associates, Chicago. And it is indisputably the biggest architectural event ever to occur on Dempster Street in Skokie, Ill., a typical suburban strip with cars speeding through blocks upon blocks of nondescript fast food joints, small shops, gas stations.

The client's requirements were straightforward: The building (a "branch banking facility" in the parlance of Illinois law) was to be distinct in appearance from its competitor, the First National Bank of Skokie's exposed concrete building a few blocks away; it was to "express a progressive image," and it was to be capable of taking on a second story.

Of utmost importance to the designer was to keep the bank's exterior uncomplicated, so that its image would register quickly on passersby. The first idea was a skin entirely of glass. But an exterior of anodized aluminum sandwich panels with windows of tinted glass was chosen because of its lower cost. It could also be easily matched on a future second story. The paneled design was intended as "a clear and precise image," in the architect's words. The glass is held in place by neoprene extrusions curved at the corners to relate them to the shape of the entrance, the building's most distinctive element.

The entrance is a 20x30-foot Plexiglas greenhouse (photo left). Spanning it are two wind braces consisting of three tubes bundled in a triangular pattern. To the immediate left is a piano shaped opening surrounded by a metal railing that admits natural light into the lower level. Encircling the opening is a custom-designed plastic laminate check writing counter.

While the exterior is striking but rather stark, the interior is light, airy and warm. It is basically a 5,000-square-foot room with an open plan and seems larger than expected. The walls are of white baked enamel with a glossy finish, held together

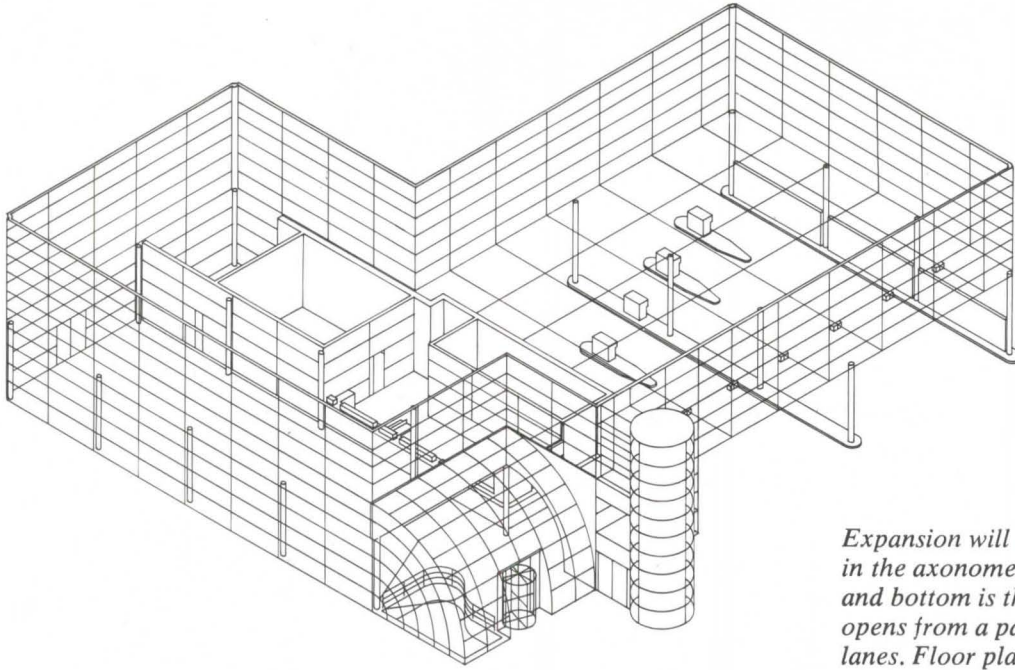
inside and out by neoprene gaskets. The hard surfaces are softened by an abundance of natural light, making artificial illumination unnecessary on bright days. And the entry tile flooring leads to a carpeted area with mahogany work stations that further quiets the room. The mahogany work stations were chosen over metal by the client because the dark wood more closely adhered to a banker's conservative image.

The five teller stations are aligned along the right-hand wall. Beyond is a large vault room with expansive windows, which provide privacy without interrupting the interior's openness. When the bank's operations expand (the building now has 15 employees), the vault will be moved to the lower level and the teller stations can easily be enlarged.

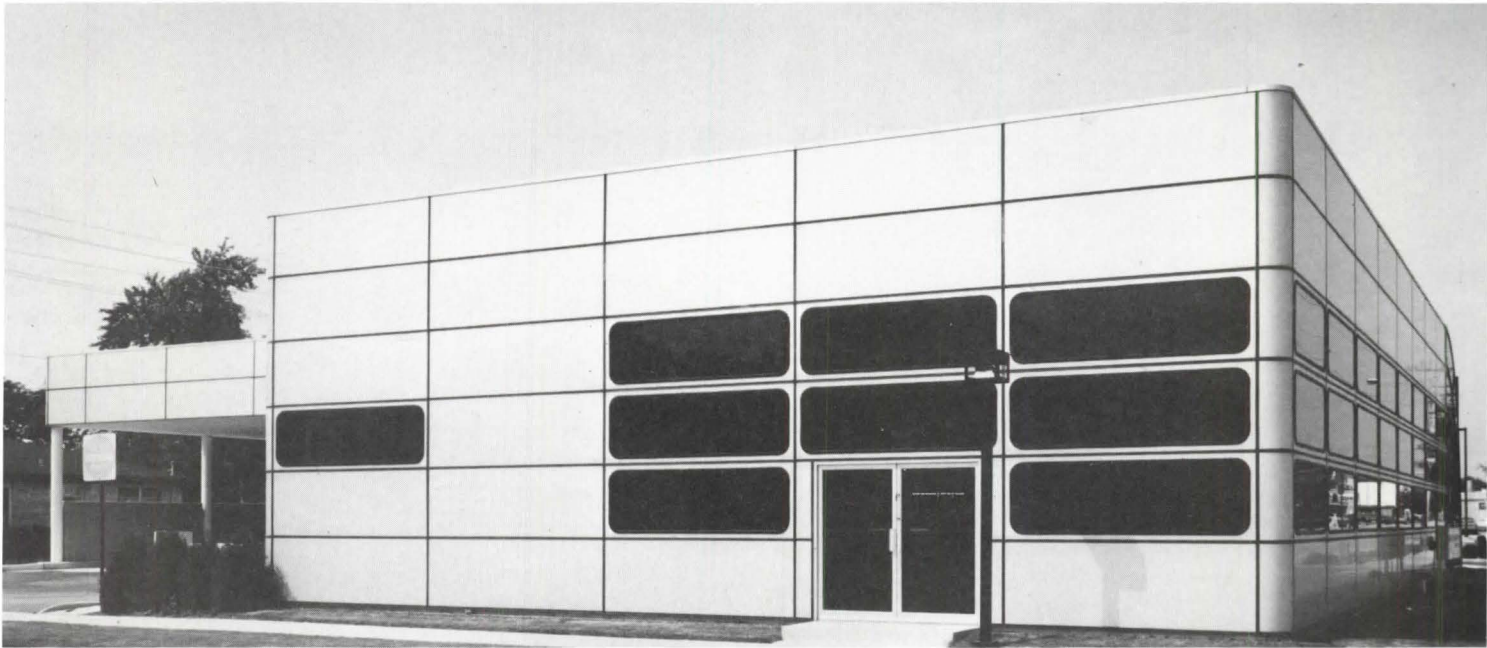
To the left of the glazed entrance is a small room with a night depository, walk-up teller and separate entrance. The space can be closed off from the main service area by a sliding glass door (photo left looking from the depository to the entrance). Stairs lead down to the lower level that currently houses a computer room, employee lounge and two large empty spaces, one of which is partially used for the indoor garden visible through the piano shaped opening.

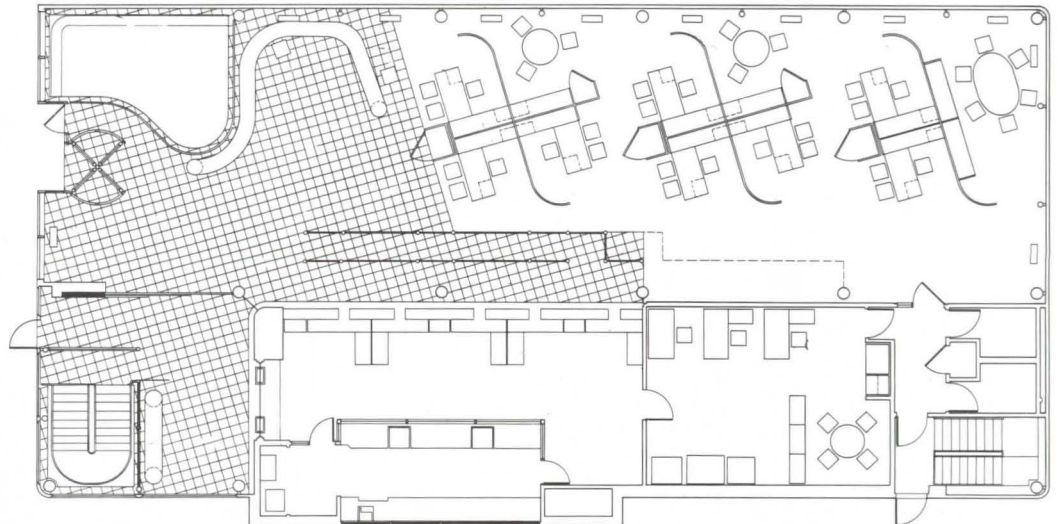
The building sits at one end of a block-long site, to allow for the maximum amount of parking and offstreet access to the drive-in. From Dempster Street, the glazed entrance appears only as a semicircle (above). Facing the parking lot is the entrance, night depository and six drive-up windows that cover approximately 5,000 square feet.

Since the building opened early last year, it has been likened to a greenhouse, car wash or bowling alley. One can also find allusions in it to modes as different as Japanese architecture and Richard Meier's similarly clad Bronx Development Center. More importantly, it creates a sense of quality and excitement on Dempster Street. □



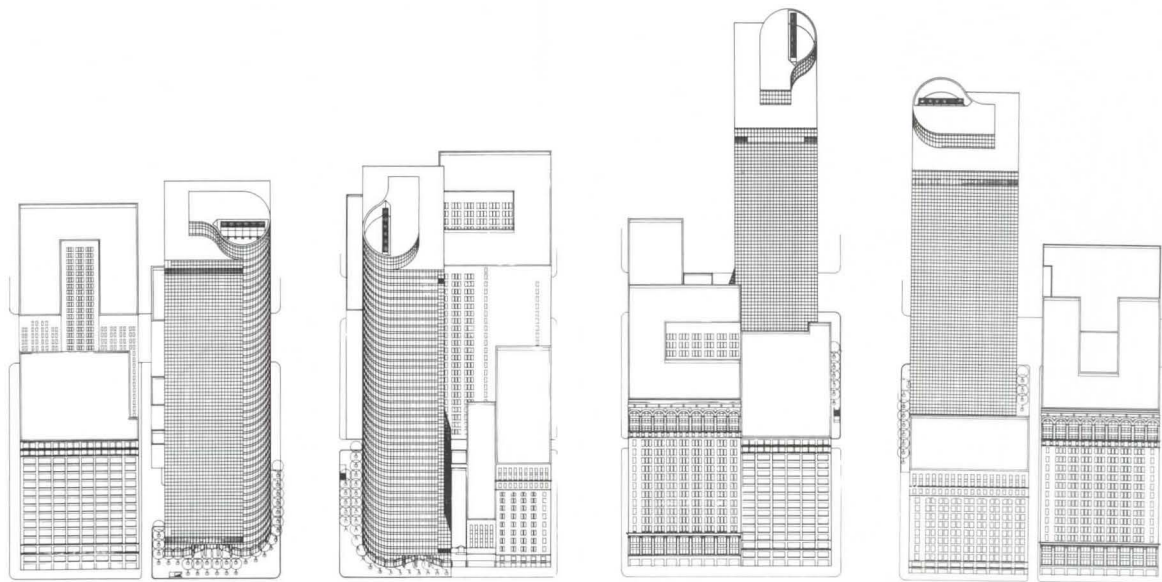
Expansion will be by addition of a second story, as shown in the axonometric. Photo below is rear entrance. At right and bottom is the piano-shaped main entrance, which opens from a parking lot and abuts the generous drive-in lanes. Floor plan shows main banking area.





Photographs by Sadin/Karant





Curving Around a Crucial Corner

Xerox Centre, Chicago, C. F. Murphy Associates. By S.A.

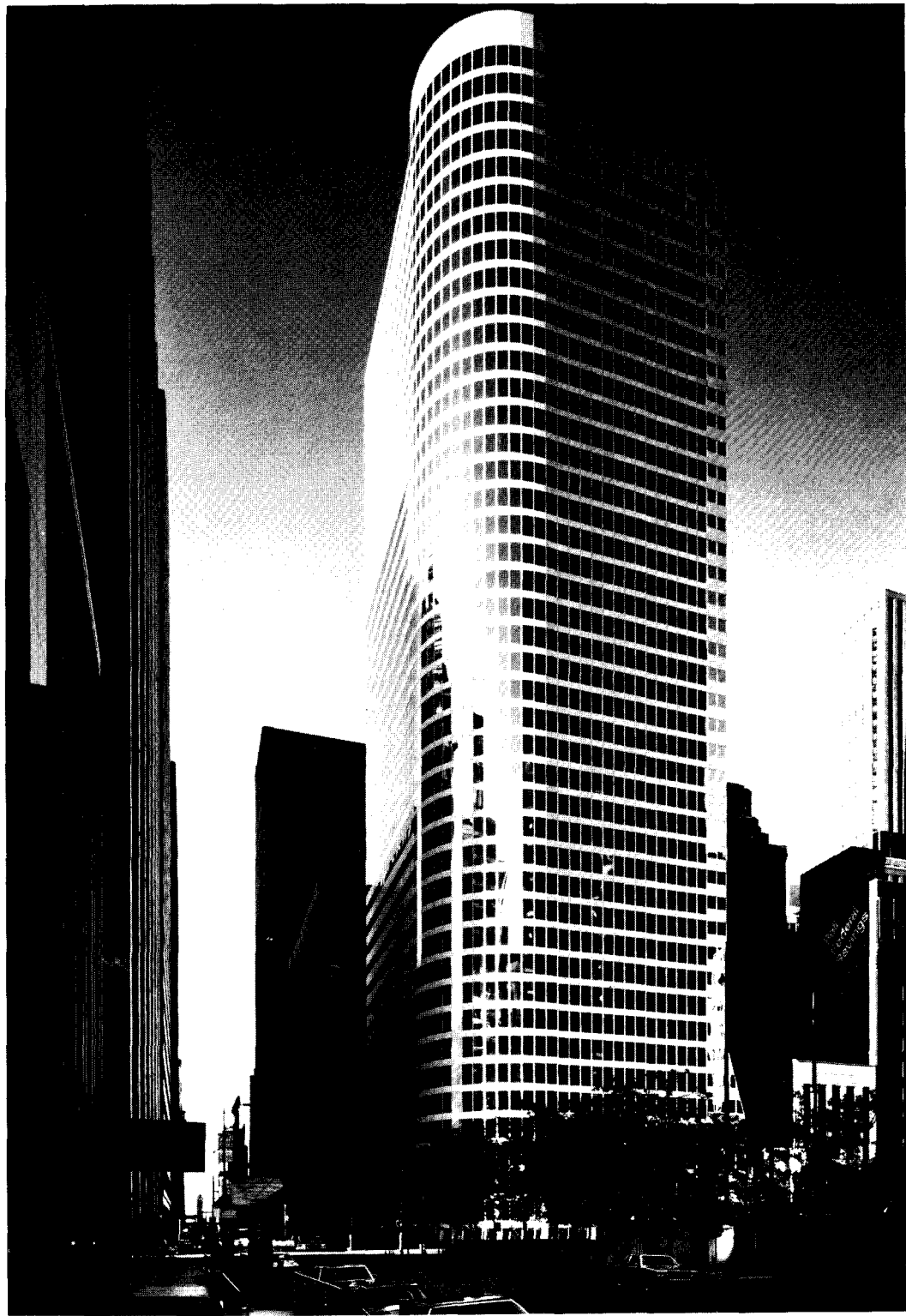
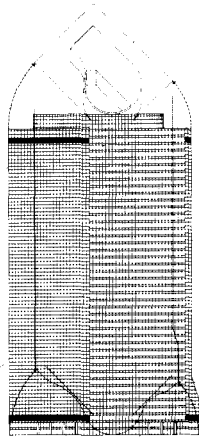
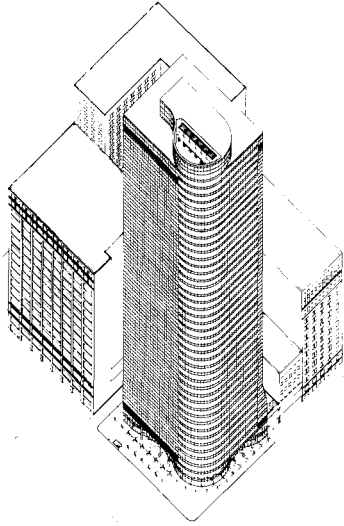
This building and the building that follows it are both examples of a building type notorious for its Philistinism and expediency, the speculative office building—or, to use a slightly less pejorative term, the investment building. But these two buildings beg no special consideration because of budget restrictions.

Xerox Centre is in a location, in fact, that precludes any such lowering of criteria, for it is surrounded by examples of the country's finest office buildings. At the intersection of Dearborn and Monroe streets in the heart of Chicago's Loop, the Xerox site is a block north of Mies van der Rohe's Federal Center of 1964-'73, immediately north of Holabird & Roche's 1894 Marquette building, across the street from Skidmore Owings & Merrill's just-completed 33 Monroe Street and diagonally across from SOM's 1957 Inland Steel building.

The most critical relationship, however, is that of Xerox to an open space directly to the north. This is one of the few public open spaces in the Loop and, with its mosaic wall by Chagall and multi-level sitting and lunching areas, probably the most popular of all; it lies at the sloping base of a much earlier C. F. Murphy building (in collaboration with Perkins & Will), the First National Bank building, once Chicago's tallest. The response of the Murphy firm (with Helmut Jahn, AIA, the partner in charge) was to accentuate the southern approach to this open area by setting their building back 20 feet from the Dearborn property line, thus aligning it with the earlier voluntary setback of the First National Bank; even more dramatic was the decision to connect this approach to the open area not around an abrupt

The curved corner, left, opens the intersection gracefully to the plaza of the First National Bank, one of the Loop area's few open spaces, reflected in Xerox's glass facade. The diagonal pattern of asphalt pavers on the roof offers an interesting view to even taller neighbors. Right, a detail of the curved corner.





Apostrophe for services tops the tower.

90-degree corner but around a sweeping curve with a radius of 45 feet. The Loop has other rounded corners (on Louis Sullivan's Carson Pirie Scott store, for example), but none with such size or such significant location. Carson Pirie Scott's rounded corner is articulated as a separate element; Xerox's curve is an integral part of the building form. But on the street level the curve is allowed to continue past the facade and to sweep on into a pair of concave entrance recesses, one on each street; these provide access to the lobby and to the banking spaces (also designed by C. F. Murphy) that surround it, all of them caught up in a great waltz of curving surfaces.

But Xerox is a building not just of curves but also of diagonals, the two idioms related by the practical matter that diagonal rows of ceiling fixtures provide an efficient way of lighting

office space in the curved corner. The use of diagonals is manifest in the building form itself where, along West Monroe, the facade angles out 10 feet ("kicks its hip out," as Jahn says) to meet the adjacent building, a relatively tiny Italian restaurant. This is a rather magnanimous gesture for an 880,000-square-foot tower to make toward what was obviously a holdout in the parcel accumulation process, but it is a gesture that is fully appreciated from ground level in the plaza across the street.

Inside the building, diagonals proliferate. Even the elevator cab ceilings pick up the theme. At street level both ceiling and floor are dominated by diagonals, reflected and distorted in the mirror finish stainless steel of tellers' counters and other vertical

Left, an axonometric and a view with two adjacent elevations flattened and drawn together. Above and right, two views of the tower. Windows facing north are taller than others.



surfaces. An additional twist here is a positive/negative distinction between lobby and banking spaces. Lobby areas have narrow parallel lighting strips in an opaque ceiling and narrow black stripes in a white floor; when these diagonals pass through glass walls into the banking areas, they are transformed, becoming opaque strips in luminous ceilings and narrow white stripes in black floors. Perhaps it is the restrained palette of colors that keeps all this visual activity from seeming chaotic; on the second floor of the banking area there are handsome custom-designed work stations in a deep maroon, but all the rest of the two lower floors is limited to white, black, silver and the light warm tan of the skin's aluminum panels.

These panels have been varied in size to emphasize the building form and to take advantage of orientation. The great curved corner and the north-facing elevation adjacent to it have been given smaller spandrel panels and larger glass areas than

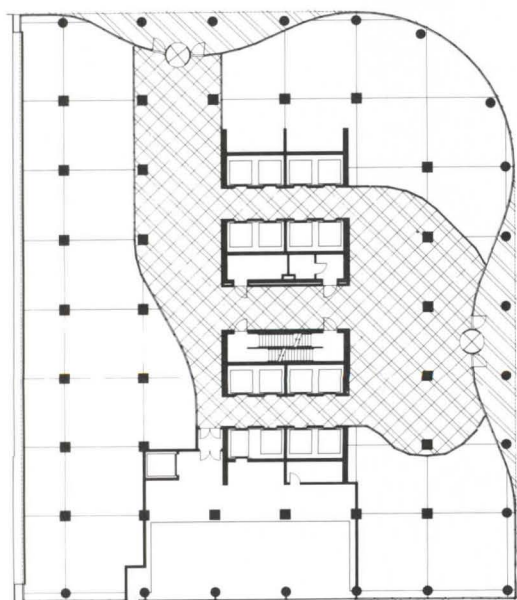
typical, opening the building to its least sunny exposure and to its best view. The taller spandrels of the other elevations are not interrupted exactly at the corner, but wrap around for two five-foot modules, giving visual strength to the corner.

Some further refinements at the very top of the building are worth noting: The mechanical system's louvers have been positioned one floor below the highest floor of the tower, thus keeping the tower form as intact and uniform as possible, and the roof itself has been carefully considered. The apostrophe-shaped enclosure for the elevator over-runs and cooling towers is perfectly complementary to the building form below, and even the roof surface participates in the design by repeating the diagonal pattern established 42 floors below. This has been accomplished with very simple means (asphalt paving blocks in gravel) and therefore exemplifies the whole design approach: expenditure of thought in lieu of money. □

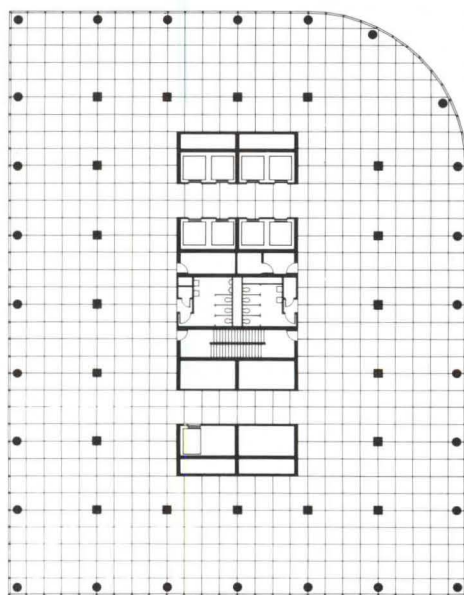




Photographs by James Steinkamp/Keith Palmer



Ground level plan



Typical lowrise plan

Beyond the two concave entrances, the banking halls and public areas of the ground floor have glass walls of compound curvature. A contrasting geometric theme is established by parallel diagonals in ceiling lights and flooring pattern. As the two photographs above show, these diagonals change character as they pass from public lobbies to tenant spaces.



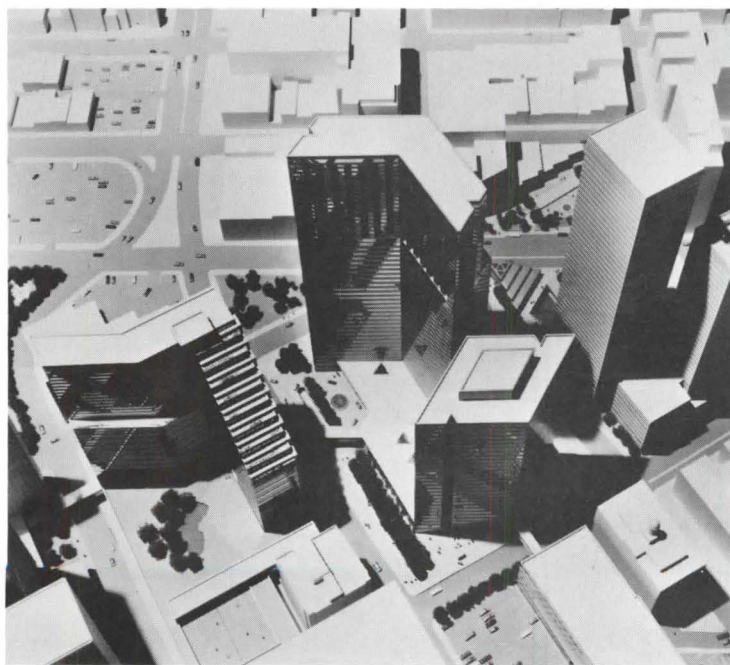
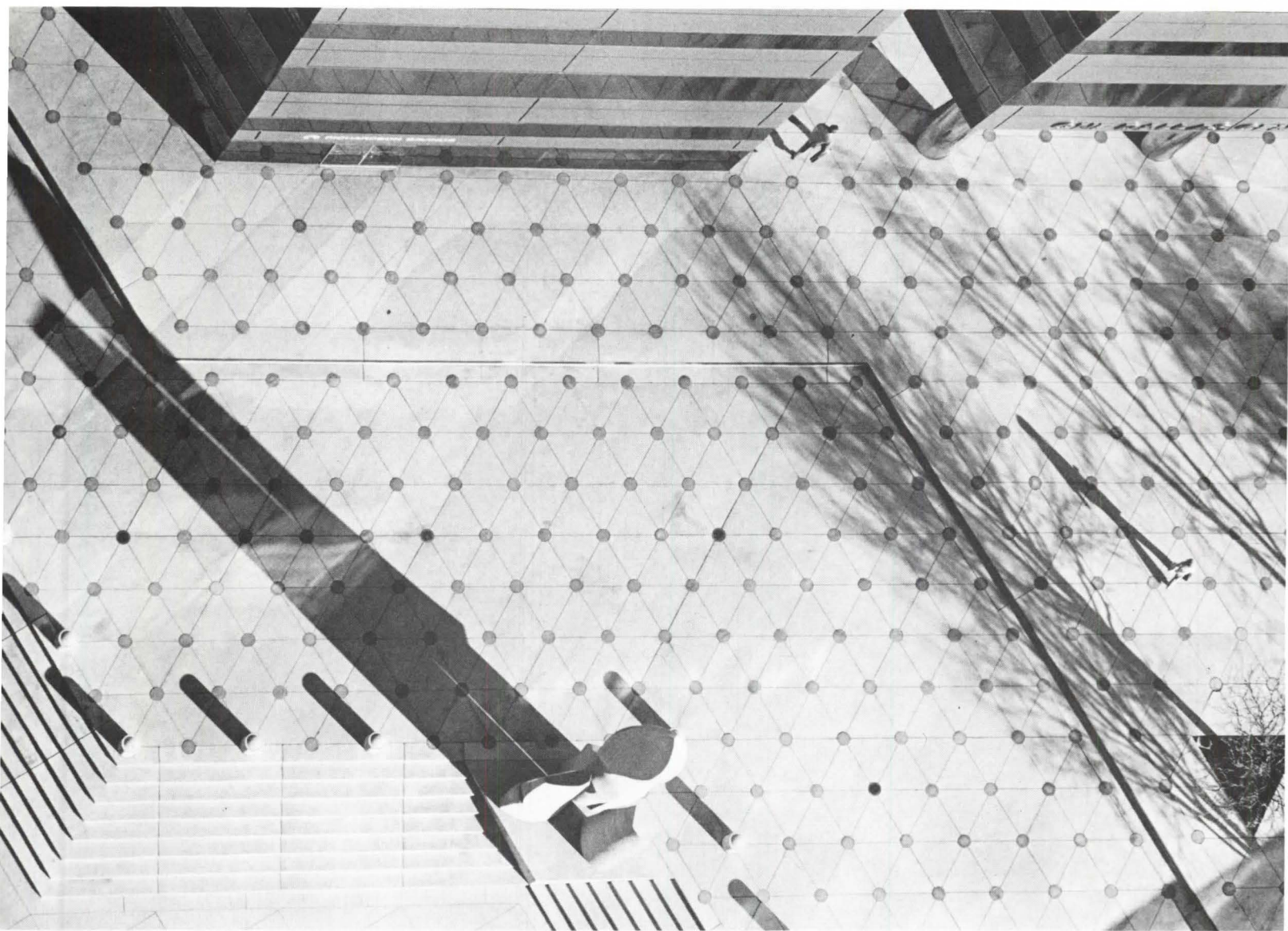
James Steinkamp/Keith Palmer

The Xerox building holds its own among the architecture of Chicago's Loop. In the foreground, Sullivan's 1899 Gage building; beyond that, SOM's angle-topped 33 Monroe Street; beyond Xerox, SOM's Sears tower.



Glass Tower Brought to Life—and Light

Dallas Centre, I. M. Pei & Partners. By S.A.



Site model, above, shows completed building at bottom right, future additions around it, and the convergence of two street grids. The street angles are picked up in the building forms and in paving details, top and right. The lobby, right, is brightened by Italian tiles and two big tapestries by Helena Hernmarck.

When we look around most American downtowns—certainly, when we look around Dallas, where the reflective glass towers sprout like crabgrass from their plazas—we may easily believe that the glass tower vocabulary has been exhausted. But talent can bring even this *parti* to life, and a reminder of that is One Dallas Centre, a speculative 30-floor office building by I. M. Pei & Partners, with Henry Cobb, FAIA, the partner in charge of design.

The budget was as tight as the word speculative implies, \$33 a square foot. (The contract was let in 1977; costs would be higher today, of course.) If constrained by such a budget, Cobb and the Pei firm haven't let it show. Both in the eccentricity of its form (not a way to cut cost) and in its exterior finish, the building projects an impression of quality. The exterior skin, although two-thirds opaque for energy efficiency, has been given a subtle bit of sparkle by the edging of its glass areas, top and bottom, with strips of stainless steel. The glass is butt-jointed throughout, making the tower perhaps the first of its size to be completely mullionless. The structural system is revealed only at two ground-floor entrance areas; above, it is only hinted at by joints in the aluminum spandrels.

Another potential constraint, cleverly capitalized on, is the site, near where the orderly grid of north Dallas marches obliquely into the orderly grid of central Dallas, creating a sequence of wedges and angles that Major L'Enfant might envy. Unlike its neighbors, all struggling to keep their faces straight, One Dallas Centre repeats the angles around it and becomes a prism, its diamond shape lightened and enlivened by a triangular recess in two of its sides (a structural complication, but



Wes Thompson

one that increases market value by doubling the number of corner offices). Outside and in, the angles are seen again in paving patterns—outside, in a rather curious design of white concrete triangles and pink concrete circles; inside, in the entrance lobby's handsome (and, after the sleek exterior, pleasantly warm and natural) triangular Italian ceramic pavers.

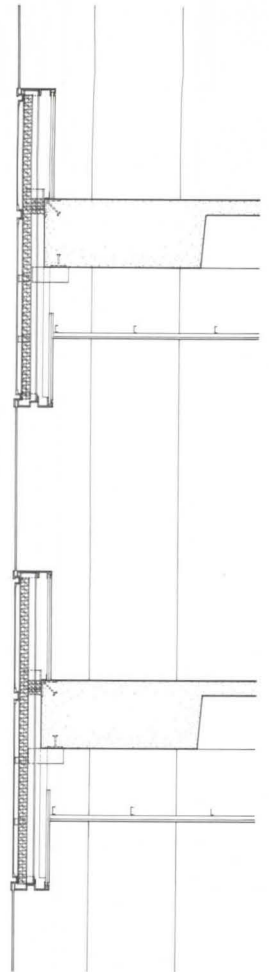
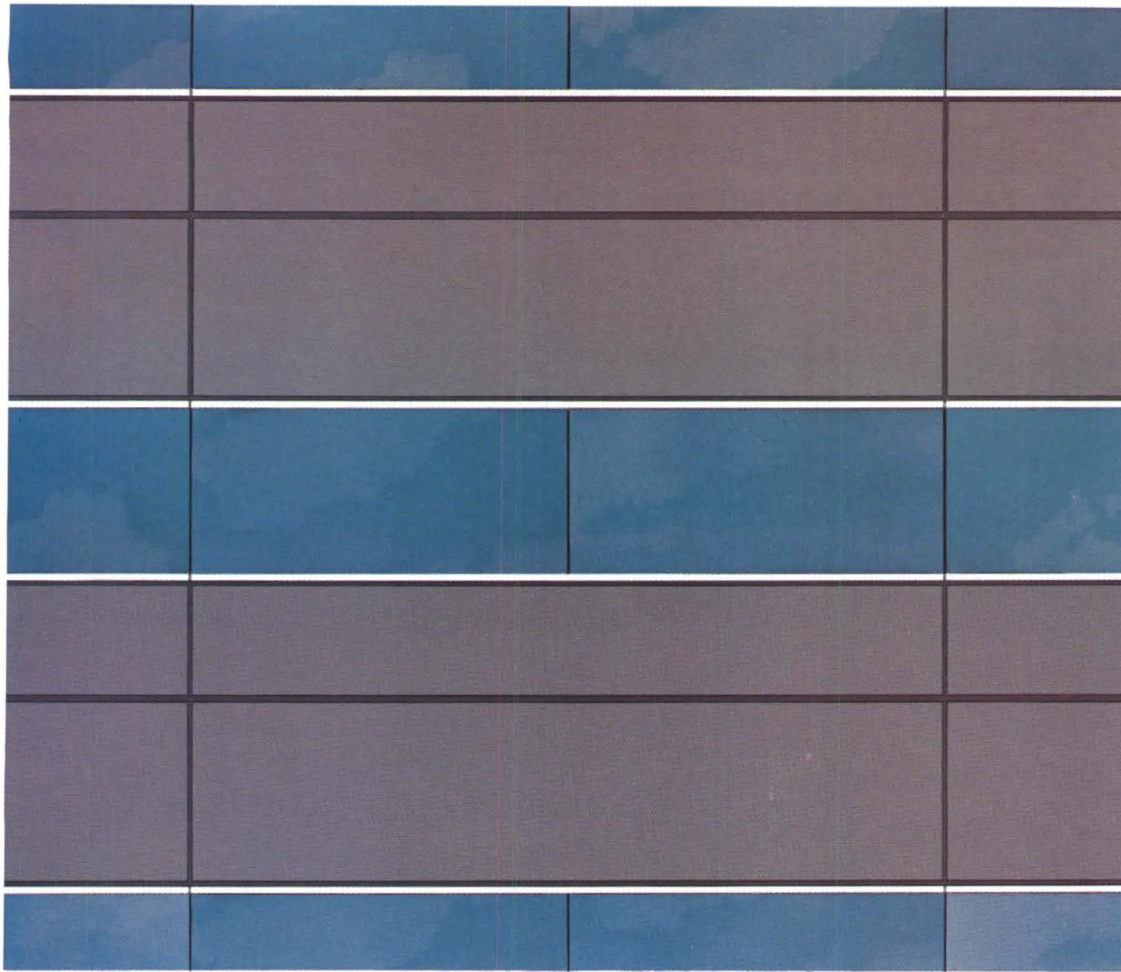
Except for this flooring, the public spaces at ground level are basically austere, Cobb's philosophy having been to keep wall surfaces simple and inexpensive and to let art provide visual interest. The works commissioned are two 20-foot-long tapestries, showing native Texas wildflowers, woven by artist Helena Heranmarck, and they are spectacularly effective.

Still another constraint at work here was one of time. Early in 1977 the client came to the Pei firm with a request for a master plan for a nine-acre site as well as for a design for a first-phase building on the site, both designs to be finished within three months. These preliminary design documents served as the basis for a guaranteed maximum price submitted by the contractor, and construction documents were prepared on a fast-track basis while construction proceeded.

In addition to the first-phase tower, the master plan included, for its second phase, a million-square-foot office building, topped by a 500-room hotel and, for its third phase, an in-town luxury residential structure. This phasing itself presents an additional design requirement: that the office tower, although the smallest increment of the proposed development, have sufficient presence and prestige to advertise the future stages of growth. All requirements seem satisfied: The tower has been fully rented since completion, and it is the delight of the Dallas skyline. □

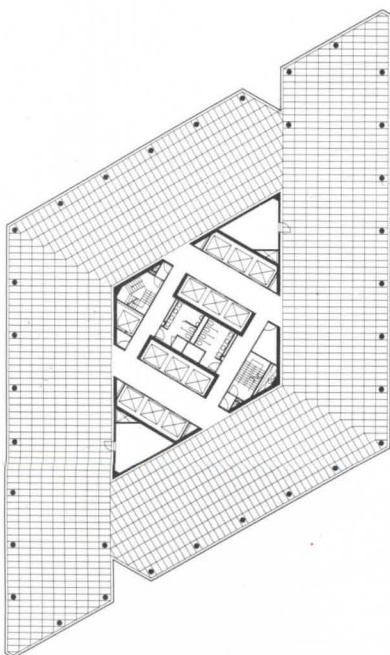


Nathaniel Lieberman

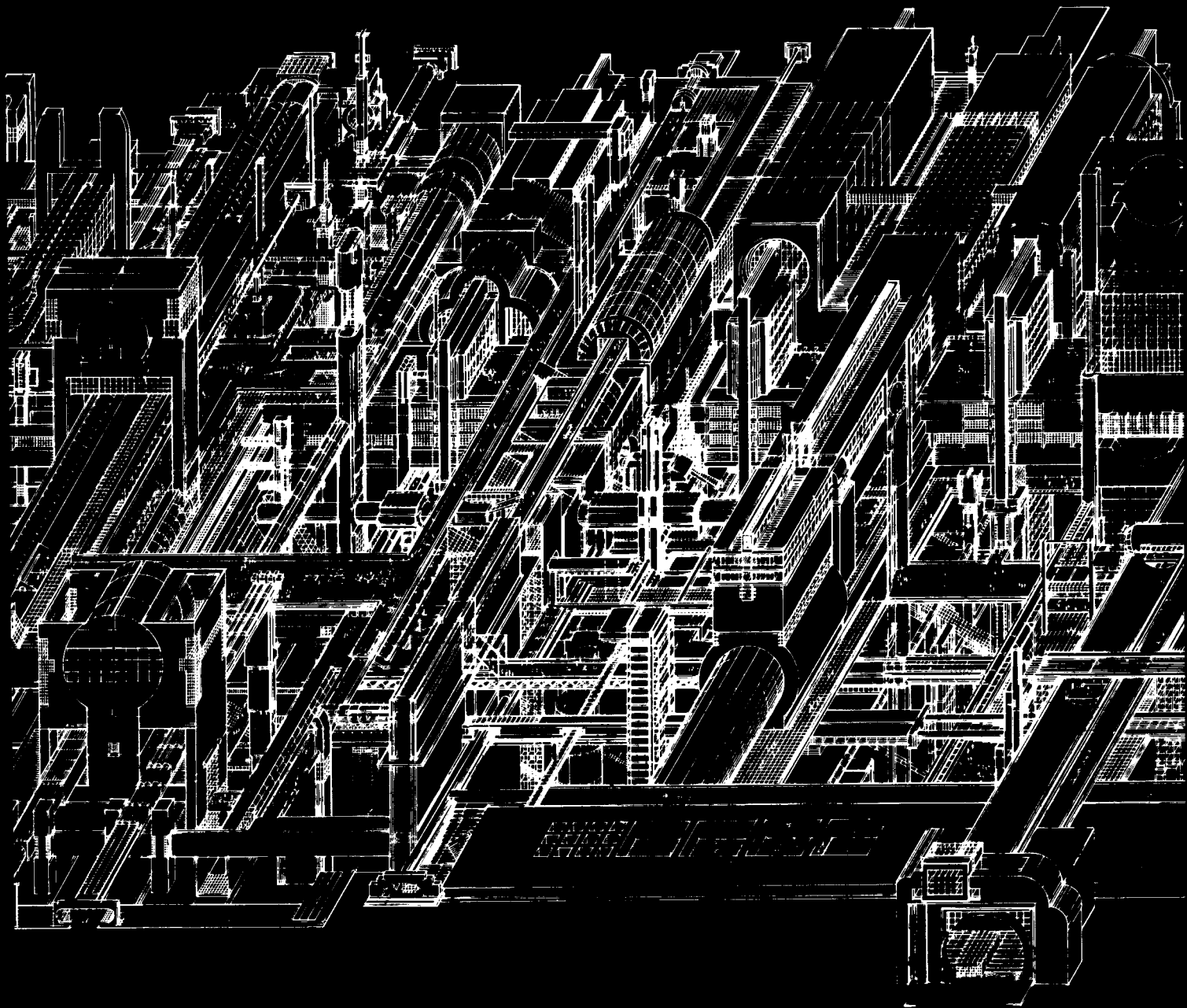


Typical bay elevation and wall section, above, show the flatness of the building skin and the thinness of the insulated aluminum spandrel panels supported on the ends of each floor slab. Glass (only 30 percent of the facade) is mullionless, supported at top and bottom, not at the sides. One of the acute-angled corners with panoramic views, below, is in the Pei

firm's own Dallas office. (The apparently opaque stripes are not fixed elements, but vertical blinds.) Plan, left, of a typical 20,000-square-foot floor; core area is larger than typical because it contains circulation, making all 37 feet of core-to-glass space useful. Opposite, a tower corner with a glazed bridge crossing to a garage in the next block.







2010 VISIONS

Editor's note: As has been our custom in this annual review, we asked a group of architects, critics, historians and educators to look to the future of architecture. This time, however, we asked them to look all the way to the first decade of the 21st century, addressing such questions

as: "What do you envision in the way of architecture and the man-made environment then? What current trends will have had lasting impact? What other forces will help shape things to come?"

Some of the responses follow (alas, others came after space was entirely

filled). Another is above. It is by James Rossant, FAIA, of New York City, who asked if he could respond with a drawing rather than an essay. It is his vision of the future city, which he describes as "intricate, complex and constantly changing . . . with connections to everywhere."

Ellen Perry Berkeley

This is what happened during the year 2010. It was just an ordinary sort of year. . . .

The first symposium on "Post-Habitable Architecture" was convened, and a new movement declared itself born and went off to give lectures. Most of those attending the symposium were either on the program or from the media, and the place hummed with the gadgetry used in receiving and transmitting, storing and translating, revealing and obscuring. The electronics stole the show, of course; the architecture wasn't what you could really *relate* to. (Some of the holograms later sold in galleries at prices equaling the cost of finished buildings.) . . . Among those attending was the ageless Philip Johnson, looking fit and smiling to himself. A private joke, apparently. Everyone else was very serious.

The hottest potato at the AIA convention was a proposal to deny AIA membership to the growing number of architects whose practice consists solely of set-design for TV. "Those aren't real buildings, for real people,"

'Some of the holograms later sold in galleries at prices equaling the cost of finished buildings.'

it was argued. Unfair, said the set-sters. "We bring good design to millions. One series alone, *Broad City Acres*, has had four spin-offs on the networks already, with hundreds of home programs available for your—ah—mature audiences." . . . The debate was tabled after an explosive discussion of *Tales from the Tower*, a series that is set in a quaint building-type of the 20th century: the kind they used to call "multiuse." (There's this couple, see, who works on the 28th floor and lives on the 78th. They stop at different floors on their way up or down, and they meet the *most* interesting people. They've got *very* close friends, now, on quite a few floors.) . . . Most of America follows this series—half the viewers wanting it banned, the other half wanting it shown in school lunchrooms.

An important statistic: Mobile homes, now called "trailers" (for reasons that are obscure), now account for 97 percent of the nation's single-family homes. Trailers have a growing share of the multifamily market, too, but statistics are unreliable since the definition of "family" has been imprecise for some decades.

A design trend from the past: Many 20th-century office towers are being retrofitted with plywood panels over their huge glass windows, to reduce heat loss and gain. Several buildings are competing to become "the world's tallest plywood skyscraper," a title that was thought to have been retired some years ago. Most panels have a tiny hole drilled into them, to keep office workers from constantly calling the Weather Line. Facades are being decorated by painters who ride the window-washing platforms. Many buildings already sport lively messages and markings, art works and advertisements. The

year's most interesting legal case, in fact, has just been resolved in favor of such ads: They *can* be considered works of art, under the latest ruling, and they *can* be purchased under that part of each building's budget earmarked for art—as also can certain plumbing fixtures, and the livelier patterns of resilient flooring, not to mention maintenance personnel.

The annual AAAAARRRRRRGH-TECTURE award, for the building deemed most shocking to the public mind and eye, was again not awarded. The prestigious national journal, *Ombudspersons Outspoke*, which has tried to make this award for the past three years, was unable to explain. Co-spokespersons of the committee, obviously stunned by the weight of their deliberations, could only comment, "AAAAARRRRR-RGH . . ."

Frank O. Gehry, FAIA

I believe architecture is a commentary on life. It is as varied as the people who make the commentary.

Some people run with the herd and form schools and some people tend to be loners. I believe that the same state of affairs will exist in the 21st century to a lesser or larger degree; fewer with the herd and more on their own or fewer on their own and more with the herd, depending upon the political conditions that exist at that time.

I believe what we are seeing today is an 11th hour return to style, in which architectural work is providing fantasy for future life to people who are finding it necessary to tighten their belts and realize they may never be able to actually realize these dreams.

Some of the imagery, very conveniently, although I'm sure not intentionally, is with the political swing to the right. I don't believe architecture can escape reflecting what

'What we are seeing today is an 11th hour return to style, in which architectural work is providing fantasy.'

goes on around it. Even the wildest speculations of the avant-garde of our profession do not depart from the laws of gravity, the scale of man or the realities of existing technology.

I once met a scientist who believed that man starts as a lump of matter and cells die to articulate the limbs and shape of the final human form. He was able to create mutant animals whose limbs grew out of their foreheads, and heads grew out of backs, etc. There is another man, a scientist, who, through medical research, was able to create mutant fruit flies that are one sex above the center line of the eyeball and another sex

Ms. Berkeley is a teacher and architectural journalist living in Shaftsbury, Vt. **Mr. Gehry's** firm is Gehry & Krueger, Los Angeles. **Mr. Bender** is dean of the college of environmental design, University of California, Berkeley. **Mr. Turnbull** is a principal of MLTW/Turnbull, San Francisco.

below. He can also make fruit flies that are sick on the right side and well on the left.

We have seen many wonders in the field of genetic engineering, to choose just one field, which could make an imprint on the 21st century tremendously. We have also heard about destructive forces which could change the shape of our lives.

I am just a knee jerk liberal, and this is what I think about when I think about the future. I probably won't be around the first decade of the 21st century, but if I am, this is what I will be thinking about.

Richard Bender

The central problems of our time have to do with the humanizing of technology, with getting this runaway monster under control. Technology cannot possibly be humanized unless people become human first (no mean task when we consider the extent to which the present passive acceptance of mass violence and truly insane brutality has gone).

The only possible mission for architecture today or in the 21st century lies in the creation of humane environments. There is nothing else.

The mission is to create people, gardens, environments, which foster human growth and development. The problem is to learn what such elements might be and how to design them. Learning will be painful. We are out of practice. Designers will be asked to take on new responsibilities and to reaffirm traditional ones. They will work in a world more able to tolerate the unfinished, a world that values continuity, history, growth over time and the ability to add to what others have started. Their work will emerge from a concern for resources and from the constraints, contradictions, puzzles and dreams of those they work for and with. They will start with the creation of a new cultural base; the social and humane structures that are indispensable prerequisites for the form of future communities.

The architecture that I am talking about will be like democracy itself . . . not easy, quiet, orderly or safe. It will assume conflict not only as the normal but also as a necessary condition of life. It will define itself as a continuing process of change with all that change implies: movement, friction, mess, mistakes and unhappiness. It will not be easy. This will be an architecture of vitality, with the vitality, complexity and danger of a suspension bridge rather than the solidity of a pyramid.

William Turnbull Jr., FAIA

Thirty years out versus 30 years back; I guess the greatest change will be the proliferation of man-made objects on the landscape. It comes down to civilization's number one problem: population. Here in the San Francisco Bay area we will be repeating the awesome Los Angeles sprawl pattern with ultimate control of building being limited by the availability of water. The Southwest Sunbelt will develop in a similar fashion. At some point there will be a crunch between sprawl and the costs of moving to and

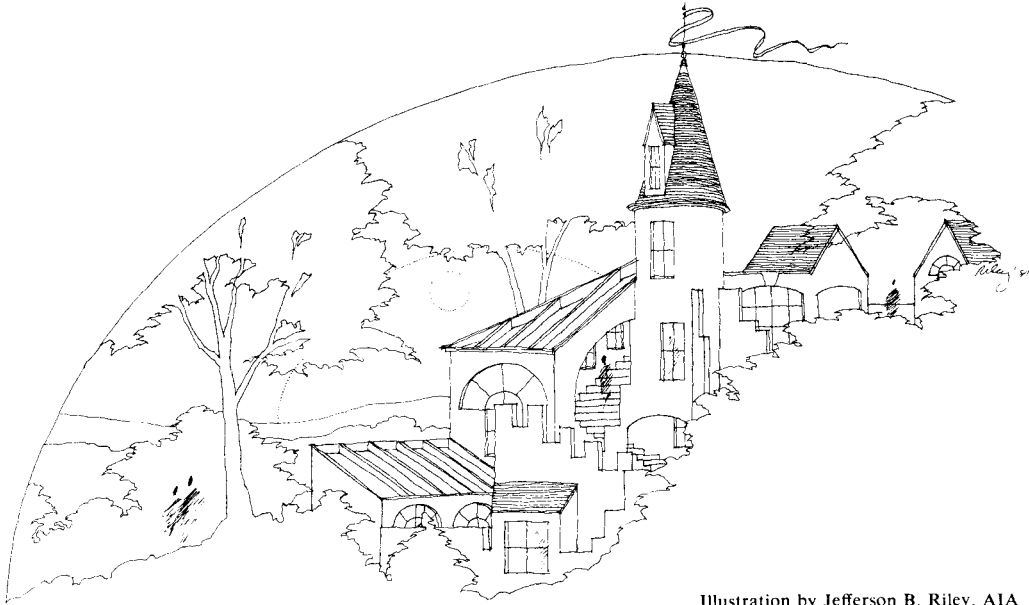


Illustration by Jefferson B. Riley, AIA

fro within it, but probably not within 30 years. On the hopeful side, energy concerns will stay with us and we will have to refocus on passive solar (common sense) ways of using the sun's energy more economically. I hope this will give a new order of architecture, leaving the flip-flops of modern/post-

'There will be a crunch between sprawl and the costs of moving to and fro within it.'

modernism to the realm of historic curiosities.

Forces shaping things of the future will be the same as they ever were; power, greed, plus the self-righteousness of "causes," in politics as usual. The world is getting smaller and smaller where the interaction of pressures will be more critical and explosive. Soon there will be another "justified" war and then no one will be able to predict what pieces will be left to pick up and reassemble into a "built environment."

Jefferson B. Riley, AIA

My thoughts on the future of the built environment are simultaneously of constraints and delights. The two will, I believe, become more closely linked in the next quarter century. Our economic and environmental constraints will continue to tighten but will also, paradoxically, release a new excitement, delight and beauty in architecture and planning.

By the 21st century there will be an unimaginably large demand on the land, materials, money and energy necessary to build and maintain our built environment. The size of buildings will definitely become smaller and their energy efficiency increase. Even then, the difficulty of getting a building approved for construction by an increasingly skeptical and financially burdened clientele will greatly increase.

Out of this bleak tundra will bloom an architecture full of romance and fantasy, de-

veloping its forms and shapes from its users. The user, whether the owner of a house or the population of an entire city, will face small buildings with large budgets and will need to be excited into action. Only by discovering and incorporating the dreams and fantasies, the delights of familiar images and the pretensions of the user will architecture hold its place among a public increasingly suspicious and skeptical of the remote designer and his private designs. The use of television and storefront offices as tools to bring the designer and the user together will become widespread.

So the architect will become a translator of the user's dreams into built structures of beauty. The form of a building will continue to follow function, with energy conservation and solar heating becoming increasingly important functions. But the shapes of buildings will assume a separate importance recalling images that are meaningful to the user: images of castles, piazzas, gardens and all their delights.

In a sense, a man's home becomes his grandfather's castle. As architect and user search for the shapes that are meaningful to the user, they will look not only to the creative imagination of the architect but to the familiar built environment as well. Studying existing buildings that delight his client, the architect will work with their shapes and

'The difficulty of getting a building approved . . . by an increasingly skeptical clientele . . . will greatly increase.'

will refine and alter their designs to make a memorable place but with contemporary strivings of its own. This emphasis on meaningful shapes, and the reflection upon and refinement of successful buildings of the past, will result in a slowdown in the production of the utterly new, and a turn toward the perfection of composition, proportions and details.

So the involvement of the user in the

design process will excite great numbers of people who have been historically skeptical, critical or disinterested. Their participation will assure a new emphasis on shapes meaningful to them, shapes that will awaken old delights and create new pleasures. This will result in a move to refine and perfect as well as alter prior architectural successes and will focus our attention on the things that make beauty. As the Greeks did with their temples, we will begin to take our time. Of course, for some there will have to be frequent supersonic trips by shuttle back to earth to gather images with which to work.

Peter Calthorpe

There was a term, the postindustrial society, used by some anarchists in the '60s to denote an affluent and decentralized future supported by advanced technologies. The central question for such a future focused on the existential and political crisis created by such freedom from physical limits; quite a narcissistic dilemma. It is now clear that such a future is unlikely, in fact many are calling for a "reindustrialization" to salvage our failing technological structure. Along with a "rearming" such investments presuppose or hope to enforce a continuous flow of resources from the third world.

On the contrary, the industrial culture will certainly be transformed by shortages of resources, either resulting from pollution quarantines, political cartels or gluttonous consumption. In the short term, adjustments will be made, shifts to coal and nuclear, conservation, massive water diversion projects, new agriculture techniques and military escorts on a national scale. Not the least of these adjustments will be the involuntary sacrifice of middle class wealth. The political liabilities of maintaining international resource flows will become more pronounced; third world terrorism, increased military investments, disproportionate wealth and continued support of repressive governments (such as South Africa) for their "strategic materials."

The tragedy of such a future is, of course, that it is unnecessary and will be ultimately unsuccessful. The alternative to the reindustrialization recently called for isn't hard to imagine: A reurbanization which reduces transportation demands, saves precious agricultural land, rehabilitates existing building stock, provides local jobs and lays ground for communities of cooperation. Such reurbanization would be based on the insights afforded by biology, ecology and cybernetics (As the industrial transformation was supported by physics and engineering.) Unlike 20th century urbanization, the support systems will be regionally based and resource-efficient; clean, economical mass transit will displace the auto's land and fuel demands, biologically sound water and waste systems will be producers rather than polluters, renewable energy sources will provide regional power, information systems will continue to

Mr. Riley practices with Moore Grover Harper in Essex, Conn. **Mr. Calthorpe** is with Van der Ryn / Calthorpe & Partners, Inverness, Calif.

replace rote labor and materials. The recycling industries will benefit from integration with other urban structures, intensive food production (agriculture and aquaculture) will be based on polyculture ecosystems rather than petro fertilizers or insecticides and buildings will be climate responsive.

The results of such a reurbanization will produce more compact and human scaled cities surrounded by productive open space. Existing suburbs will be distilled into coherent towns with a meaning and purpose beyond their association with the metropolis. The scale of these cities will be dramatically transformed. The current lack of urban scale and proportion is a symptom of a system out of environmental balance and context. Reurbanization will reconstitute an appropriate scale of natural limits based on regional resources and global information rather than global resources and regional information. Pedestrian networks within mixed use areas will create a more intimate preception of buildings and urban space. Institutions will decentralize into smaller, more efficient working groups using electronic communica-

'Reurbanization will produce more compact and human scaled cities surrounded by productive open space.'

tions. Distribution systems will also decentralize, responding to local resources and transit systems. Buildings will become highly textured, invested with a layering, identity and scale responding to local climate and solar access.

Diversity is the keystone of the bond between cities and ecology. The urban village with its community based, mixed use neighborhoods and local enterprise is an ecological paradigm. The vitality and viability of any ecosystem rests on the diversity of its inhabitants and their interrelations, unlike the mono-cultures of our current architecture and urban zoning. In truth, the identity of a place has always rested with its physical regionalism, its local cuisine, its climate, local products, particular building form and social history.

There is good reason to believe the demise of our industrial environment based on global transfers of resources will create a more humane urban environment. Two futures, reindustrialization or reurbanization, await us. In this contest, architecture and urban design will play more than a theatrical or linguistic role.

Tim Prentice, FAIA

I'm not sure we would wish to look at the future even if we could, nor, for that matter am I sure that any of us can really understand the present.

What we can see is not entirely encouraging: inadequate protection for our landmarks; crumbling public transportation; un-supportive environments for the aging; growing militarism, and everywhere an incremental growth in scale leading to impersonality and alienation. Can any of us wonder

about the future without asking honestly if we are doing enough to help assure that there will be one?

PARABLE: A publication beamed to the special interest group of sculptors recently appeared with a lead article titled "Acid Rain: Threat to Outdoor Sculpture." With stoic disregard for his own safety, the author concludes the article by recommending such and such industrial coatings.

MORAL: *Acid rain is good for business.*

'The most interesting roofs will leak, and the least won't.'

PARABLE: A building for a large corporation is located in the countryside near New York City. Presumably in the hope of softening the pressure of 4,000 employees being contained under one roof, a fine collection of contemporary art is installed. The graffiti and vandalism of the wall surfaces is so relentless that a seven-man maintenance crew is engaged fulltime to repair the damage, yet none of the paintings has ever been harmed. Should we put our energy into developing more resistant materials, or into a better understanding of the causes of this destructive urge?

MORAL: *Good art is better than good vinyl.*

PARABLE: While the automobile industry sinks of its own weight, an aircraft appears, like a star in the East, which is so light

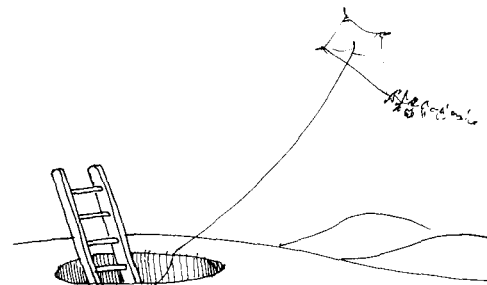


Illustration by Tim Prentice, FAIA

that a man can fly it across the English Channel under his own power. The concept of the 70-pound Gossamer Albatross has the resonance of ancient myth. Built of materials so thin as to be almost invisible, it is all science and craftsmanship. Flying above the pull of fashion, the only art is in the idea. It has been a while since a building freed my imagination as this plane does.

MORAL: *One Gossamer Albatross is worth two MX missiles.*

Assuming that we'll still be around in 20 years, I suspect that little will have changed fundamentally, certainly not human nature. As individuals we will continue to be torn between the conflicting responsibilities to our personal careers, to our clients and to the community at large. The articulate minority will be working on their fast draw with the current "ism" and the inarticulate majority will be designing most of the buildings. The two camps will continue to hang out around the OK Corral in jealous mutual fascination. The most interesting roofs will leak and the least won't.

David J. Bennett, AIA

The first revolution in 20th century architecture is over. Its founders imagined a benign industrialism from which they could create a universal architecture unencumbered by place or history and triumphant over the uncertainties of the natural world. Instead, a rampant industrialism betrayed their expectations. Its signature has become the double cornucopia: glossy products from one horn, poisonous waste from the other. The shining city of their vision now rises from a landscape ruined for its creation.

At the beginning of the 20th century we still saw our world only from its surface: wide, immutable, ageless. Now we can see it from space, a tiny bubble of life in an immense void. It is a world of finite and diminishing resources. If we do not eviscerate it in our relentless search for materials to fuel our industrial system, we may finally destabilize its resilient but delicately balanced ecology. For the first time in history we can seriously consider that we may not be able to live on this fragile, perhaps transitory, planet forever. This is a new perception and requires a new vision.

The prevailing response of the design community to a world of diminished resources and uncertain future is the application of sophisticated controls, more efficient engineering systems and high-performance materials. All this is to maintain an architecture conceived 50 years ago, in a world understood from an entirely different perspective, based on the failed principle of consuming unlimited natural resources to overwhelm the environmental effects of nature. It doesn't work, and more of the same won't make it work.

The alternative response of assembling fashionable architectural metaphors from misappropriated shards of history and from the coarse images of a commercialized genre art addresses neither the forces that shaped our environment at the beginning of the century, nor those which are likely to shape it at the end. Even so, it at least reflects a reawakened interest in the sensuous, humorous side of life so severely suppressed in the

'The double cornucopia: glossy products from one horn, poisonous waste from the other.'

austere work of early and mid-20th century architects.

The past decade has seen the stirring of incipient change. It comes, as it did a century ago, from the periphery of the design community's attention. As might be expected at this vulnerable early stage, the architecture is often inchoate and the technology largely unproven. But the thrust of the next two decades is clear and unequivocal. It is toward an architecture integrated with the forces of nature, not set against them.

From this will follow a new geophysical
continued on page 266

Mr. Prentice is an architect and artist in New York City. **Mr. Bennett's** firm in Minneapolis is BRW, formerly Myers & Bennett/BRW.

AIA Honor Awards 1981

In its annual tribute to design excellence, the American Institute of Architects this year honored 15 new and extended use projects.

The eight new buildings differ in building type, size, cost and materials. The winners are a nondenominational chapel, a Pennsylvania farmhouse, an art gallery, a new-town-in-town residential complex, a speculative office building, an adult detention center and a retirement home. A trio of projects outside the U.S. was honored—a bank headquarters and two branch facilities in Guatemala City, Guatemala (photo right).

"The jury [for new work] was encouraged by the overall standard of the submissions," said chairman Hugh Stubbins, FAIA. "There were many strands and trends indicating a diversity of design directions with no seeming coalescence of philosophical agreement. . . . There were responsible solutions to difficult urban situations as well as several unusual and amazing structures." The other jury members were Scott Johnston, a student at the University of Wisconsin-Milwaukee; William N. Morgan, FAIA; Frank B. Moson, associate AIA member; John W. Moutoussamy, FAIA; Cathy Simon, AIA, and Evans Woollen, AIA.

The extended use jury found a "greater confidence in juxtaposition of old and new and in taking bold liberties in preservation," in the words of jury chairman Arthur Cotton Moore, FAIA. Other members were Peter Chermayeff, AIA; Stuart Cohen, AIA; Nicholas H. Holmes III, associate AIA member; Piero Patri, AIA; Mildred Schmertz, FAIA, and Kimberly N. Stanley, an architectural student at Clemson University.

Of the seven winners in this category, only an art gallery was totally restored to its original spender. The others combined the old with the new: a civic center, a research laboratory, housing for elderly and the handicapped, a college language facility, a Chicago town house and a small office building.

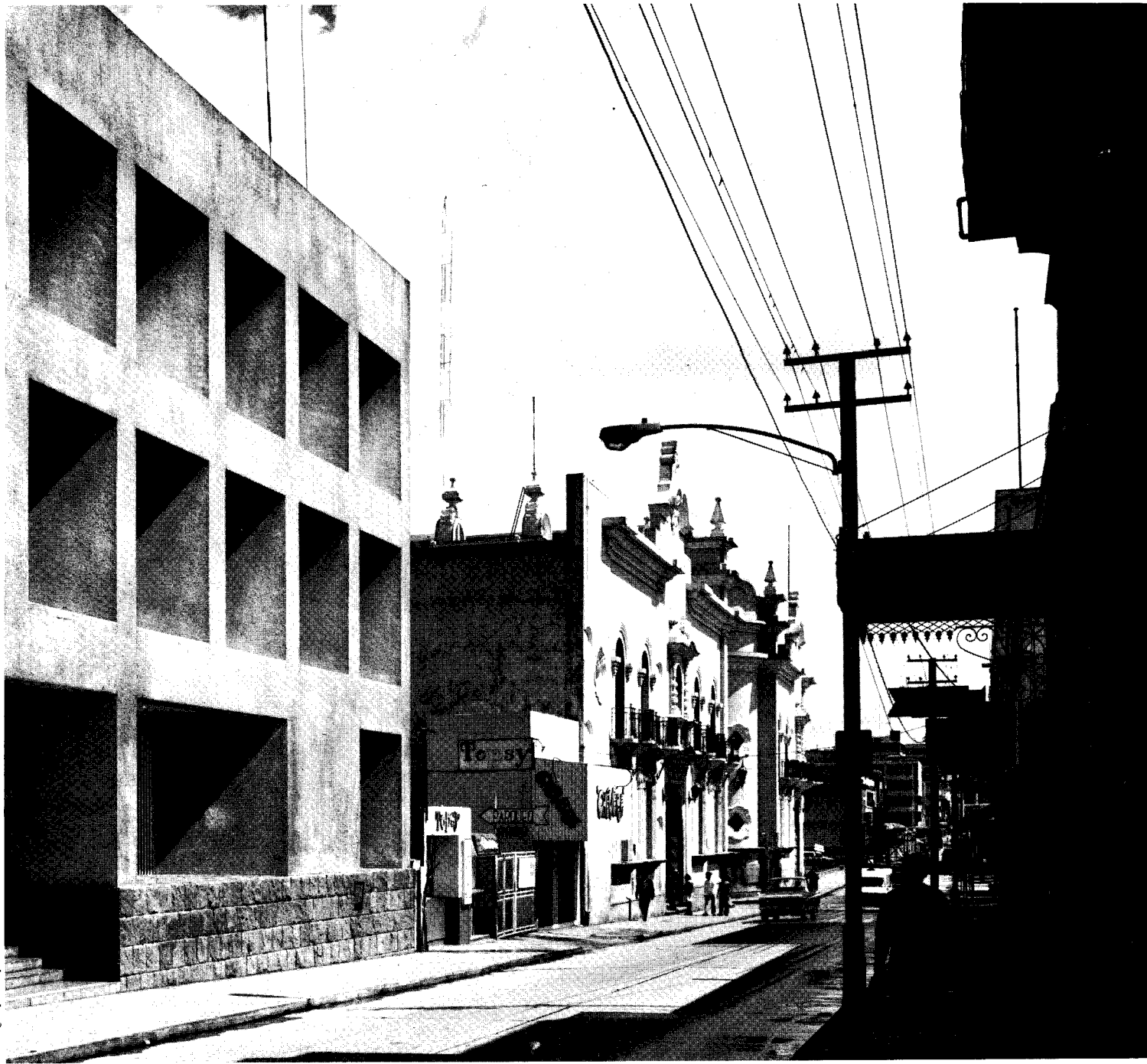
Thirteen of the 15 winners are shown on the following pages. The other two, the Throncrown Chapel (cover photo) and the Norman Gaffney residence, are discussed on pages 140 and 175, respectively.

Nora Richter Greer



Nick Wheeler





Trio of Banks in Guatemala Reflects Indigenous Idioms

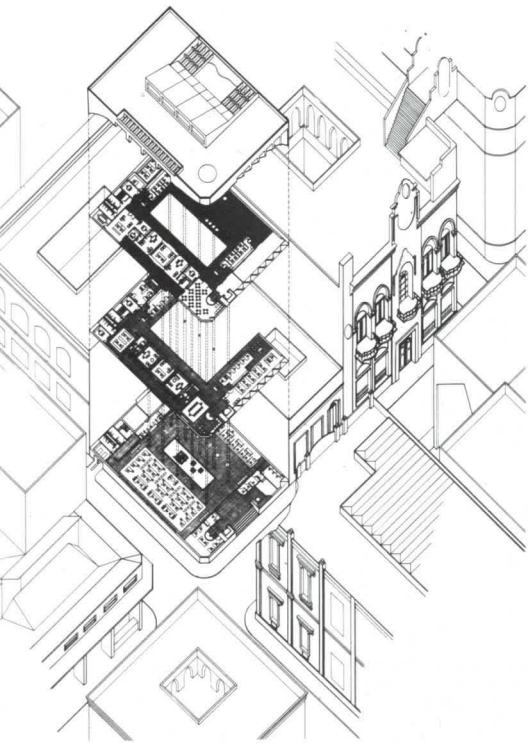
Skidmore Owings & Merrill of Chicago turned to traditional Guatemalan architecture in the design of the Banco de Occidente headquarters and two branch banks in Guatemala City. The design team of Bruce Graham, FAIA, and Adrian Smith, AIA, borrowed from indigenous architectural devices of open courtyards, terraces, wall-in gardens, fountains and trellises. Continuity between the three buildings is reinforced by the use of the vivid colors often found in the region (reminiscent of those used by Luis Barrigán), and by textures, materials and patterns of light and shadow.

The three buildings are also related by the common design of the teller counters, check writing stands, platform offices, work stations and lounge furnishings. All furniture, fabrics and graphics, including the bank stationery and banking forms, were designed by SOM to be manufactured in Guatemala City. SOM

also designed the bank's new logo, which was incorporated into the design of the reflecting pool tiles (see pages 228 and 231).

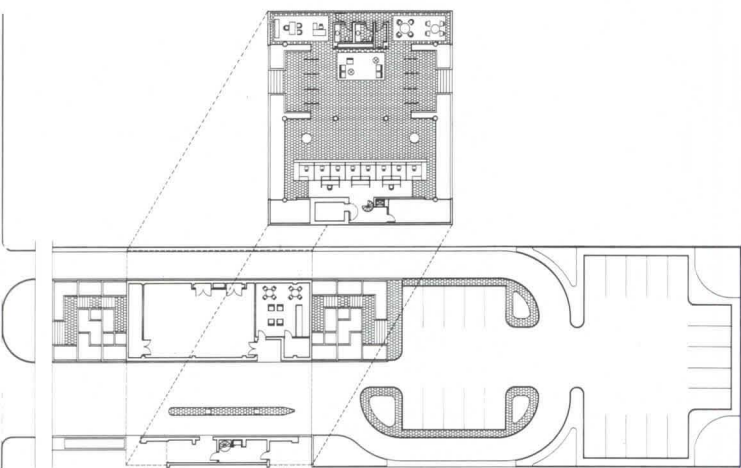
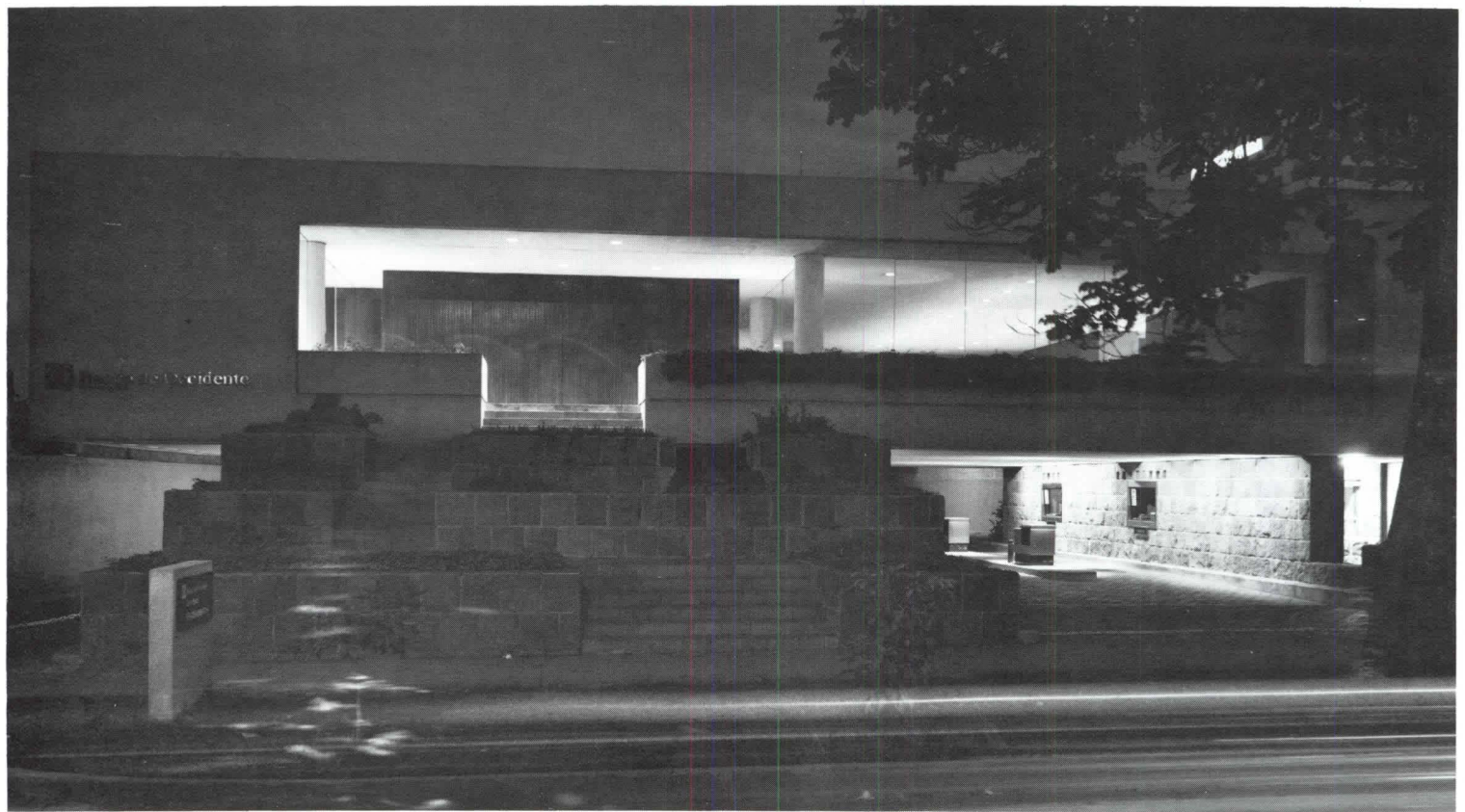
The bank's 57,000-square-foot regional headquarters is located in the center of the oldest section of the city and respects the building heights of its neighbors (photos above and upper right). Exterior walls are predominantly stucco with a native stone base at the street level to minimize vandalism and provide a more durable surface for the heavy pedestrian traffic. Terrace openings to the north (photo right) and setback openings on the west side control light. Operable wood louvers modulate ventilation.

On the interior, the public banking spaces and offices surround a four-story atrium covered with a translucent, vinyl coated Fiberglas fabric roof (see photo, previous pages). The first level, which is two stories high, contains 20 teller counters, a safe deposit vault, coupon booths and platform offices. On the second level are the employee cafeterias, semipublic banking departments, executive offices and a board room. The third floor is reserved for future banking needs. Throughout the building, colored horizontal wall planes and partial height wood wall units help relate the spaces to their uses.





Photographs by Nick Wheeler



Terraced branch above a drive-through.

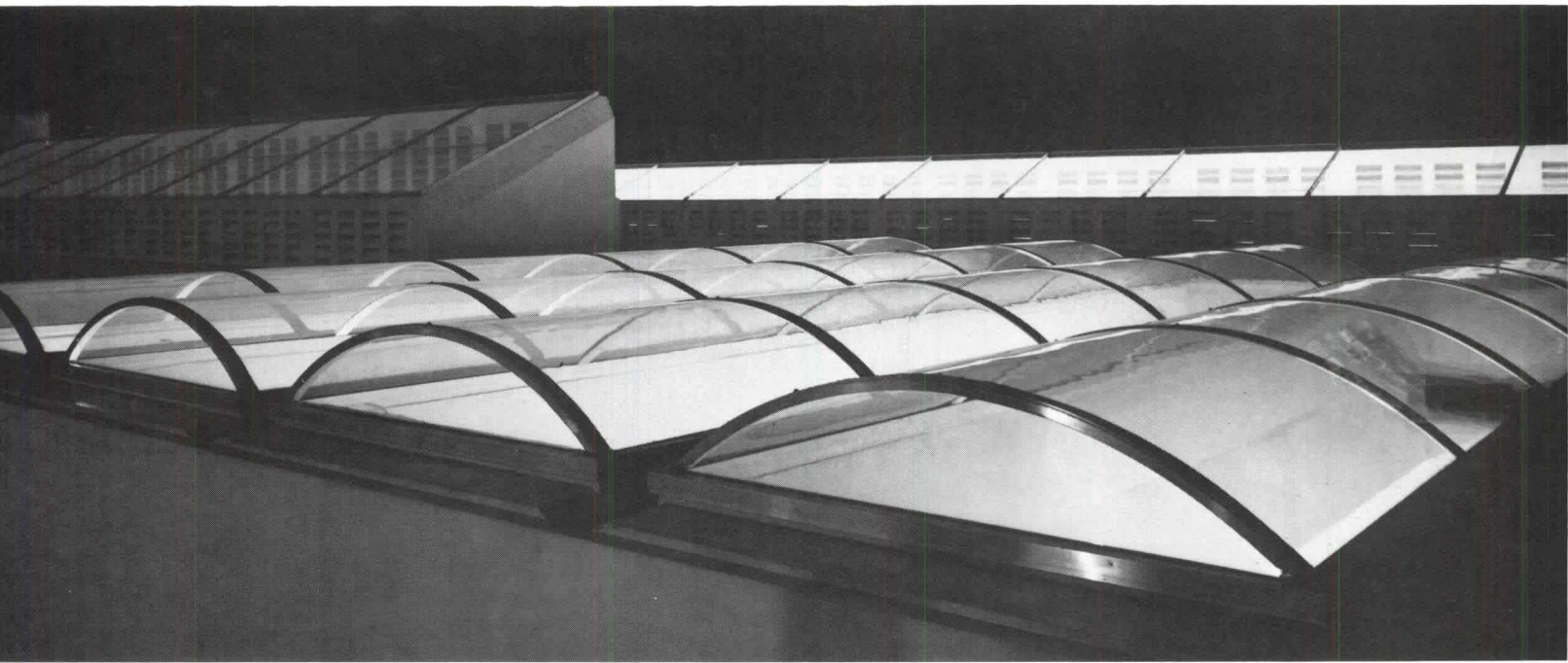
The 10,000-square-foot Zone 9 branch bank of Banco de Occidente is located near the center of Guatemala City surrounded by highrise residential and office structures and lowrise, "low quality" commercial structures.

The client required a walk-in and drive-through facility with maximum parking on the site, which is 80x275 feet with street access on the short side only. The architect's solution was to raise the walk-in banking to the second level and provide access from both the street and the parking lot through terraced gardens and fountains. Drive-through banking facilities are located on the ground level beneath the building's entrance (photo above). The parking lot is located in the rear.

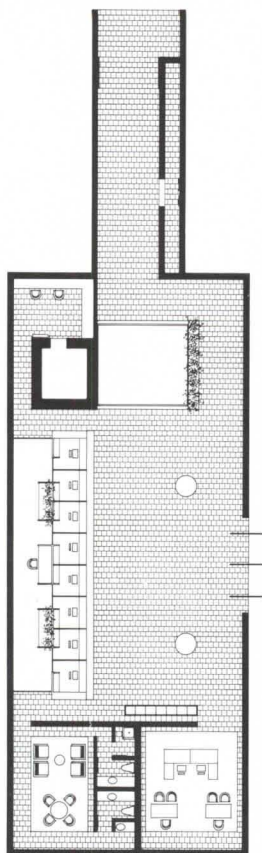
The exterior walls are unpainted stucco with spray-on heavy texture. Guatemalan volcanic stone was quarried and fabricated by hand for the base of the walls. In the interior, which contains eight teller stations, colors and materials were selected to be compatible with the two other banking facilities. Eight large mahogany doors pivot at each entrance to allow air circulation.

All three buildings were designed by SOM to function without artificial lights and power because the area is subject to recurrent power failures.





Photographs by Nick Wheeler



Suburban branch on a locked-in site.

The architect faced a different problem in the design of the Montufar branch of Banco de Occidente. Located in a Guatemala City suburb, the 4,500-square-foot, eight-teller facility is surrounded by party walls on all sides. The task was to provide entrances and to bring natural light into the building.

On the east wall Banco de Occidente owned a 20-foot parcel of an existing shopping center. This parcel, previously containing a two-teller facility, became an entry portico. On the south, the bank was able to negotiate creation of another entrance through a new shopping arcade.

The entrance on the west opens onto a skylit courtyard with reflecting pool designed to "increase the sense of openness." Patrons move around the pool and a bordering partial height

wall to gain access to the banking space. The wall was used to "recall the walled gardens so prevalent throughout Guatemala and thus to reinforce the illusion of the skylit court as exterior space," in the architect's words.

Because no walls could be penetrated, the designers added openings through the roof for "quality and quantity of light and the play of light on the building's interior surfaces." Skylights are raised well above the roof surface and located on top of louvered concrete block parapet walls to provide natural light and ventilation with minimum direct sunlight on the work surfaces.

Client: Banco de Occidente. Structural engineer and landscape architect: Skidmore Owings & Merrill. Mechanical and electrical engineer and general contractor: Holzheu y Hernandez Asociados. Completed in 1978.

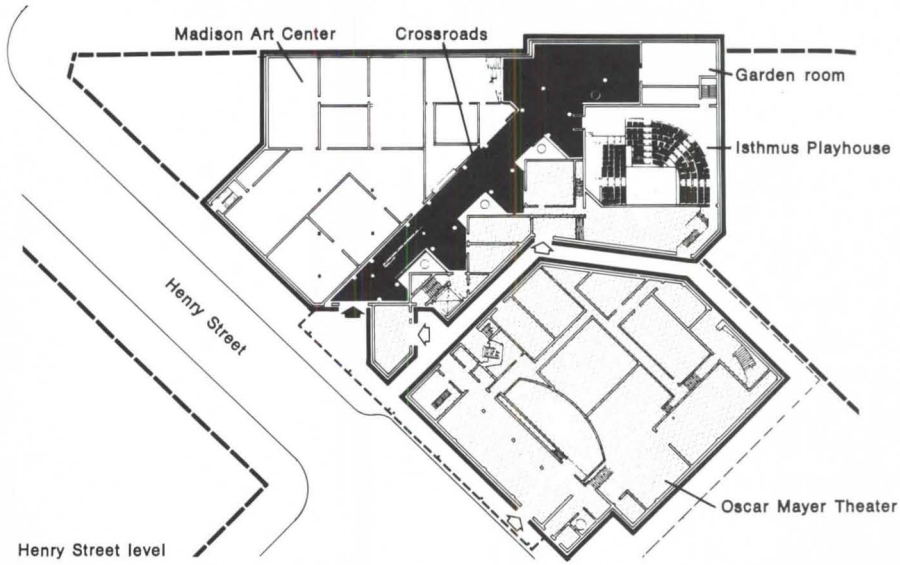




New and Old Combined To Create an Arts Center

In the design of the Madison, Wis., Civic Center, architect Hardy Holzman Pfeiffer Associates of New York City combined two modest existing structures with new construction to "create a sense of a grand palace," in the words of the jury. This "palace," which houses the performing, visual and media arts, is integral to the downtown's revitalization.

The prominent exterior feature is an old Moorish movie theater tower (the theater, completed in 1928, was designed by Rapp & Rapp). Left and right of the tower, two one-story buildings were replaced by symmetrical infill walls to "preserve the cohesion of the street." To the right of the tower and infill is the former Montgomery Ward department store (1941), "built in a loosely Georgian style," in the words of the architect. The rear exterior also combined the old and new. The complex



Norman McGrath

contains 110,000 square feet, split almost evenly between the existing buildings and the new construction.

Inside, a multipurpose 2,114-seat proscenium auditorium reinterprets the old movie theater. Next to this is a new 370-seat thrust theater, with no seat more than seven rows from the stage. The open, 21-foot-high ceiling of the department store lent itself to an arts center. Says the architect, "the neutral quality of this open interior provides the perfect background for contemporary art." The building's four levels, three exterior public entrances and 10 interior entrances are connected by a multistoried lobby, called the Crossroads. This space also provides room for an informal theater.

The jury called the building a "sensitive alternative to the isolated temple-like civic and cultural center" and said it treats "modest structures with a skill and sensibility that maintains their intrinsic quality."

Client: the City of Madison. Structural engineer: Ketchum Barrett Nickel Austin/Besier. Mechanical and electrical engineer: Mechanical Design, Inc. General Contractor: Orville E. Madsen & Son, Inc. Completed in 1980.





The interior of the Oscar Mayer Theater is decorated with glazed and stenciled patterns and drapes of velour reminiscent of the 1920s, photo right. Below, view from Crossroads of the arts center.



Photographs by Norman McGrath



Photographs by Cathy Kelly



Removing the Residue of a Museum's Earlier Remodeling

Completed in 1873, the Crocker Art Gallery in Sacramento, Calif., was designed by Seth Babson to house the art collection of Judge and Mrs. Edward B. Crocker and to provide space for family and civic events. In 1975 the City of Sacramento (the current owner) decided that the building had been so severely damaged by water, poor maintenance, settlement and "insensitive" remodeling that restoration was necessary.

Rosekrans & Broder, Inc., of San Francisco set out to preserve as much of the original detail as possible while rehabilitating the structure. Photographs were taken of any surface that had to be removed to install new structural elements. Millwork items were numbered upon removal and replaced in their original locations. For the interior decorative painting the Rambusch Co. used stencils cut from the original patterns.

Structural engineer: Barrish, Aldrich & Schroeter. Mechanical and electrical engineer: Gibson, Yackey, Trindade. Landscape architect: park and recreation department, City of Sacramento. General contractor: SMF Corporation. Completed in 1979.

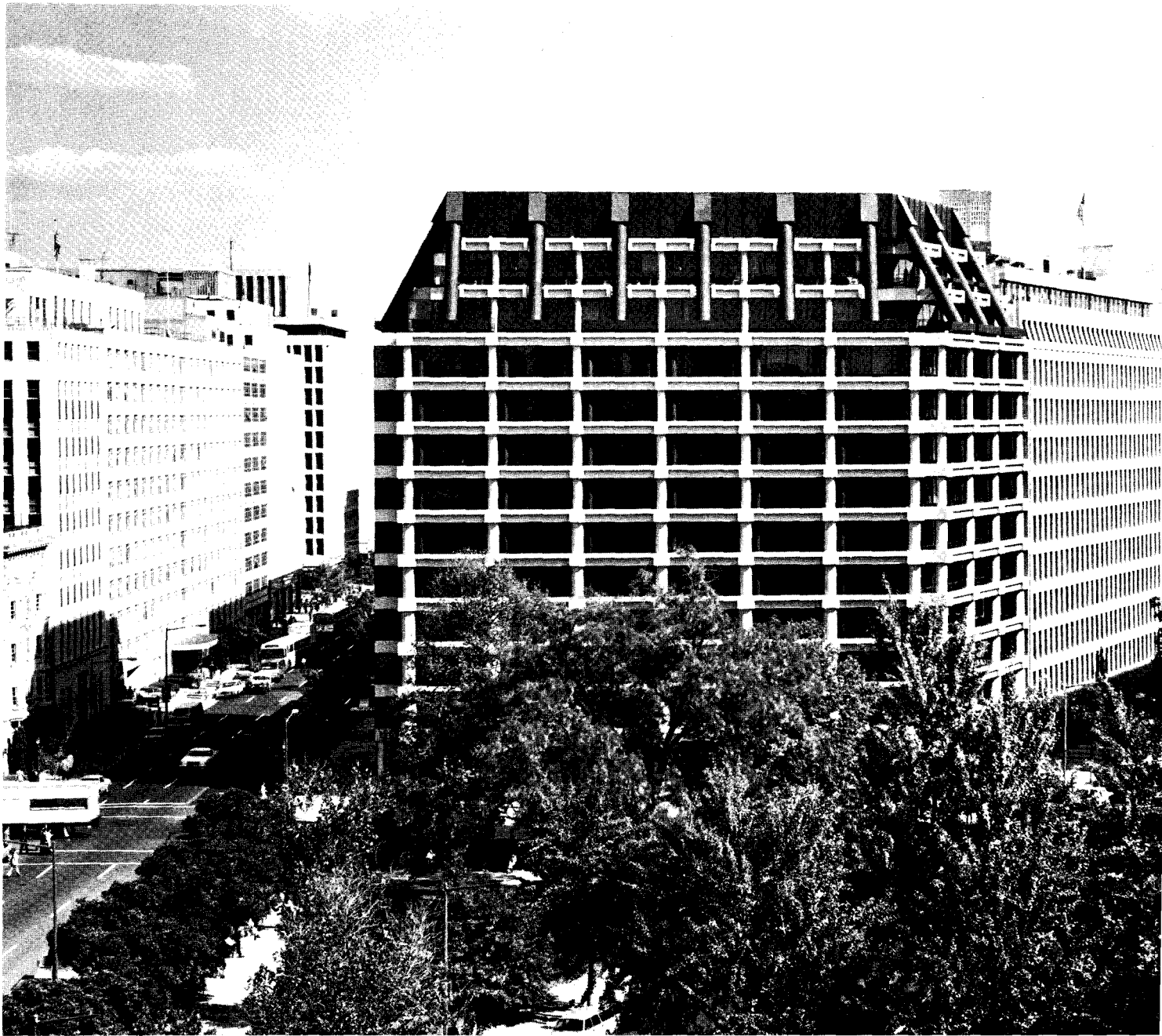


Natural light enters the central and side galleries through skylights installed over existing light wells and is supplemented by accent lighting (facing page and below). Adjustable aluminum louvers on the skylights omit south light and provide an ultraviolet

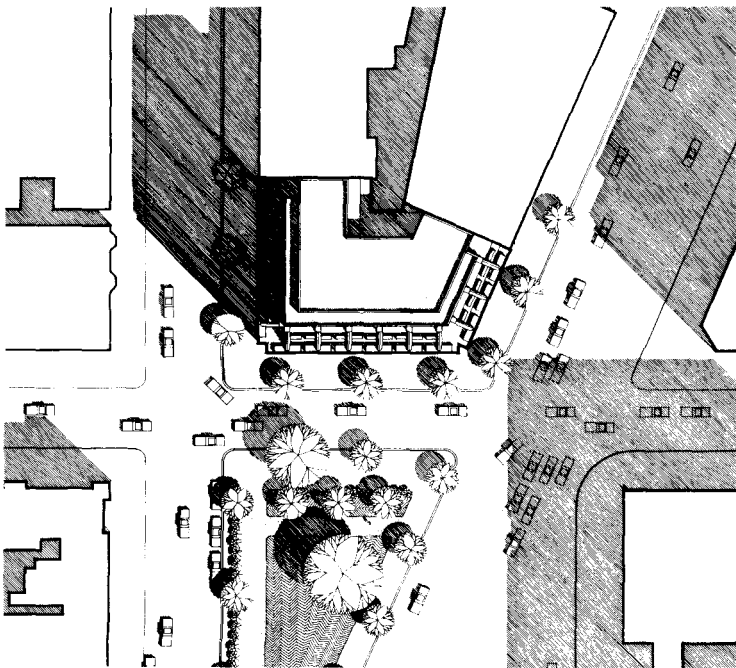
shield to protect the artwork. The ductwork of the new mechanical system is concealed and integrated into the architectural finishes. In summer, only the ground floor is air cooled. The two upper floors rely on vertical air movement.







Photographs by Robert Lautman



Complex, Muscular Facades On Pennsylvania Avenue

Design of the National Permanent Building, Washington, D.C., was greatly influenced by economics and site: The cost was to be competitive with other speculative office buildings in the area and the building was to be located on a trapezoidal lot on Pennsylvania Avenue two blocks west of the White House.

To keep the price tag low (the final cost was \$25 per square foot), Hartman-Cox of Washington chose simple materials for the 12-story, 240,000-square-foot building: reinforced concrete, aluminum frames, metal and glass. The architect relied on exposed ducts and the "expressive quality" of the notched concrete frame to create "complexity in the building without using expensive ornamentation."

On the south and west facades, the windows are recessed six feet to expose the flat-black metal ducts, columns and concrete frame (photo above, looking east with Pennsylvania Avenue running diagonally to the right). On the less prominent north facade, the glass is flush with the concrete frame (photo right).



On all three sides the exposed ducts originate as huge tubes on the roof and slant outward following the floor plan of the upper two stories. Below this, the columns and ducts work as a balancing act: As the ducts progress downward they decrease in size while the concrete columns increase in size.

The building overlooks two small parks on either side of Pennsylvania Avenue and can be seen almost all the way down the avenue to Georgetown. In the design, Hartman-Cox sought a building that would be "appropriate in forcefulness, scale and color to its site . . . a relatively tame foreground structure." Although somewhat larger in scale, the building borrows massing and coloring from its neighbors. The columns are meant to echo those of Alfred B. Mullett's Old Executive Office building a block to the east.

The entry lobby and some of the storefronts were the only interior spaces designed by Hartman-Cox. In the slate-walled lobby, elevators are placed at 45 degree angles. The storefronts have clear glass bays between the columns.

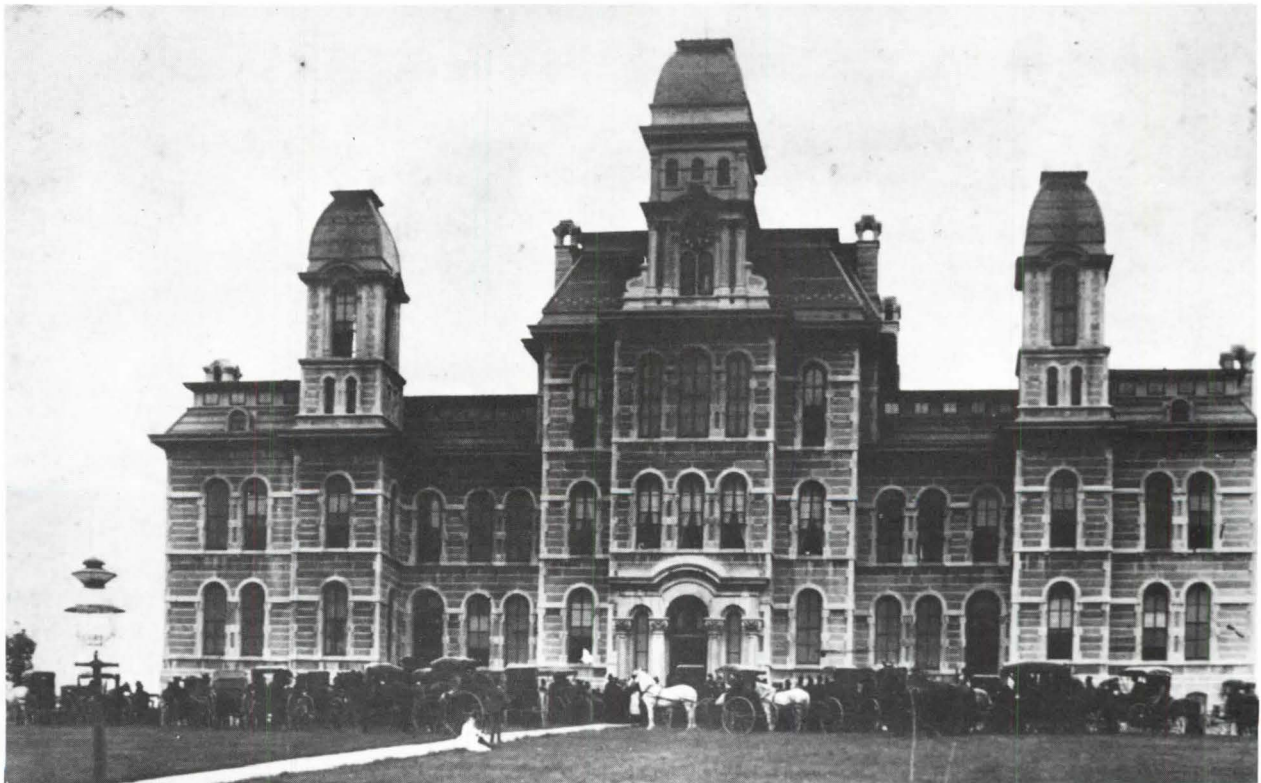
The jury called the building "a delightful, viable, alternative solution to this building type."

Client and general contractor: The Lenkin Co. Structural engineer: KCE Structural Engineers. Mechanical and electrical engineer: General Engineering Associates. Completed in 1977.





Steve Rosenthal



A Noble University Hall Given a New Interior

At the summit of a long, sloping street, the Hall of Languages marks the entrance of Syracuse University. The Second Empire building, designed by Horatio Nelson White and completed in 1873, was the university's sole structure for a decade and since then has served as the center of the college of arts and sciences.

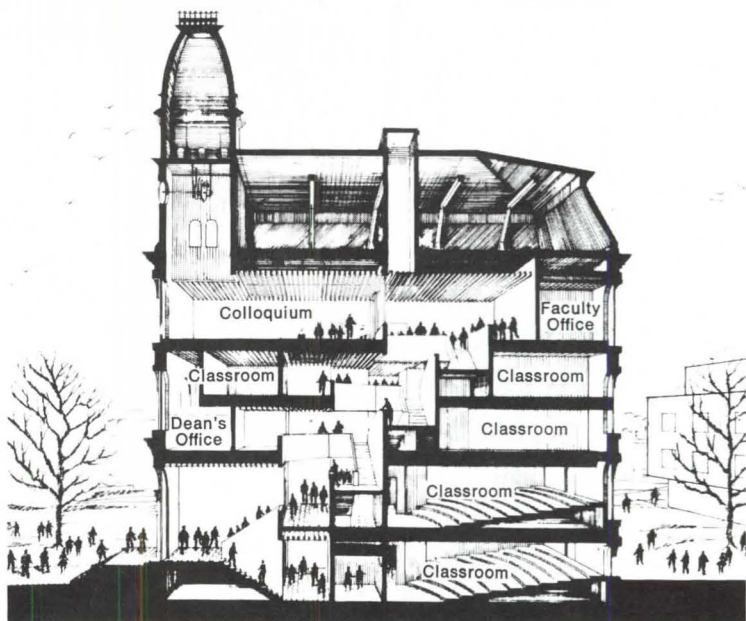
The exterior of the newly renovated building (which is listed on the National Register of Historic Places) is unchanged in appearance, except that energy efficient windows have replaced the wood framed, double-sashed originals and glazed vestibules have taken the place of dilapidated wooden porches.

But inside, the building has been totally transformed. The sagging floors, hissing radiators and cramped, dimly lit classrooms and offices were all removed and the original four floors were replaced by five. This increased the total square footage by 25 percent (originally 57,372 square feet; now 71,715).

The focal point of the new interior is a dramatic octagon-shaped atrium at the building's center, intended to "reflect the strong Second Empire symmetry of the main elevation," in the renovation architect's words. An open staircase winds up through the atrium (photo right, looking down the stairs) and replaces the original narrow and twisting stairs. The staircase culminates on the fifth floor at the colloquium, a large lecture room. Natural light enters the room through a skylight (photo below).

The most heavily used classrooms are located on the first two floors. (The building is used by as many as 2,300 students at one time; double that between classes.) The dean's office is located on the third floor, with other departmental suites and over 70 individual faculty offices on the upper three floors.

Project architect and structural, mechanical, electrical engineer: Sargent-Webster-Crenshaw & Folley. Design architect: Architectural Resources Cambridge Inc. Client: Syracuse University. General contractor: J. D. Taylor Construction Corporation. Completed in 1979.



Steve Rosenthal



Steve Rosenthal



A 'World of Mirrors' Created Inside a Chicago Brownstone

Behind the 19th century brownstone facade at 38 E. Schiller Ave., Chicago, is a "high-tech" world of mirrors and assorted tricks. It is essentially a building with two fronts: The exterior stone facade separates the city from the house's public spaces and the interior one-sided reflective glass hides the private family rooms. Doorways are camouflaged by the mirror wall. Stairs disappear and re-emerge through the three-story glass facade.

The staircase path was intended by the architect, Chrysalis Corporation of Milwaukee, to be ritualistic, "making clear the importance and meaning of the dominant glass object. . . . Entering below grade, the stairs wind up through the building, becoming more open and more important as objects, always giving a new perspective of the glass surface."

The glass wall also acts as a passive solar system by distributing throughout the house light and energy that enters via a large skylight. Also for energy conservation purposes, the exterior walls were heavily insulated.

Of the interior design the jury commented, "In a brilliantly simple move the center of the house is divided vertically by this wall, treated as an abstract gridded surface to achieve separation of social and private areas." The jury added that this "highly abstract and uncompromising quality is successfully softened by the particularly livable personal furnishings."

Client: Dr. Seymour Hershman. Structural engineer: Anthony Schnarsky. Interior furnishings and finishes: Mrs. Shirley Hershman. Completed in 1981.

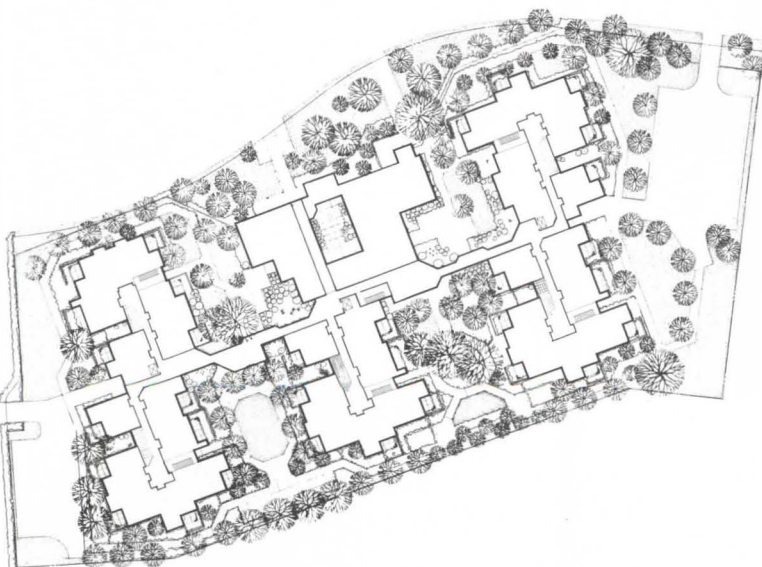


Photographs by Joseph M. Valerio



Anders Hench

Community and Identity in a Retirement Housing Complex



The move to a retirement home can often be a difficult transition for the elderly, especially for persons who have lived in single family houses. To make this a more welcomed change, architect Peters, Clayberg & Caulfield of San Francisco set out in the design of St. Mary's Gardens, Oakland, Calif., to reproduce some of the amenities associated with a single family residence—front and back doors, immediate access to the outdoors and a definable neighborhood with a town square.

The complex consists of 101 units in five buildings or "clusters," situated to take advantage of existing trees, to relate to the existing neighborhood and to form distinct outdoor spaces. The clusters are linked to a community building by two long enclosed arcades, "streets," that open onto the landscaped courtyards and the "backyards" of the housing. The community building, which is the main entrance to the complex and symbolically the "town square," has lounges, administrative offices, crafts rooms and a dining room. Along the streets are a laundry and beauty parlor.

The units are all one bedroom apartments; there are four



Rob Super

different layouts, including one for the handicapped. The exterior finish is Douglas fir plywood, textured with grooves at four, eight or twelve inches, painted in various colors. The architect's intent was to use color, massing and attention to detail to "create a setting that is a dwelling place, not a warehouse or a clinic, and to emphasize the identity of the different buildings and apartments." The apartments are arranged to take advantage of natural light, cross ventilation in the summer (there is no air-conditioning provided) and heat gain through the windows in the winter.

The entire complex is surrounded by a high, open iron fence intended to keep unwanted strangers out while funneling legitimate visitors to the main entrance. Funded by a local Catholic church, the complex was built at the low cost of \$38 per square foot.

The jury called St. Mary's Gardens a "humanely organized project that offers real amenities to its elderly inhabitants, a sense of community and privacy, a variety of secure outdoor spaces for viewing and use, a domestic scale and many unit types."

Client: St. Mary's Elderly Housing, Inc. Structural engineer: Peter Culley Associates. Mechanical engineer: JYA Engineers. Electrical engineer: Aladin Electric. Landscape architect: Richard Vignolo. General contractor: W & B Constructors. Completed in 1979.



Steve Proehl

Each of the buildings in St. Mary's Gardens has a semi-public, two-story skylit atrium space for informal gatherings, right. Below, the main dining room's ceiling steps down, allowing for clerestory windows.

Y. Takase/Futagawa © Retoria



Rob Super



Burly But Unobtrusive Riverfront Detention Center

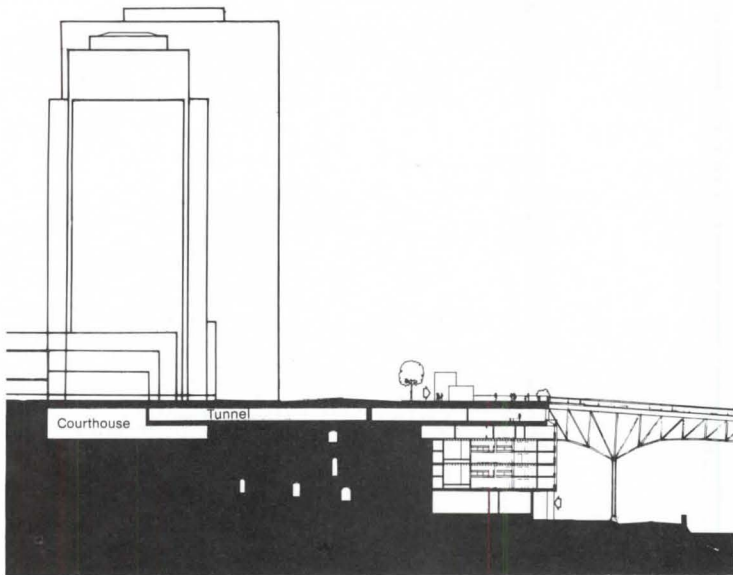
The Ramsey County Adult Detention Center, St. Paul, is designed to "create as normal an environment as possible for persons awaiting trial" while at the same time contributing positively to the city's waterfront on the Mississippi River.

Located at the corner of two main streets in the central business district, the center appears only as a roof-top plaza from street level (photo above). But from the river, the concrete frame with brick infill building "captures the site's natural bluff formation and is strongly massed and articulated in vertical contours and folding shapes," in the architect's words. Placing

the building against the bluff allows the tall structures on the opposite side of the main street to retain the view of the river.

The main entrance is located at plaza level with administrative offices and courtrooms on the upper story. This floor is connected by tunnel to the city's main court building. The inmates (as many as 132) are housed on four levels in six separate units, each with 15 individual rooms arranged around a two-story multipurpose room. All the windows are of unbreakable glass without bars and overlook the river. The flexible floor plan allows for a mixture of security holding rooms.

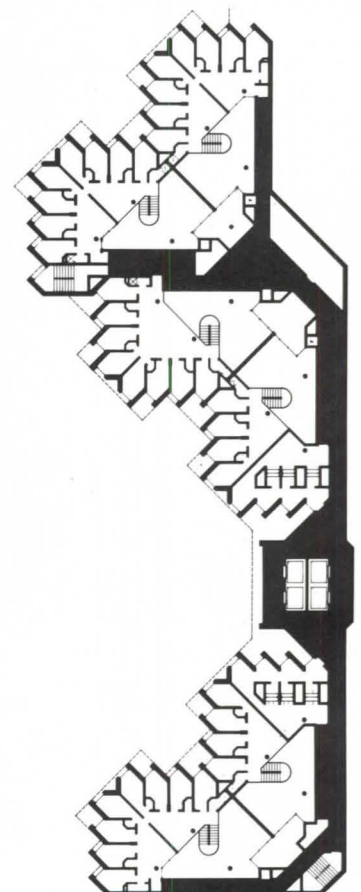
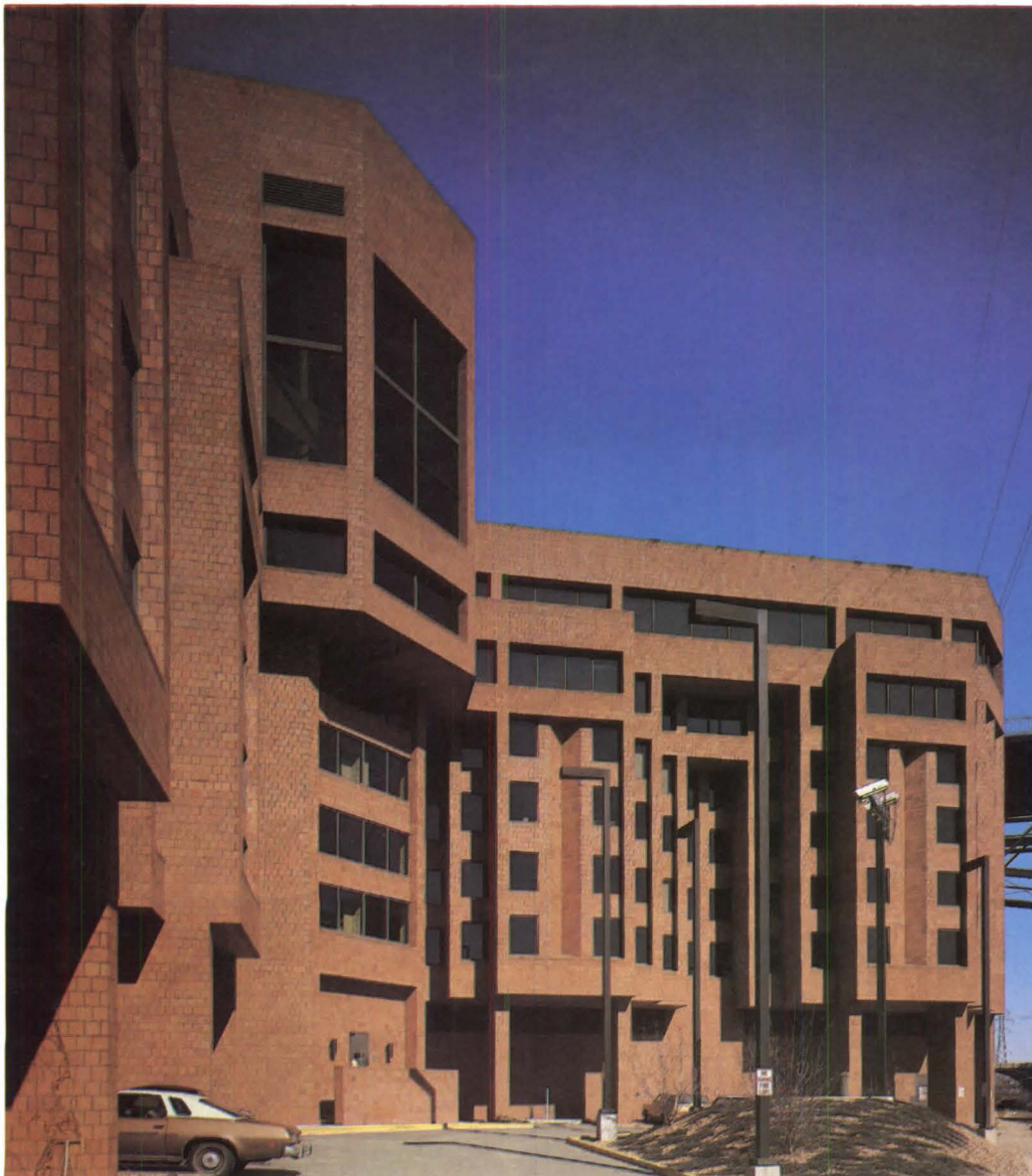
Architects: The Wold Association, Inc., St. Paul, Associated architects for design: Gruzen & Partners, New York City. Client: Ramsey County, State of Minnesota. Structural, mechanical and electrical engineer: Kirkham Michael Engineers. Landscape architect: David A. Kirscht Associates, Inc. General contractor: Steenberg Construction Co. Completed in 1977.



The Ramsey County Adult Detention Center as seen from the Mississippi River, below and facing page. Rooms for persons awaiting trial have unbreakable glass windows (right) and access to a two-story multipurpose room.

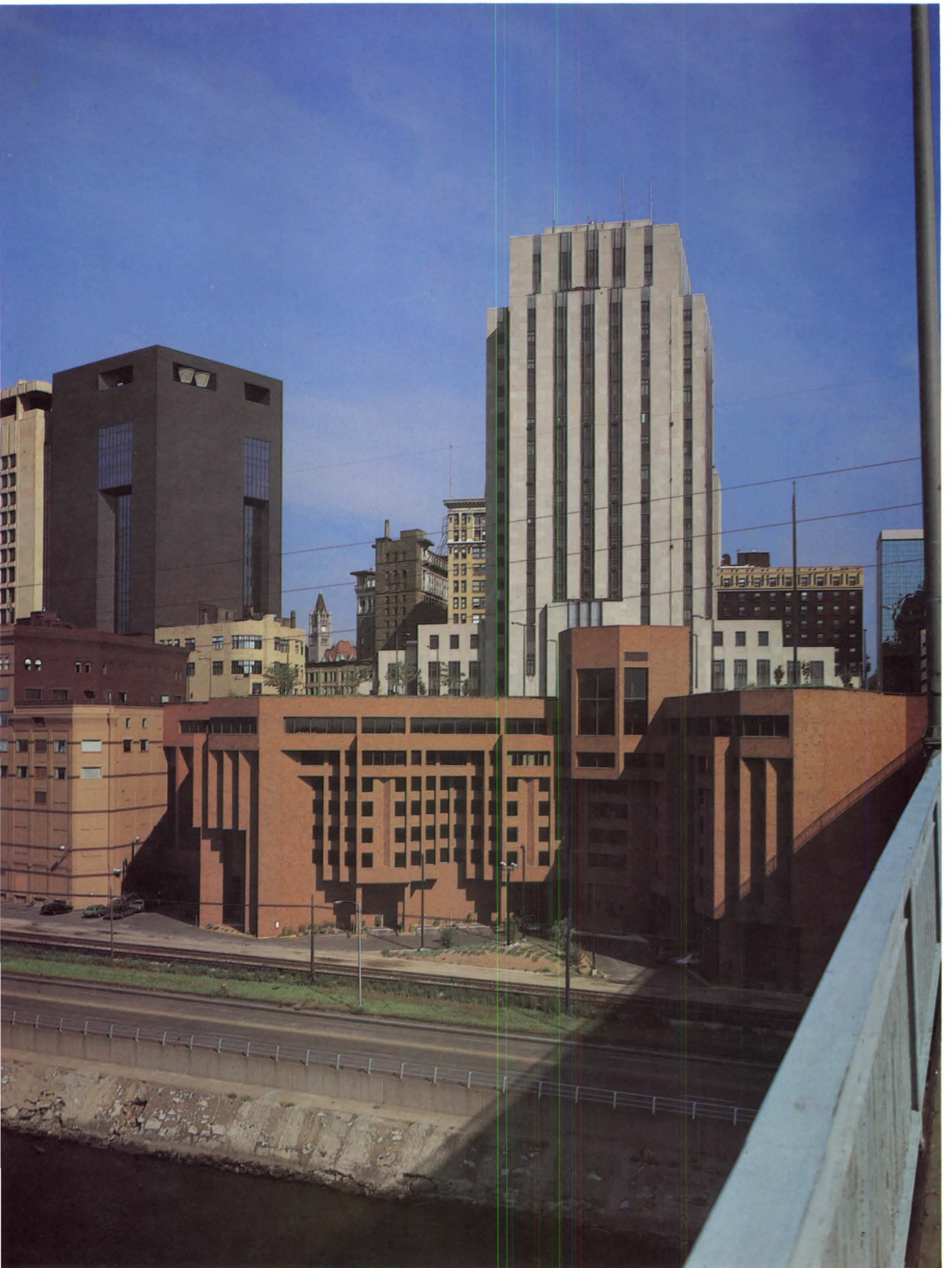


Stu West



Housing upper level 3

© Wolfgang Hoyt/ESTO







Residence Hotel Made Into Housing for the Elderly

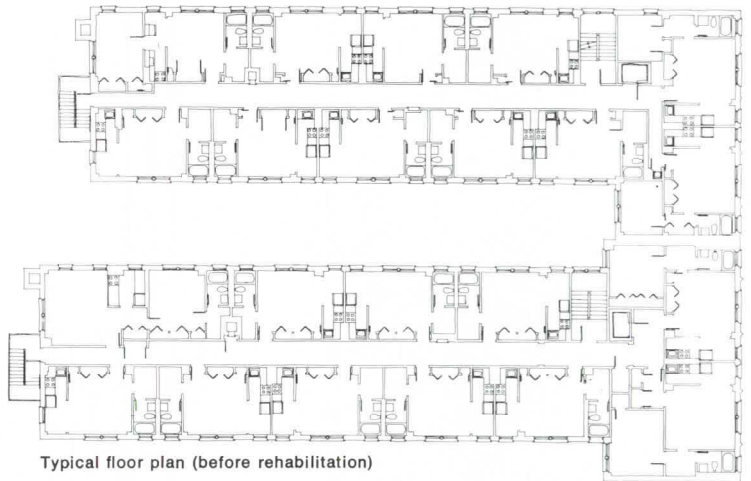
In the renovation of the Oaks, built in 1926 in Oak Park, Ill., as a residence hotel, Nagle, Hartray & Associates of Chicago sought to provide a "better environment for the elderly than could be achieved with a new structure."

The Oaks consisted of two separate structures, each with double loaded corridors and efficiency apartments of approximately 300 square feet. The client eventually obtained HUD funds to rehabilitate the deteriorated structures into 76 apartments for the elderly and the handicapped.

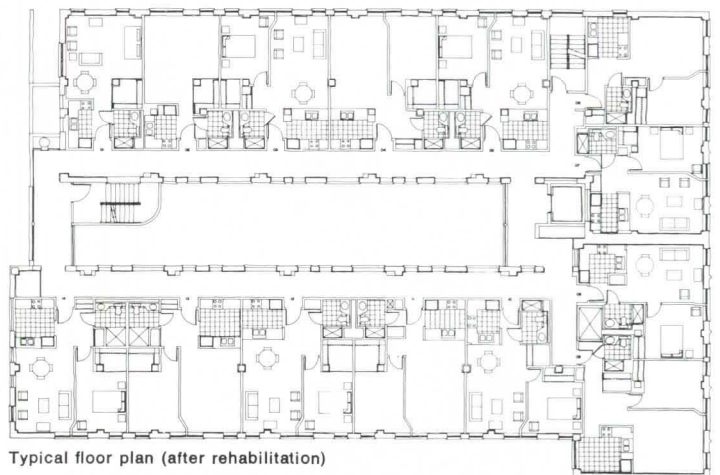
The redesign called for the demolition of the interior partitions to create single loaded corridors that overlooked the courtyard. This in turn created larger efficiency and one-bedroom apartments. The 17-foot-wide inner court was enclosed with roof and clerestory to create an "energy-efficient" atrium space. Retention of the window openings allow for both privacy and views of the courtyard. An addition at the rear linked the two buildings and provided room for elevators, stairs, vestibules and a mail room. The former parking lot in the rear was landscaped.

The jury commended the architect for the "brilliant solution" to the "inadequate lightwell," a problem commonly found in older buildings. "That grave defect has been turned into a resource for a sense of community," the jury said.

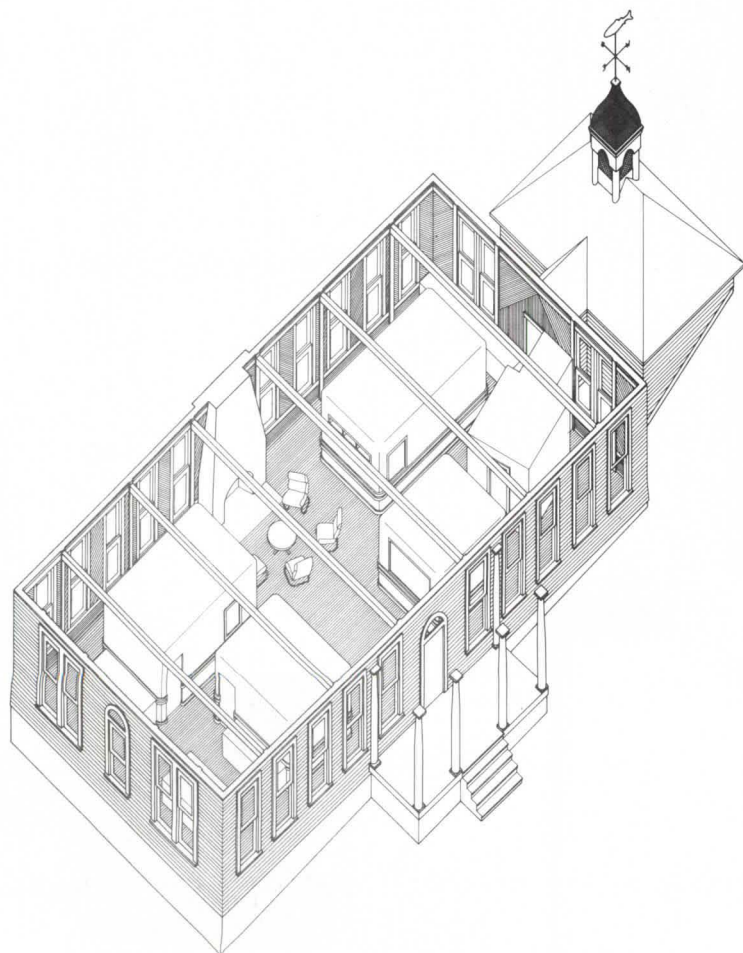
Client: Oak Park Residence Corporation and the Crescent Development Corporation. Kitchen consultant: Robert Berns Associates. Structural engineer: Beer, Svab, Gorski & Graff Ltd. Mechanical and electrical engineer: H. S. Nachman & Associates. Landscape architect: Joe Karr & Associates. General contractor: E. W. Corrigan Construction Co. Completed in 1980.



Typical floor plan (before rehabilitation)



Typical floor plan (after rehabilitation)



Gleaming Laboratory Cubes In a Rustic 19th Century Shell

The renovation of the Jones Laboratory in Cold Springs Harbor, N.Y., dramatically combines the old and the new. The exterior of the late 19th century building has been immaculately restored.

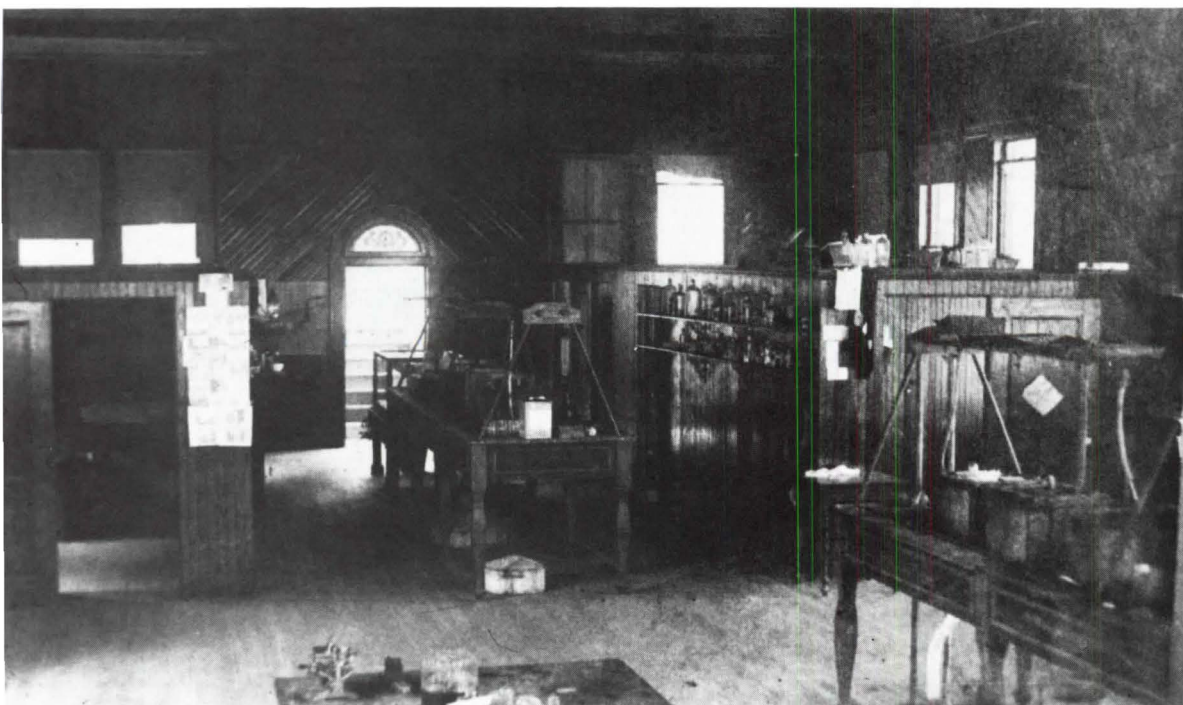
Inside, the existing walls and ceilings of yellow pine have been patched, cleaned and revarnished. In contrast are five gleaming aluminum cubes containing laboratories and a darkroom.

Each of the four neurobiological laboratories, which replace the old wooden ones (photo right), is on its own foundation and shielded from its neighbors by its grounded aluminum skin. This is to avoid acoustical, electrical or vibrational disturbance of the highly sensitive instruments and equipment. Precise temperatures are maintained inside the labs.

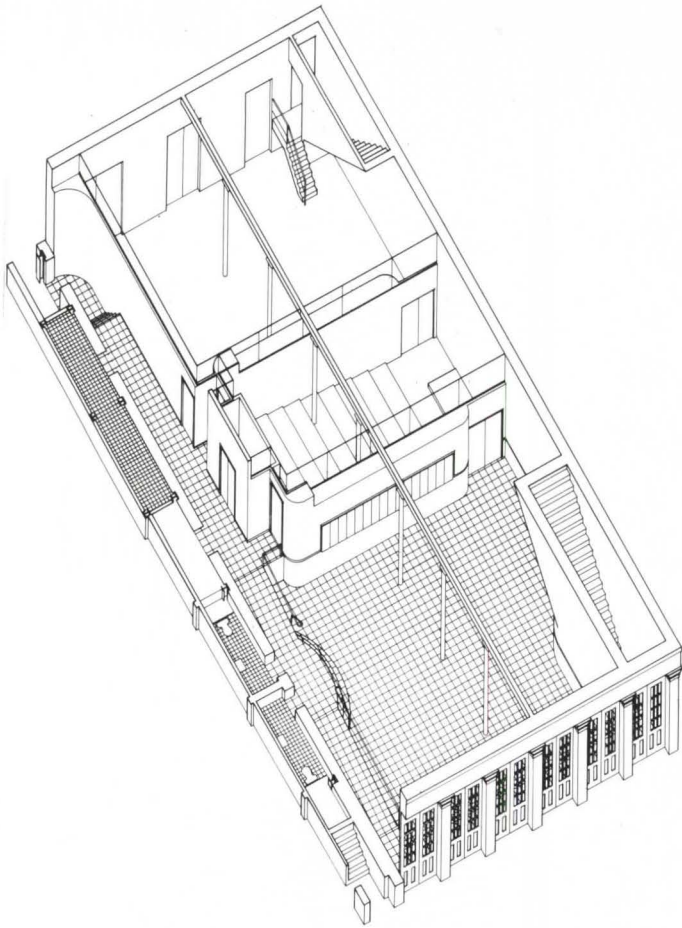
To house the cold room and mechanical systems, architect Moore Grover Harper of Essex, Conn., designed a miniature of the original building, complete with a chimney topped by a dome-shaped spark arrester.

"The project," says the jury, "fulfills its two functions of a relaxing social environment and advanced scientific experimental spaces beautifully, but also expresses in a symbolic way the separation and union of private inquiry and collective discourse with colleagues necessary for the advancement of science."

Design team: William H. Grover, AIA, and Charles W. Moore, FAIA. Client and structural, mechanical and electrical engineer: Cold Spring Harbor Laboratory. Scientific adviser: Dr. John G. Nicholls. General contractor: Jack Richards, superintendent, Cold Spring Harbor Laboratory. Completed in 1974.



Multiple Benefits from A Minor Extension in Width



An addition five feet wide on the west facade solved several problems in the rehabilitation of the Hendley building in Galveston, Tex. It allowed for buttresses of parallel steel bents for the needed structural support. It provided room for updated services such as HVAC, plumbing and electrical and for a new exit, without disturbing the interior spaces. It formed an insulating barrier to the severe west sun. And it transformed the "usual negative blankness" of a party wall into "a playful new contribution to the surrounding environment," in the words of the jury. The colors of the west wall reverse the dominant colors of the main facade while reflecting surrounding colors. The tile pattern was selected to heighten detail and scale.

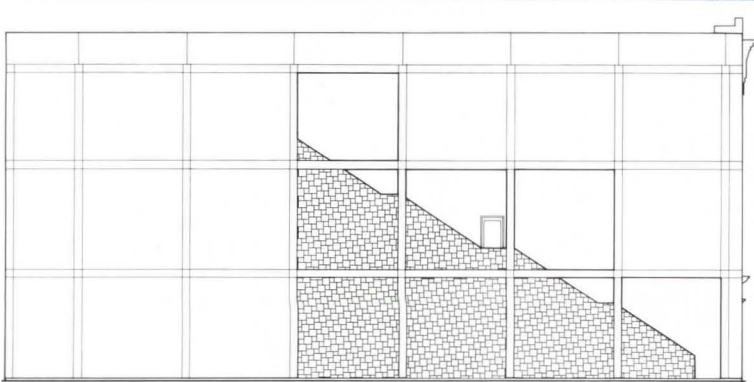
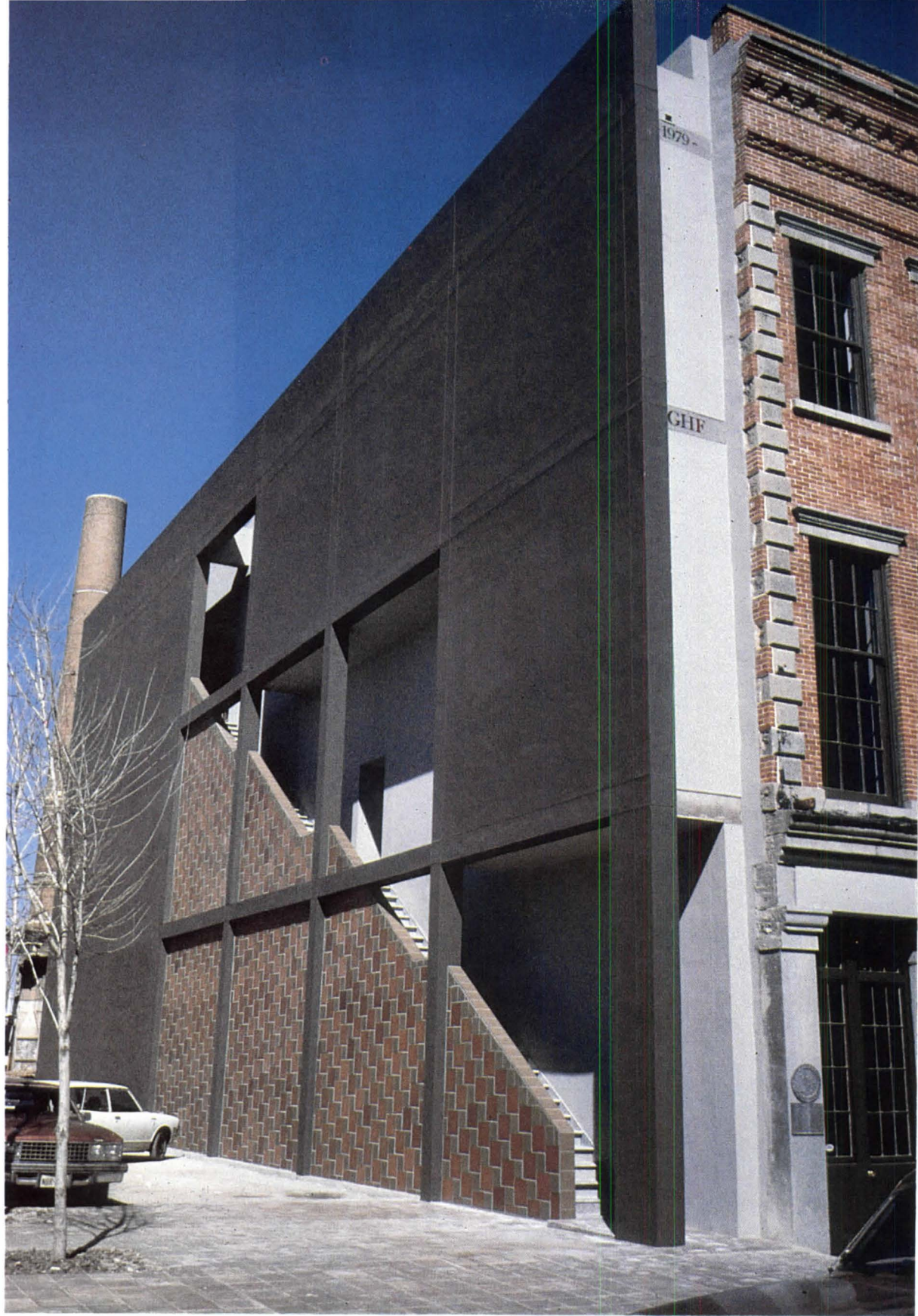
Built in 1859 as a cotton export office, the building is the oldest commercial structure on the Strand, a five block street of Victorian structures. Taft Architects of Houston was commissioned by the Galveston Historical Foundation to restore the building and provide office space, workrooms, exhibition areas and an auditorium.

The foundation was commended by the jury for "its courageous acceptance of a new vocabulary in conjunction with a traditional restoration." The architect's plan was praised for avoiding the "usual weak supergraphic cosmetics" and for introducing "a sense of limpid clarity between the new modern service elements and the old restoration with a bold but comfortable juxtaposition."

Design team: John J. Casbarian, AIA, Danny Samuels, AIA, Robert H. Timme, AIA. Structural engineer: Cunningham Associates. Mechanical engineer: Arthur Rice Associates. General Contractor: Trentham Corporation. Completed in 1980.

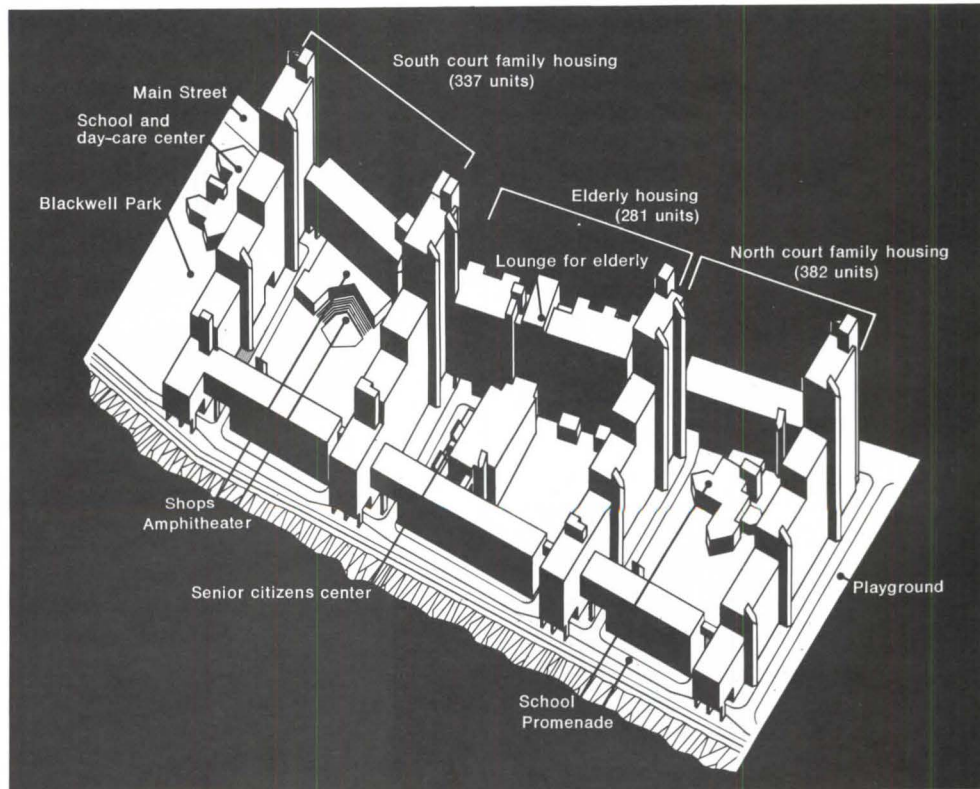
Photographs by Taft Architects







Photographs by Steve Rosenthal





Varied Microcommunity For an Island New Town

In 1968 the City of New York gave a 99-year lease to the New York Urban Development Corporation to construct a new-town-in-town on Roosevelt Island. This plan was chosen over other proposals running the gamut from a nuclear power plant to gambling casinos. Sert, Jackson & Associates, Cambridge, Mass., was commissioned to create on some six acres of open land a complete living environment for 1,000 low and moderate income families; the architect was to provide housing, but also social, commercial, educational and recreational facilities.

The design of Eastwood adheres to the island's master plan calling for buildings to step down from a central main street toward the edge of the East River. To avoid excessive bulk and a "canyon" effect, the architect held the buildings along Main Street to less than 10 stories. The building elements perpendicular to that street rise higher in order to fulfill the client's unit-number requirement. The stepped plan allows for roof terraces with views of Queens. (The photo above is a view of Eastwood from Queens across the East River.)

Along Main Street, the buildings advance to the curb line. Arcaded walks provide shelter and access to apartment lobbies and commercial and community facilities.

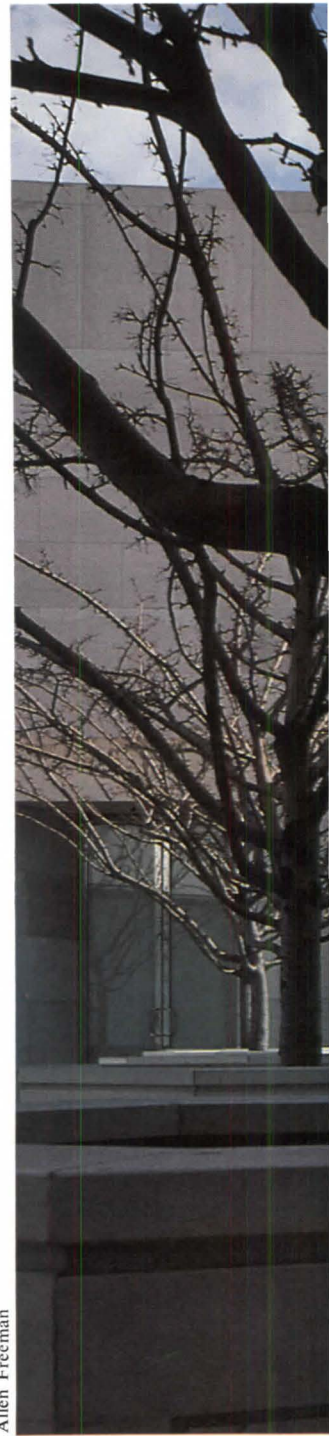
The buildings cluster around three major courtyards, landscaped with large existing trees, lawns and paved walks. Around the center courtyard is housing for the elderly and in that courtyard is a senior citizen's center. Around the two other yards is housing for middle and lower income families, as well as a school and day-care center, parks, shops and an amphitheater. The Plaza (upper left photo) opens off the main street and includes a landmark church (at the far left of the photograph). The glass-enclosed space is in front of one of the residential lobbies.

The concrete and brick buildings are organized around a skip-stop elevator access system. The elevator stops only at every third floor, and from this level, residents take a private stair up or down one flight to their apartments.

The jury called the residential community a "significant example of a prototype of high-density urban housing with concern for the amenities of each dwelling unit."

Across Main Street and to the south and west of Eastwood is Westview, a 360-unit complex for middle-income housing also designed by Sert, Jackson & Associates.

Principal in charge: Josep Lluís Sert, FAIA; project manager: William Lindemulder, AIA. Client: Roosevelt Island Development Corporation. Structural engineer: Weidlinger Associates. Mechanical engineer: Cosentini Associates. Electrical engineer: Eitington & Schlossberg Associates. Landscape architect: Sert, Jackson & Associates, Inc. General contractor: Building Systems Housing Corporation, Turner Construction Co. and Sovereign Construction Co. Completed in 1976.



Allen Freeman



Photographs by Steve Rosenthal

Instead of a straight-grid plan, Main Street (upper photo) bends slightly. Above, arcaded sidewalk along Main Street.



The Two Triangles of the Mall's Newest Monument

Shaped in part by its site, I.M. Pei & Partners' east building of the National Gallery of Art in Washington is a trapezoid comprised of two interlocking triangles. One of them is one of the world's best known museum spaces, and one of the most discussed works of architecture of the 1970s (see Mid-May, '79, p. 105): a soaring space capped with a cluster of tetrahedral skylights and surrounded by 11 galleries of varying sizes and shapes.

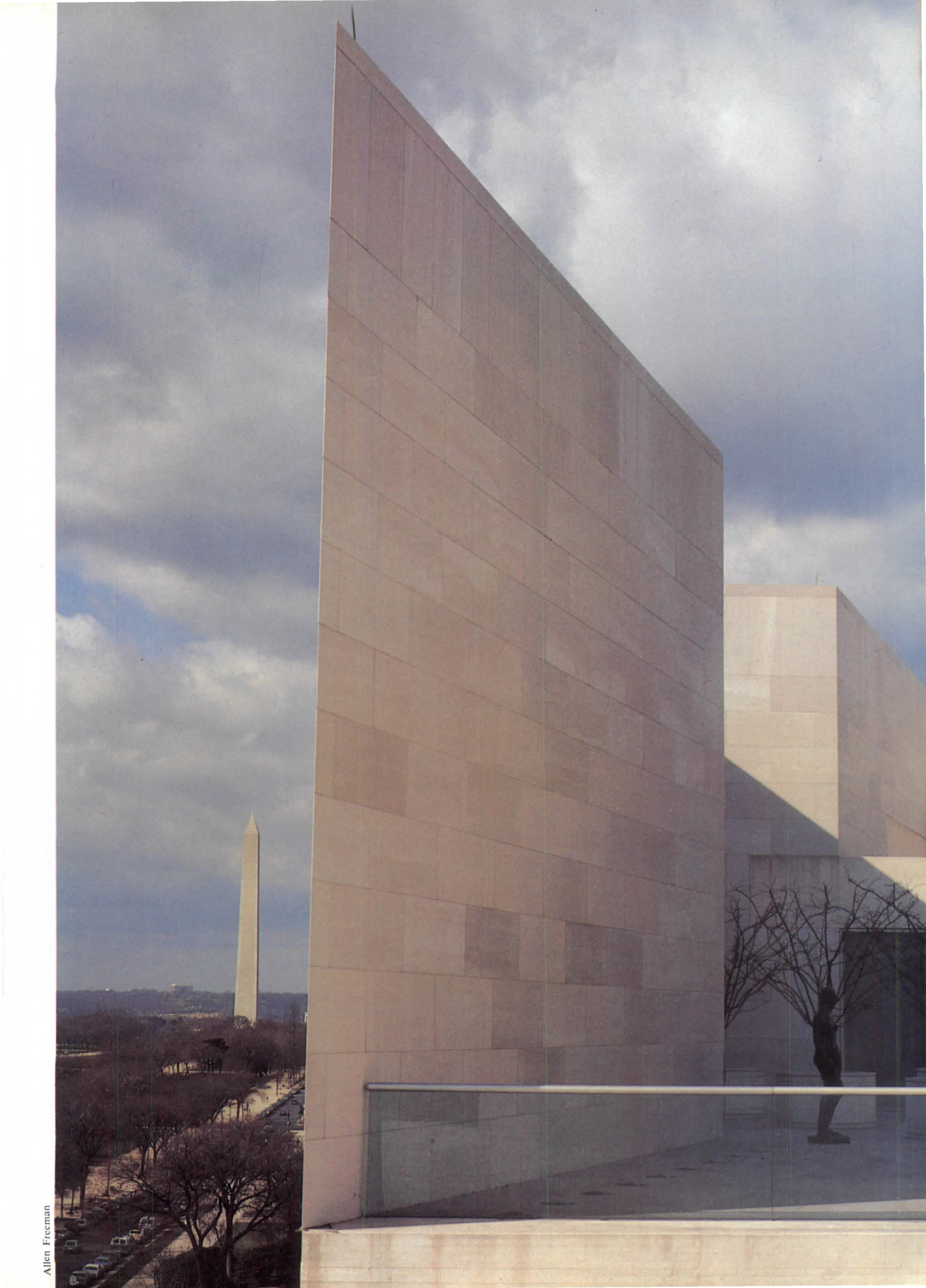
The second triangle is less well known and it is the one shown on these pages. It houses the Center for Advanced Study in the Visual Arts. Like the museum side, it is organized around a 70-foot-high central court, in this case surrounded on two sides by six floors of offices, reading rooms and bookstacks. On

the seventh floor the offices are connected to an outdoor terrace complete with crabapple trees and sculpture (photo above).

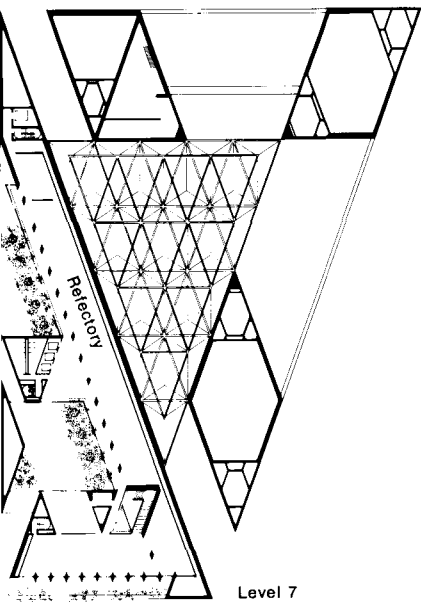
The honor awards jury noted that the study center has been "given its own appropriate identity and spacial unity within the building." It praised the museum side for being "rich in alternatives for the visitor" in terms of viewing artworks, of circulation routes and of "active and contemplative spaces." It termed the whole building as "a strong visual statement . . . sensitively related to its immediate environment" in monumental Washington.

The entrance to the east building looks across a plaza to the original national gallery (designed by John Russell Pope). Connecting the two buildings is a concourse level that contains an auditorium, a gallery, restaurants and shops.

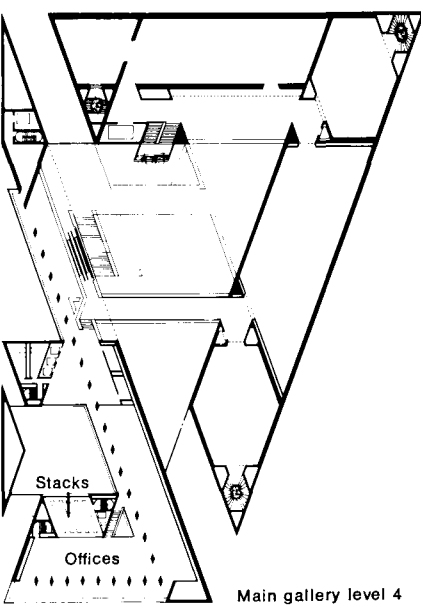
Principal in charge: I.M. Pei, FAIA; project architect, Leonard Jacobson, AIA. Client: Trustees of the National Gallery of Art. Structural engineer: Wieskopf & Pickworth. Mechanical and electrical engineer: Syska & Hennessy. Landscape architect: Mueser Rutledge Wentworth & Johnston. General contractor: Charles H. Tompkins Co. Completed in 1978. □



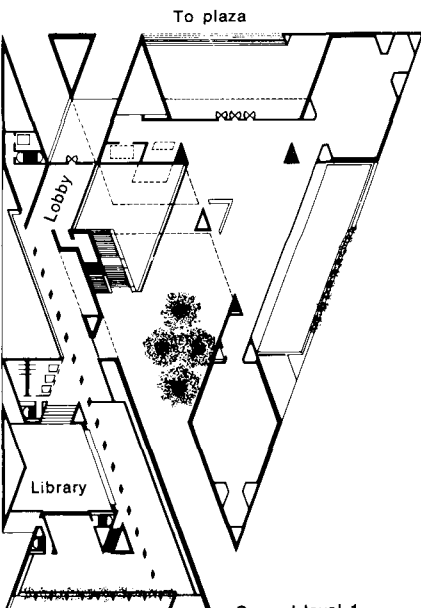
Allen Freeman



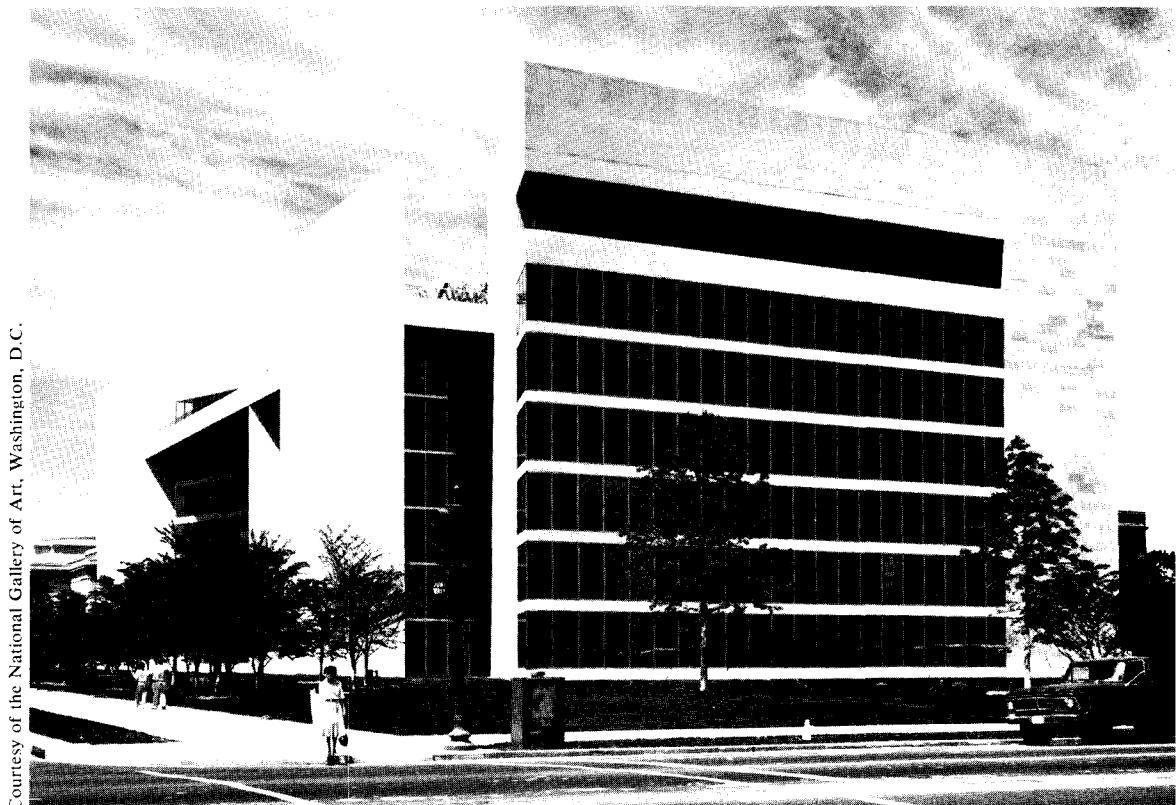
Level 7



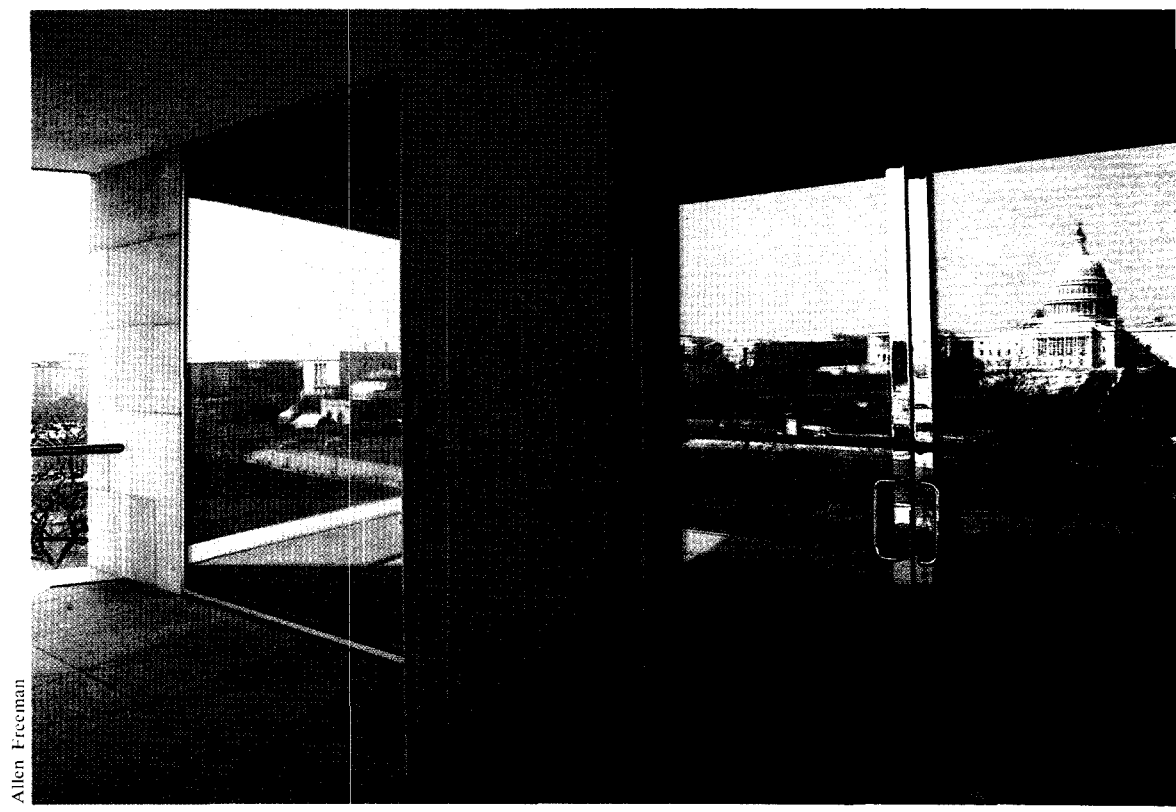
Main gallery level 4



Ground level 1



Courtesy of the National Gallery of Art, Washington, D.C.



Allen Freeman

The east building's Center for Advanced Study in the Visual Arts as seen from the Capitol side, upper photo. The seventh floor offices open to a terrace, shown above with the Capitol reflected in the

glass doors. The far end of the terrace provides a glimpse down the Mall of the Washington Monument (facing page) and the seventh floor garden, also shown on previous pages.



Above, the 70-foot-high atrium in the east building's study center is flanked on two sides by offices, bookstacks and reading rooms. Lower left, entrance to the atrium space. Upper left, two-story reading rooms along the center's eastern edge. From the first floor reading room, a skylit staircase leads to the offices above, right.



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2010 VISIONS

from page 223

From this will follow a new geophysical regionalism, fusing the information and tools of advanced technology to local conditions of climate, geography and resources. In this architecture, building and place are interdependent. As substance and symbol, the architectural expression will emerge from the incorporation of building geometry and skin with sun, earth, wind, precipitation and vegetation as an integrated environmental system, modifying natural conditions to service habitable human space.

The first decade of the 21st century may see the next inevitable step: an architecture that can "think," can automatically respond to variations in external conditions; kinesis buildings, which can track the sun and wind, disintegrate and reform in alternative configurations, buildings capable of assuming an infinite variety of form and surface, and above all, an architecture that is physically dynamic in response to the immutable principle of adaption upon which rests the fragile life of our small planet.

Ralph Knowles

The 21st century will offer increased design opportunities because urban growth will become more diverse and complex. Expansion onto raw land will continue in some regions, but transformation within cities will gain in importance. Both kinds of growth will offer challenges and opportunities. How to describe past growth as a basis for instructing future change will be a particular challenge for design research.

New growth cannot be instructed unless it can be predicted. We can currently only react to change. To predict it, we must develop and test a general theory of urban growth and transformation.

Critical aspects of change are the contact diversity and the level of development of particular parts of a city. If one traces these related aspects through time, a dynamic and predictive picture results. Very simply, if a part of the city becomes strategically located, but underdeveloped, its propensity to change is great. Therein lies an opportunity to affect growth.

When the development imperative is great, the developer is more likely to accept policy and design strategies aimed at enhancing the quality of life. For example, a public policy for assuring solar access is more acceptable where development pressures provide a basis for trading off on behalf of the public. The developer gets to build something, while the public benefit includes access to the sun. The policy and design challenge is to strike a fair balance between the right to develop and the right to light.

Los Angeles is the perfect city for exploring these challenges and in this sense may become an important urban model for the future. It is the epitome of the 20th century American city and bellwether for many of the new cities emerging in the Southwest. It has spread farther, faster and with more

exuberance than any before it. And it has used mobility instead of proximity to provide urban diversity; it relies on the car to bring people, things and activities together. Time, rather than space, is the measure of distance.

Now the limits of such reliance on mobility are becoming clear. The relationship between roads and the areas they serve has surpassed economic bounds. Television and telephones have not provided a completely satisfactory substitute for face-to-face conversation. Commercially produced energy is more expensive and water supplies limit growth potential; growth is having to confront resource limitations more directly. Cities will need to change their character and condition, their composition and their structure, if they are to sustain their vitality.

'The propensity to change is approaching or has surpassed the external tendency to expand.'

Los Angeles typifies cities where the internal propensity to change is approaching or has surpassed the external tendency to expand. Such cities will change their forms rather than their land areas, resulting in growth by transformation rather than expansion.

The imperative to grow in a different mode and the increased potential for enhancing the quality of urban life presents a design challenge with few historical precedents. The densification of older cities may yield little transferable experience. Meeting these new design challenges, conditions and values requires a concert of research and teaching and of policy, design and development. Disciplinary boundaries will recede. The new arrangements must reduce the need for intra-urban travel and provide buildings that celebrate their natural and built environments. Facing these challenges squarely will change all aspects of future design to some degree; it will change some aspects profoundly.

Jonathan Barnett, AIA

The year 2010 is as far away from us now as 1952. Life was not all that different from the way it is today: Life today is the same, only more so. Trends that were visible then have become accentuated: the suburban expansion of cities, accompanied by more tall office buildings downtown; the importance of air travel and computers; the internationalization of business. Some major changes that are important to architects were, perhaps, predictable in 1952 but became more obvious a few years later: the recognition of environmental limits, the importance of historic preservation as a political force and as an influence on new buildings, community participation in planning. With the perspective of history we can see that Edward D. Stone's U.S. Embassy in New Delhi (1954) was an early manifestation of what is now called postmodernism.

The chances are good that life in 2010 will not be that much more different from life today than the present is from 1952. It

too will be the same, only more so. It is tempting to make predictions about international relations and the world economy, but I will try to confine my predictions to issues of immediate concern to architects, although, as architecture is involved with the whole of society, it is difficult to make the separation.

By 2010 we can expect that all contract documents issued by architectural offices will be produced by computer-aided systems. This change will in turn have brought about major changes in the structure of the profession. Many of today's entry-level jobs will no longer exist, architectural education will be different, the optimal size for most offices will probably be much smaller.

In 2010 the international practice of architecture and urban design should be as routine as an interstate practice is today. Drawings translated into computer-language and transmitted by satellite can be made in Annapolis on one day and printed out in Hong Kong or Caracas almost instantly—and vice-versa. Architects in the U.S. will be making most of their drawings in the metric system and specifying building products from all over the world.

There will have been at least as much progress in opening up the profession of architecture to women, and to people who are not from the old social establishment, as there has been since 1952.

The form of big U.S. cities will be close to what we can observe in large Northern European cities today. The demographics of the work force will have made poverty and unemployment almost nonexistent for Amer-

'What is happening to Paris today is a good indication of what we can expect for New York and Chicago tomorrow.'

icans. The working class will live in apartments (mostly garden apartments) around the perimeter of the bigger cities, and the centers of these cities will belong to the rich. What is happening to Paris today is a good indication of what we can expect for New York and Chicago tomorrow.

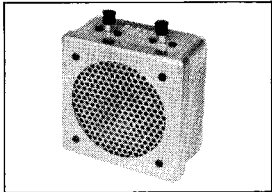
For economic and demographic reasons, we can expect the pace of new construction to be more as it has been for the last five years and less as it was from 1952 to the early 1970s. As the pace of environmental change will be slower, we can expect some of the rawness to have gone out of our environment. Utility wires will be miniaturized and out of sight on suburban shopping streets, some of today's monstrosities will be softened by landscaping, land that was bypassed or utilized for shoddy, makeshift buildings may be redeveloped by real estate energies that have been diverted from the perimeter of cities. *continued on page 272*

Mr. Knowles, keynoter of this year's AIA convention, is a professor of architecture at the University of Southern California.

Mr. Barnett is director of the graduate program in urban design at City College of New York and practices as an urban design consultant.

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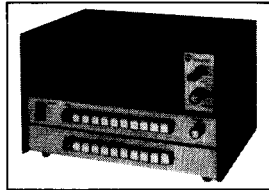
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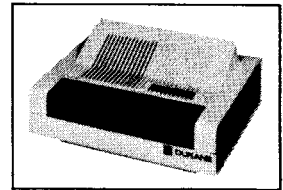
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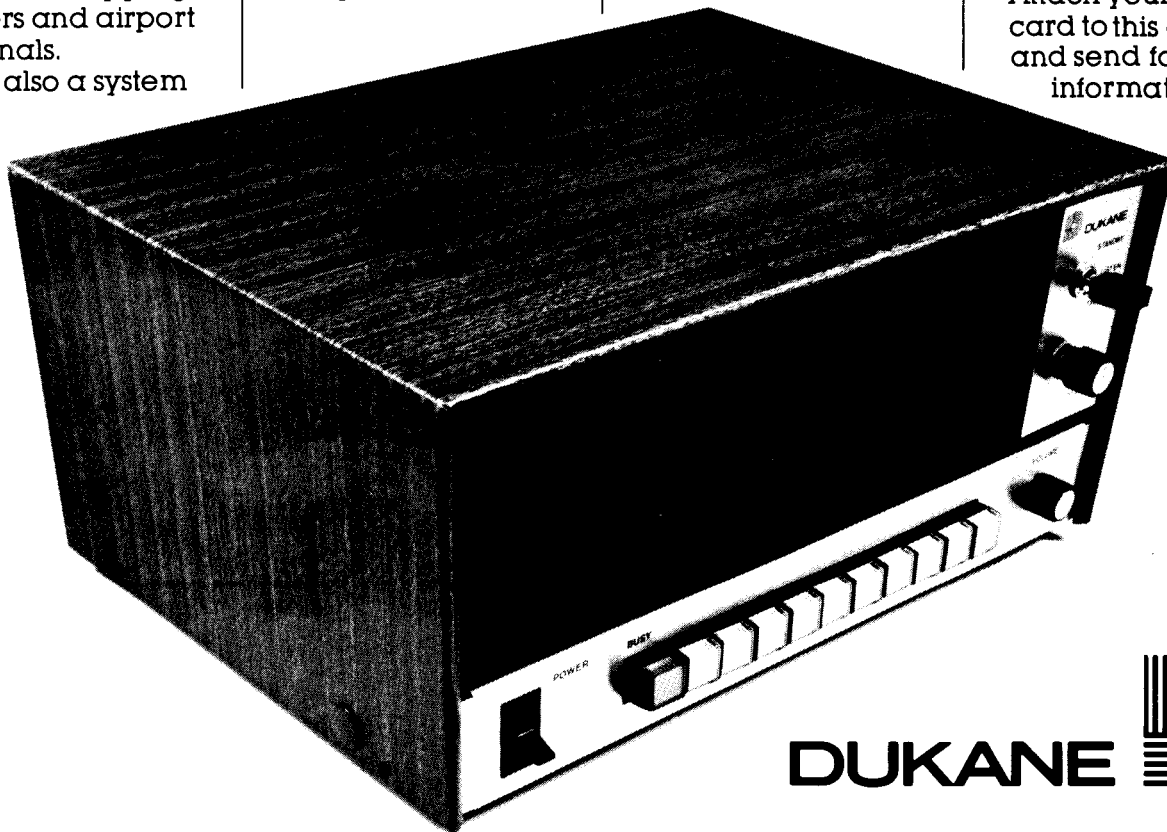
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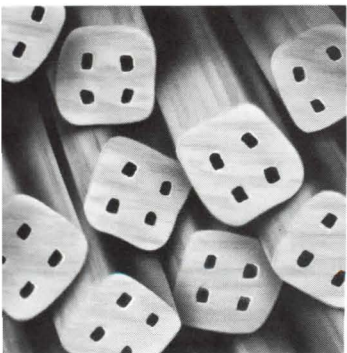
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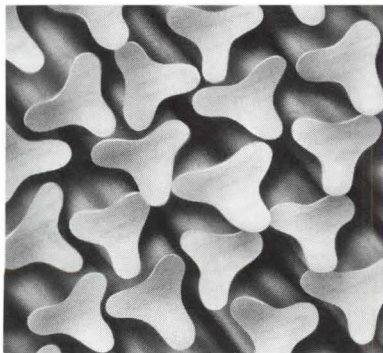
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2010 Visions from page 266

If current architectural trends—both popular and esoteric—continue, we can expect the city of 2010 to look more like 1910 than it does today. Instead of futuristic, streamlined towers, swooping monorails and the house as a capsule for living in, we can expect more moldings, more globe lamps, more Boston ferns on plant stands and more classical columns, pediments and other historical references. Almost every older building will have been preserved and rehabilitated, with modern technology duplicating the handicrafts of yesterday in new, lightweight materials. Architects for new buildings will seek to create the impression that these structures have been in place for a long time, rather than seeing them as foretelling a world of the future.

If current trends continue, we can also expect that the kind of terrorism found today in Europe and South America will have made its way to the U.S., only with a nuclear dimension. . . . However, I said that I was going to stick to architecture and the environment, and that is enough predicting for the time being.

Gunnar Birkerts, FAIA

I do make intuitive leaps often, but for the practical visionary (as I consider myself) to make a "paper leap" of this kind is difficult. I need a *base* to leap from. To establish that base I will have to penetrate into the next two decades of the 20th century. Very possibly it will turn out to be more significant than the romantically sounding first one in the next millennium.

Statisticians and economists have addressed the questions of natural resources, population explosion, exploration of outer space and the mutations in our society. Visionaries and Hollywood are giving us visual images. Then, where is *architecture* going to be in the next two decades? The practical visionaries are already synthesizing and projecting the future into their design solutions of today. If I concentrate hard I can see certain trends developing in the future:

Architecture will be fully recognized as an art and also as a collectable art. This will

'Theorists will gain recognition as a force . . . but practicing architects will keep their prophecies at arm's length.'

influence the up-to-now faceless, large architectural efficiency firms. First, they will become larger by absorbing more of the small architectural practices. By breaking up into manageable units they will attempt to humanize the inner structure of the super firm. Then they will endeavor "star making"—promoting a public image of an architect in their firm who would then become a marketable star-image for the collecting client. Other large firms will buy prestigious design consultation to accomplish the same goal. No one will reach the status of a new master, but there will be many strong design per-

sonalities emerging. Contrary to the modern masters, their philosophical approach will be nondogmatic and with less integrity and strength, but with a more developed sense of styling.

It will take some time for the profession to assimilate the academic product of the '70s. The segment, affected by the intimidating "hijacking" effort attempted by certain theoretical trends in the '80s, will decontaminate themselves and welcome the upcoming galaxy of young, virtuous architectural minds.

Architectural schools will go back to a five-year curriculum for a bachelor's degree and the two-year master's degree will again be highly esteemed. Academia will require 50 percent tenured faculty and 50 percent part-time practitioner-instructors. All five-year colleges will require one-year apprenticeships before graduation. Architectural schools will be entrusted to grant and certify most of the licensing requirements.

The architectural press will keep increasing its credibility. Mature journalists and critics will replace freshman amateur journalists, the many concerned with coining phrases, declaring directions or canonizing their own architectural martyrs. The serious and unbiased journalists will prevail.

Theorists will gain recognition as a force exploring the philosophical changes in future architectural directions, but practicing architects will keep their prophecies at an arm's length.

The peripheral (North) east coast will maintain its role as stimulator and the peripheral (South) west coast will keep resonating. However, the Midwest will continue its long architectural heritage, guided by a new, nondogmatic generation of architectural thinkers. It will rely strongly on the dedicated, enduring new architects graduating from their academic institutions. The Midwest will re-emerge as a leader of American architecture.

Henry Smith-Miller

With the passing of an era of very rapid growth, expansion and experimentation, the Western world will have to reconsider past strategies for survival. Present attitudes toward architecture as a product of society may change. There is a possibility for an architecture of quality and craft, more appropriately fashioned to a new society's needs. A new critical path and attitude toward the production of that architecture may prevail.

In the past, great works of architecture have often proved to be the exception, and mediocrity the rule. Only recently have issues of energy conservation and design plurality challenged the inertia of the status quo. With the demise of the once sacrosanct idea of modern architecture and the present lack of an architectural dogma regarding an "ap-

Mr. Birkerts' firm is Gunnar Birkerts & Associates, Birmingham, Mich. **Mr. Smith-Miller** practices architecture with Michael Rubin in New York City. **Mr. Campbell** is a practicing architect in Cambridge, Mass., and architectural critic of the *Boston Globe*.

proved" architectural style, there is an opportunity for change.

The present dichotomy between the actual contributions of large corporate architects and the virtuosity of the individual architectural talent has already focused the attention of the public on a changing situation.

'A more comprehensive manifesto of a well-crafted architecture appropriate to its context.'

Current ideas such as the definition of discrete, comprehensible and defensible space (the antithesis of the open plan) already show a change in both collective and individual consciousness toward the identification of one's own environment.

The utilization of materials, texture and color as components of the architectural palette to orchestrate scale and proportion can further define and articulate this environment. And finally, the very extensive rehabilitation of old existing building stock, coupled with a sense of energy conservation, has already brought the art of architecture closer to an esthetic comprehensible by the public.

A more comprehensive manifesto of a well-crafted architecture, appropriate to its context, both physical and economic, may replace the past strident tones of dogma, fashion and style.

Robert Campbell

You can't think about the future without thinking about the bomb, especially when the subject is something as vulnerable to Armageddon as architecture. Since no one wants to think about the bomb, we don't think much about the future at all. This accounts for the current fashion of reviving the past instead of envisioning Utopian futures.

Peter Eisenman, in an essay on Aldo Rossi, says something that needed to be said: If we now see the end of the human narrative as being so uncertain, if we realize we may die a collective and meaningless nuclear death at any moment, then the story of civilization as a narrative leading toward some sort of fulfillment tends to lose its point. And building or planning for the future loses its promise, its joy. The future is no longer the dreamland we hoped for when we glimpsed it at the World's Fair; it is instead something to avert our eyes from.

The preservation movement is another result of the same displacement of attention and fear from the future onto other, more acceptable objects. In struggling (quite rightly) to preserve our heritage of old buildings, old neighborhoods, we are also at some level, vicariously, struggling to preserve a whole world that we secretly know and fear may disappear as quickly as if the projector bulb blew. Conversely, our new architecture is trendy, an architecture of the moment, not for all time, a set to be struck, because deep down we know that the moment may be all there is. And the antinuke movement, which worries about nuclear power plants instead of nuclear weapons, is another symptom

continued on page 278

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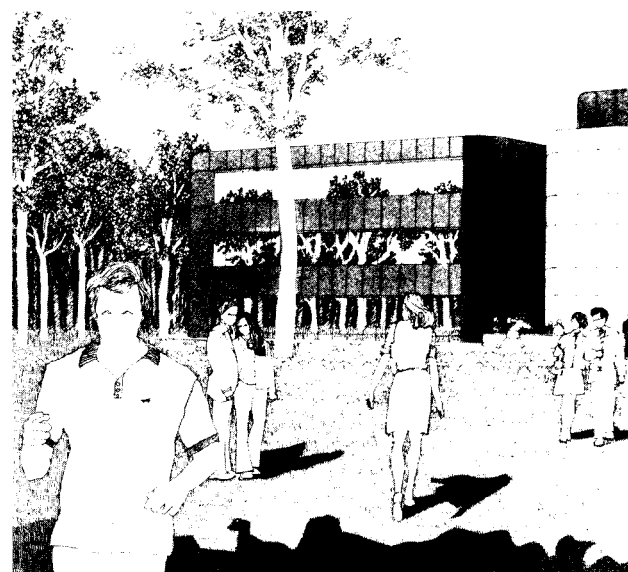
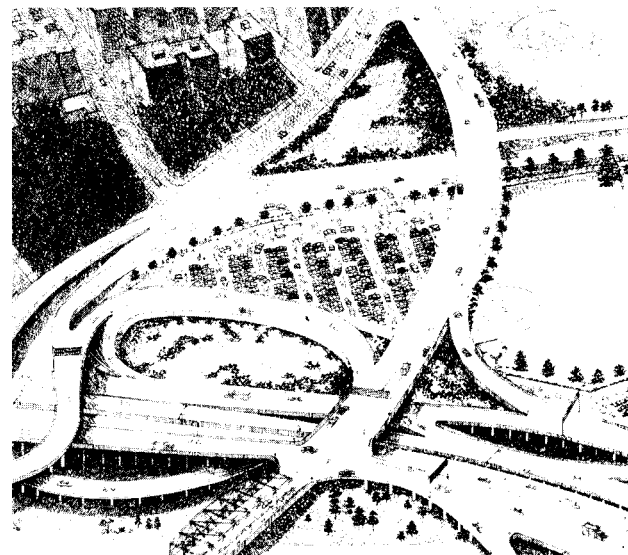
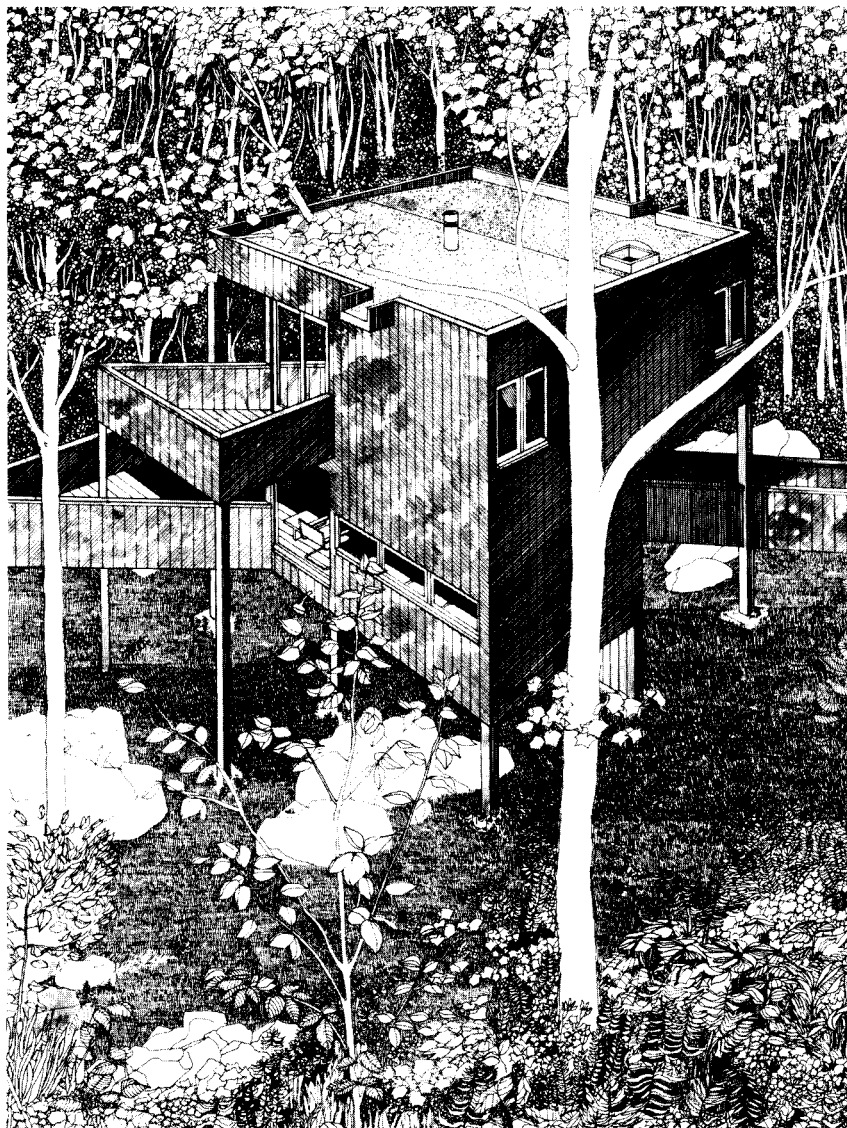
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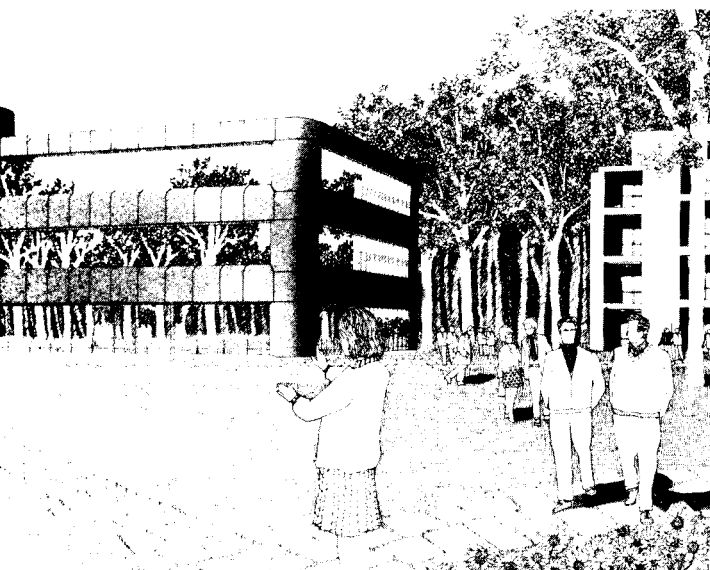
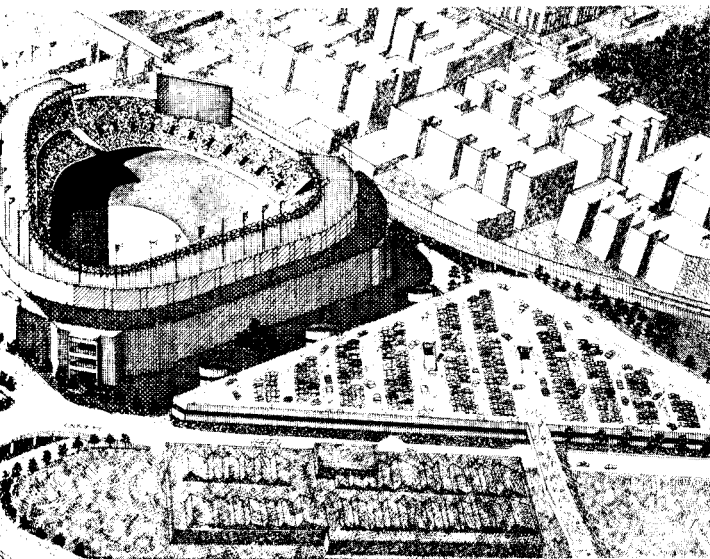
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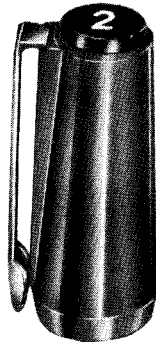
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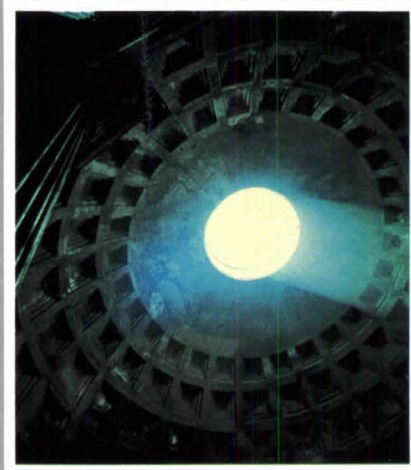
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2010 Visions from page 272

of anxiety displaced from its real object, the bomb, onto a far lesser threat we can at least bear to look at and hope to deal with. If the enthusiasm for solar energy seems a bit more hectic than the facts yet warrant, this isn't surprising either when we remember that the sun is the nuclear explosion that is our friend.

Reading this over, I realize that it sounds

'The resolution of the arms race . . . is the main architectural issue for the future.'

like one of those theories, such as psychoanalysis or Marxism or astrology, that appeal to weak minds because they appear to explain absolutely everything. I didn't mean to be so reductionist. Still, it's undeniable that most of the old architecture we love and most of the new we admire in the pages of the JOURNAL is contingent for its existence on some resolution of the arms race. It seems to me this is the main architectural issue for the future, just as it's the main issue in everything else. Perhaps architects as architects should be helping to make this case, in the way doctors and physicists have recently been doing.

Ezra D. Ehrenkrantz, FAIA

The architecture of the year 2010 will mirror the society of that era just as contemporary architecture does today. In order then to predict the nature of architectural practice, one has to forecast where society will be.

There are a number of trends which will be form-giving determinants for our civilization and which can provide a basis for prediction.

Our future working environment will have a new mix of people, tools and facilities. We will have a decentralized pattern of work activities. Central locations will house only those functions which specifically require large groups of people to work together. Most other work will be farmed out to a variety of suburban, or exurban locations, even "electronic cottages," linked to each other and to the central locations by high speed communication technologies.

In all cases, there will be sharp emphasis on productivity and on the effective use of people. This means as architects we will be asked to provide the best possible work life situations for those who think, who make decisions and who play a role in the information process flow.

On the personal level, the work environment itself will be pleasant but at the same time it will provide a more machine-like performance for many tasks. This in turn will put much more pressure on the need for individual expression in one's personal life. We will be looking at our houses, at our private buildings, as being stage sets which we ourselves will manipulate. Hence, we as designers will have to provide our clients with opportunity for personal expression as well as handsome living environments. This requirement of emphasis on the personal side of our lives will rise in direct proportion to

the changing emphasis on productivity and efficiency that occurs in the work place.

As we look ahead 30 years, it may be difficult to predict the future, but with respect to our institutional and community life, I am convinced that, as the French say: "The more things change, the more they will remain the same."

The need of people to group together to obtain effective schools, health care, shopping facilities, etc. will continue. We will keep many of the kinds of institutional situations we now have. In fact, the more personal our private lives become, the greater the lure of these community activities will have to become in order to sustain our societal institutional fabric.

As we look at the work, personal and community sectors of our human activity, we can predict fewer people in the work sector, yet they will be more efficient and will

Building an environment 'so attractive that surplus resources will be used more to benefit the community than the individual.'

create greater financial resources that can be invested into community and social services, ranging from recreation to health care.

Crucial to the shape of the future is the question whether jobs displaced by automation in the workplace will be absorbed into the community and service sector of the economy. Can we shift those displaced persons into service industries, in effect paid for by the off-setting productivity of the industrial sector of our economy?

If we find ways to do this, we are going to have a more open physical environment; if we do not, we are going to have a more closed "secure" environment. In the next few decades, we as architects will have an impact on future directions if the communal civilization we create in our built environment is so attractive to people that surplus resources will be used more and more to benefit the community rather than the individual.

Hugh G. Hardy, FAIA

To build is an act of faith because it assumes a better future. (Who could succeed with the idea of making things worse?) But what future will be imagined as positive for those attempting construction in 2010? The 21st century was supposed to be Buck Rogers stuff: utopian cities and space colonization. The fact could well be more suburban sprawl.

America's most challenging and innovative contemporary buildings have resulted from architects tackling new problems with new technology—buildings raised in the belief of progress. But often their major distinction lay in being bigger. Now the excitement of bigness has reached the outer limits of practicality. Our most advanced construction technology belongs not to architecture but to NASA or off-shore oil drilling.

If the future brings with it the understanding that physical resources are limited and therefore increasingly more precious, our present throwaway culture may be less

potent. To replace it the hope would be not one official culture but plurality, variety and vitality. Rather than a single way of making architecture there could be several: each chosen for its symbolic, technological and program need. Some buildings might be constructed to survive. These could provide a solid connection with the past, making sensitive use of their sites and intelligent use of traditional materials. Others might be as gossamer and responsive as mylar balloons.

Nature has so much to teach us about variety that if we were freed from the cults of bigness and conformity we might open a new century with a benignly eclectic flourish.

Barry Elbasani

For architects, the early part of the 21st century will be the most exciting or the most frustrating of times. By the 21st century, society will have fully experienced the impact of dwindling resources, a rediscovery of downtowns whose infrastructures have long been out-dated, the densification of suburbs whose shopping centers will have become new downtowns and the difficulty of building and owning in the light of an ever restrictive economic context. It is obvious that notions of work, play and residential life style will change by necessity as well as by choice. What is not so obvious is that architects will play a major role in resolving these changes into new concepts for places and spaces. Significant questions will be asked as they have never been asked before.

How will old cities once more rediscovered be reconditioned and redefined in a

Questions to be resolved by 'a more sophisticated balancing act between a concern for design and pragmatic reality.'

world of changing urban life styles? How will our cities reflect what is new in the way we will live and yet recall the best in the historic cities we have come to know and love?

How can suburbs under pressure of mixed income densification become new urban places? What will the mixed use urban core of these suburbs, formerly the shopping center, look like? Will it resemble our older cities developed over hundreds of years or will this overnight core take on a totally new form?

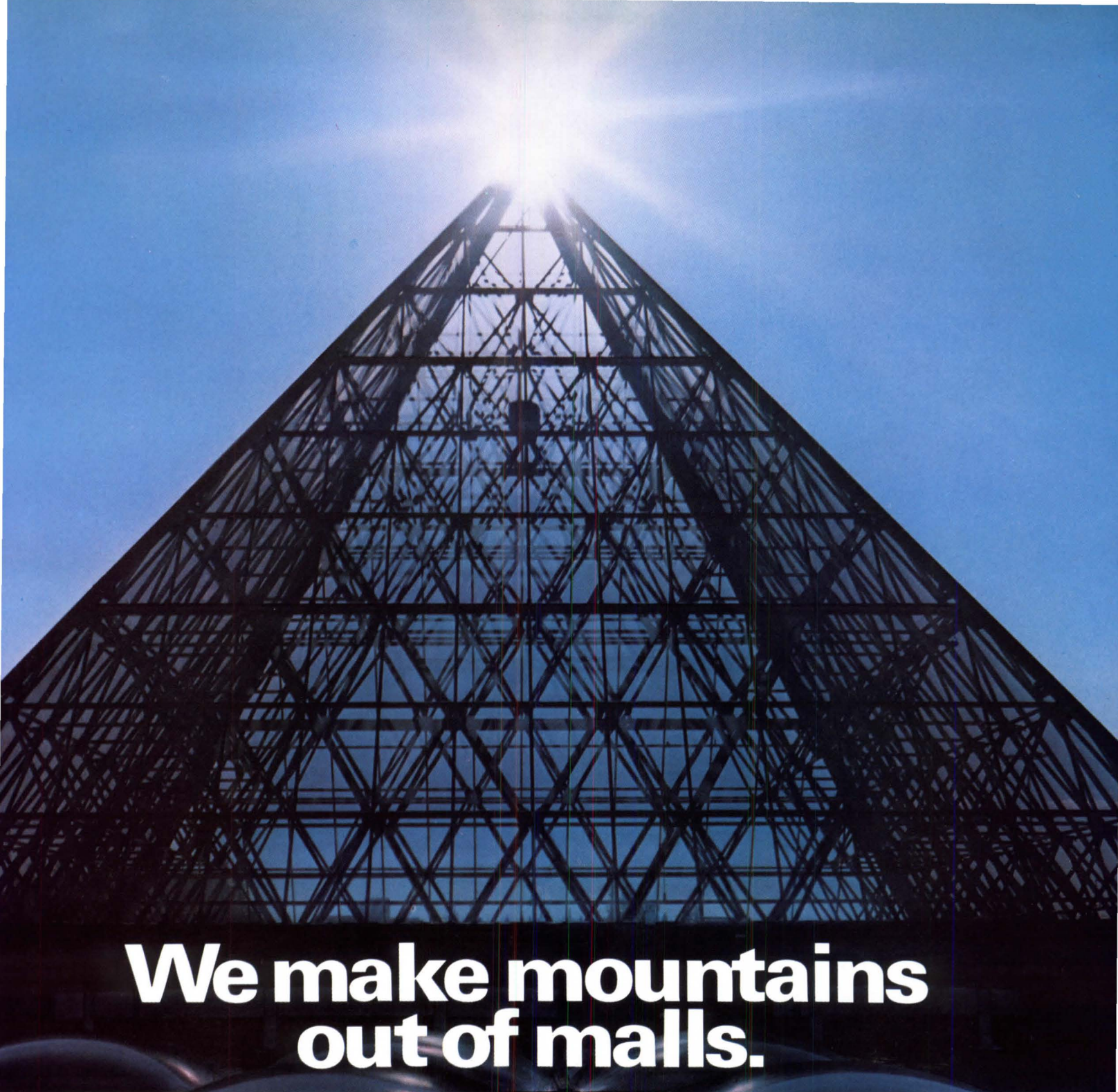
How will the car, already reduced in size, perhaps eventually to disappear, redefine movement and communication, and therefore the form of our cities?

How will the family live when individual housing will have long been impossible to acquire?

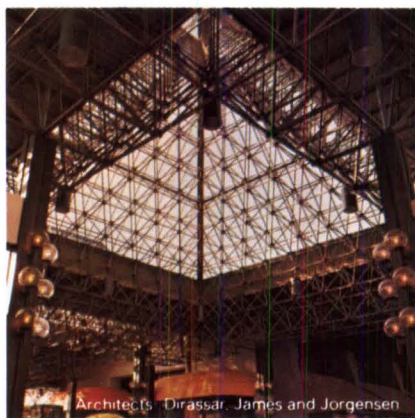
How will leisure, the concept of play, redefine historic concepts of open space, recreation and entertainment? Will the design

continued on page 282

Mr. Ehrenkrantz's firm is The Ehrenkrantz Group in New York City. **Mr. Hardy** is a principal of Hardy Holzman Pfeiffer Associates, New York City. **Mr. Elbasani's** firm is ELS Design Group in Berkeley, Calif.



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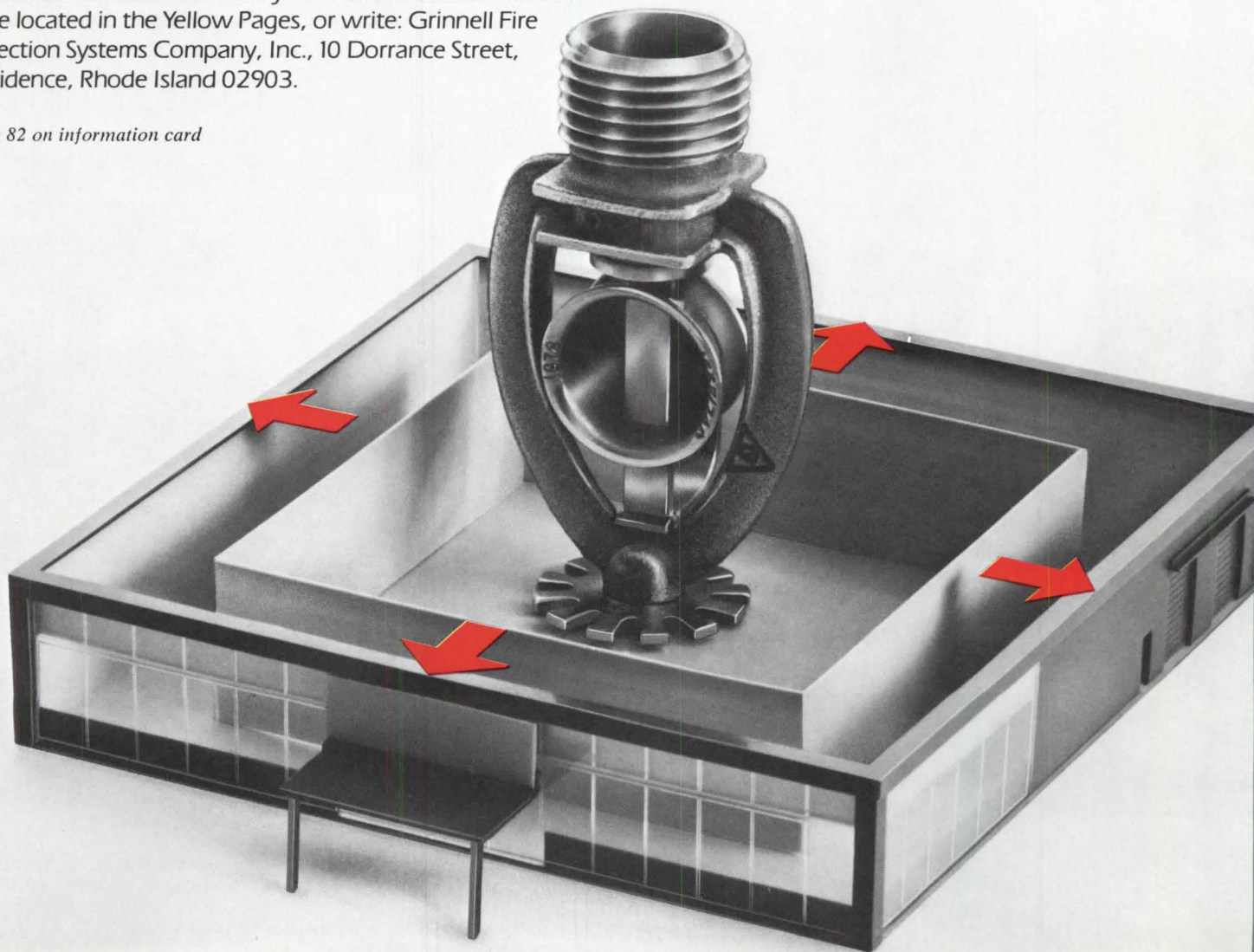
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2010 Visions from page 278

of day-to-day activities such as shopping and working, even the home, be reconsidered in the context of play?

Today these questions pose a serious threat to the architect already surrounded by the contractor, the energy expert, the development consultant or anyone who has a quick pragmatic answer for the client in trouble. Historically, the architect has functioned as a generalist able to balance concern for design within the context of forces affecting design. By the 21st century, issues, often conflicting, will grow in number. Resolution will come about as a result of a more sophisticated balancing act between a concern for design and pragmatic reality. Success in solution will increasingly be measured in terms of "how it works" rather than what it looks like. It will be the age of the problem solver, and I hope the architect, who, if honest in the search, will inevitably produce new and exciting forms.

What the physical form of the 21st century will look like is difficult and perhaps a bit naive to predict. What is certain is that it will look different as a result of other than purely esthetic considerations.

Jeffrey Cook, AIA

The new disorders of the next millenium surely have seeds in today's cultural milieu. Probably they are the tiniest of those visible. Within our current generation the most obvious needs of fossil fuels, water and waste must be resolved. They are essential for survival and responsibility, but their inclusion in buildings goes well beyond the role of architects.

Yet they are the potential hidden armature of a state of worthiness in the built environment—an invisible ordering system—an emergent Vitruvius of value on which waves of taste must build.

Beyond those current fundamental needs of provisioning must surely come some response to social needs and the dilemmas of capital scarcity. Already patterns of stifled building opportunity are perceptible. Increasingly only the wealthy individual or the ag-

'Free zones where the builder in all of us would be allowed to construct his own castle.'

gressive corporation can wield the resources to build anew or even to renovate. It is both a question of devoting material resources, of commanding capital, as well as conquering the bureaucratic minotaur of labyrinthian controlling agencies.

Indeed the drift toward local and regional *idiosyncrasy* may develop even further to the zoning within our settlements of "free zones" where the builder in all of us would be allowed to construct his own castle—self shelter—but never to sell it and thus to pass on its structural frailties or handicapping barriers to the unsuspecting. But throw-away culture can provide the rubbish of the last generation as the fertile manure for the next generation's vitality.

Elsewhere the corporate world must

struggle with its own standards: environments built for century-long leases, of the most permanent of materials, and the most secure of systems. Here the sun angles would be sacred and the plumbing clearances generous. The art of building would be an artful investment of extended time in which functional dependability and permanent providence might also deserve esthetic expression of both social needs and natural processes that would be worthy of its temporal continuity. Unlike today, perhaps thus capitalism could become consummate.

William Marlin

The single most dramatic thing about the first decade of the 21st century, if I remember correctly, was the exodus of hundreds of thousands of people to the Middle West and Northeast from the Southwest. You will surely recall the movement to America's sunbelt, in the last decades of the 20th century.

It turned out that places like Arizona, for all their touting of conservative principles, didn't conserve a thing. Especially did they not conserve water, land, energy, fuel and air quality. People got nasty—made that way, perhaps, by the cumulative psychological impact brought on by so much chaotic real estate development, overbuilding of roads and pulverizing of the native landscape. Finally it was all too much. As people started packing for the snow- and ski-belt in large numbers, the corporations and industries, choking on their own unbridled pollution, also started searching for new northerly locations in and around the very cities and towns that they had so condescendingly abandoned earlier.

It was some time in the 1990s, because of all those droughts, but also because of decades of short-sighted environmental and land-use planning, that the irrigation ditches no longer poured forth and people had trouble getting a drink of water and taking a shower. As a result of this, one of the biggest business booms in history occurred up around Wisconsin, Michigan, Pennsylvania and on up into New England: the birth or, more properly, the rebirth of ice factories. Since there was precious little water in, say, Phoenix, huge blocks of ice were flown in daily—like Dover sole is flown in to fine restaurants. These blocks were so desperately needed that otherwise empty airports in the sunbelt were besieged by large crowds, unwilling to wait to get their licks in. But that was to last for a short period. At last, people began to realize that the only way to solve the problem was to move nearer the ice, snow and more abundant water sources.

By that time, of course, the birth rate in America had fallen off. Planned Parenthood had bit the dust because, with rare exceptions, there weren't any parents; fewer and fewer people were getting married at all, in fact. And to maintain the birth rate at levels

Mr. Cook is a professor at the Arizona State University college of architecture.

Mr. Marlin, former editor of *Architectural Forum*, recently took over as editor of *Inland Architect* in Chicago.

sufficient to ensure a work force and some semblance of a GNP, the federal government, which had during the early 1980s ardently encouraged the economic and political strengthening of the Sunbelt states, was forced to conscript people to have babies.

As a result of all this, two vital building types emerged during the first decade of the 21st century—the ice factory and the baby factory. The outlets for these massive enterprises were even franchised.

The need for ice exports to the Sunbelt gradually diminished in direct proportion to its diminishing population, and in the decades since, many of the ice factories have been turned into things like apartment houses, retail emporiums and cultural or community centers.

At the Senator Barry Goldwater Gallery, outside Phoenix, near Scottsdale, tourists and scholars alike can see that great man's beautiful photographs of old Arizona. What a stunning portrayal of the clues nature gives us about how to build with its elements, instead of against them—a reminder of what the Sunbelt should have been and, now, with nature gradually making amends for the ravages of sloppy development and myopic resource management, of how it may be again, given a little more time.

It is interesting what we learned (I hope) from that incredible decade. I was out in Arizona a couple of weeks ago, taking part

A Presidential directive that 'new buildings accommodate the terrain and the elements of nature in a simple, honest rapport.'

in the celebration of Frank Lloyd Wright's 200th birthday. Taliesin West, that rambling primordial compact with nature, built in the late 1930s, has been—like his Wisconsin estate, Taliesin—completely restored. This preservation was an overdue triumph of the third decade of the 21st century. The President—who, as you know, stays at the Taliesins for periods of retreat, consultation with world leaders and reflection—was fortunately present. Looking out from Taliesin West's spacious, prow-shaped terrace, he said this:

"I shudder to think how this vast garden of a desert was once almost irreparably ruined. The images having to do with people hog-tying cacti and lugging them back to their tract houses are far from happy ones; the images of what the housing industry, gone berserk, did to the desert are at last being removed. And for those who have remained here, as in other sections of the old Sunbelt, the government is making sure, while *giving wide interpretive latitude* in stylistic terms, that new buildings accommodate the terrain and the elements of nature in a simple, honest rapport.

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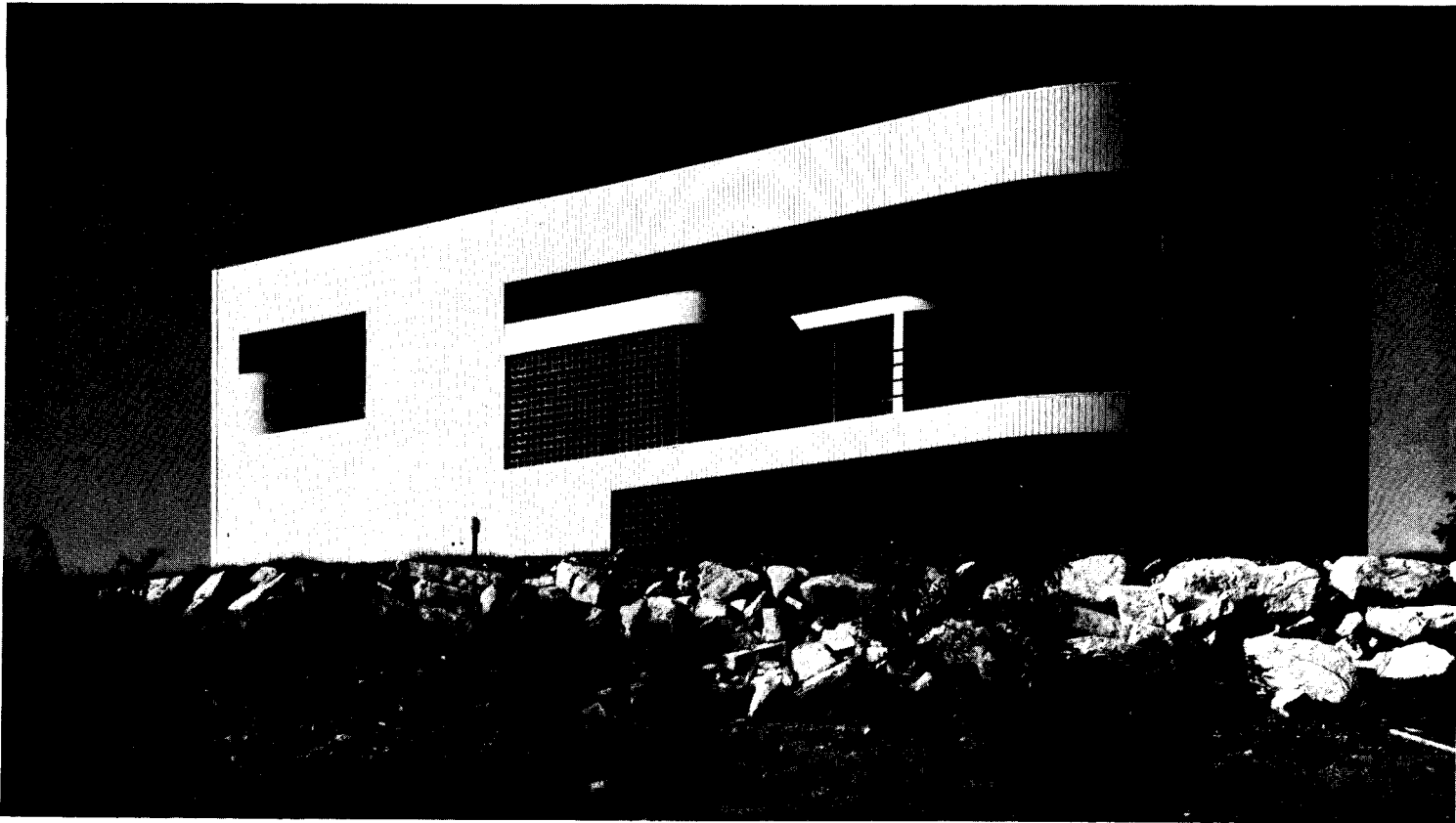
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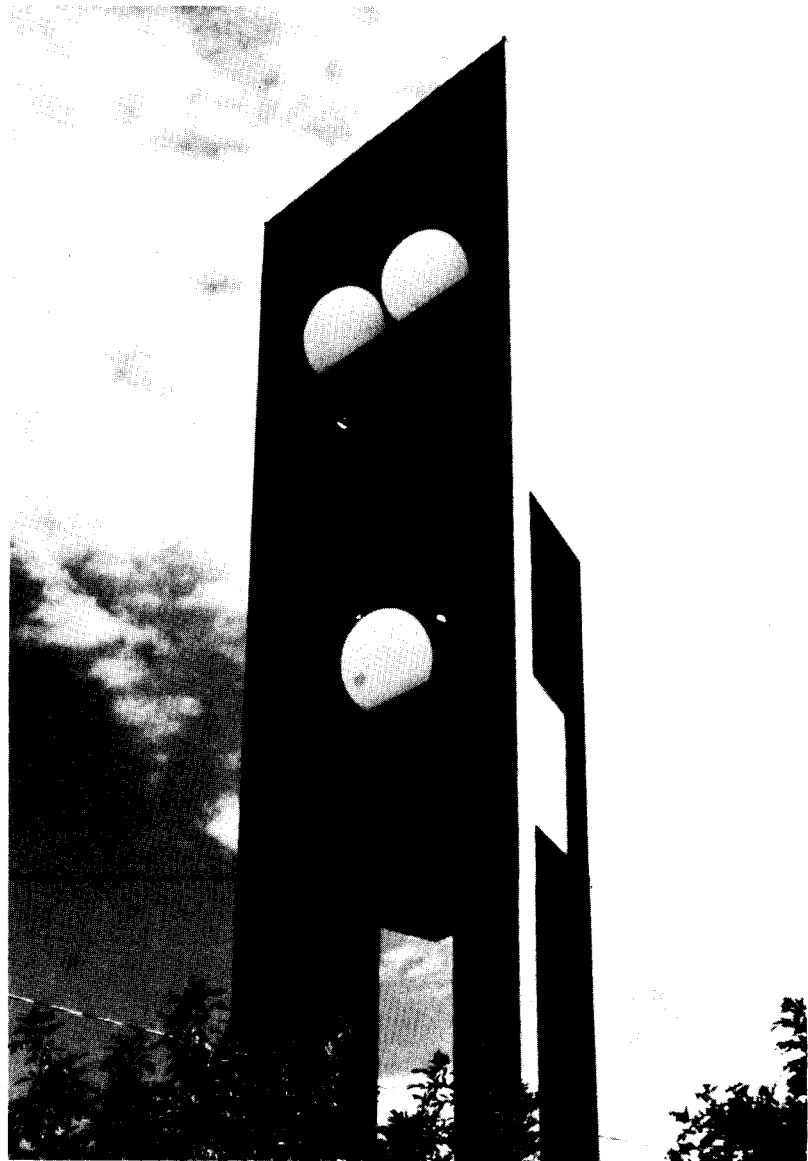


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Iowa Chapter. Retirement residence, Lago Vista, Tex.; Charles Herbert & Associates, Des Moines (above). The house's elongated south facade with large glazed areas was designed to take advantage of passive solar conditions and the prevailing southerly breezes. The relatively opaque north facade buffers northerly winds and provides privacy. At the curved southeast corner are decks with views of the surrounding golf course. The master bedroom is on the highest level, the living spaces have high ceilings and the guest area is on the lower level. The glass block wall of the living areas maintains desired openness but also provides a sense of enclosure and privacy.

Kansas City Chapter. Telecommunications Tower, Lawrence, Kan.; Design Build Architects, Lawrence (right). The tower is located between two existing Southwestern Bell Co. buildings in a service drive. The large arched north elevation faces the main bridge entrance across the river to Lawrence. The sloping walls and roof of the south and west elevations front historic residential neighborhoods. The tower stands on three legs to "open its base" and to visually give greater significance to the structure's upper area.



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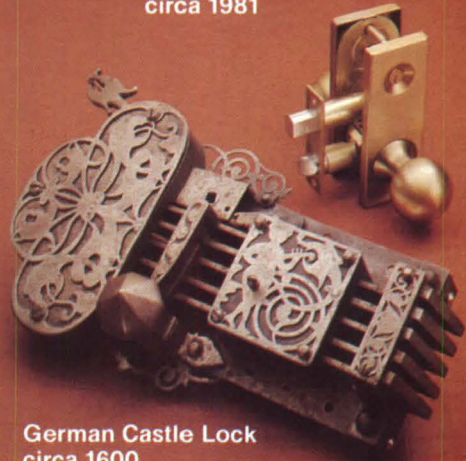
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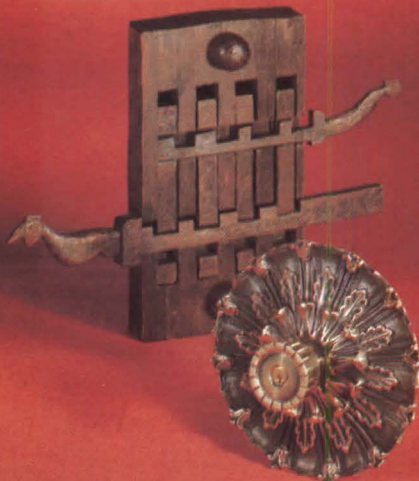
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Schlage "G" Lock
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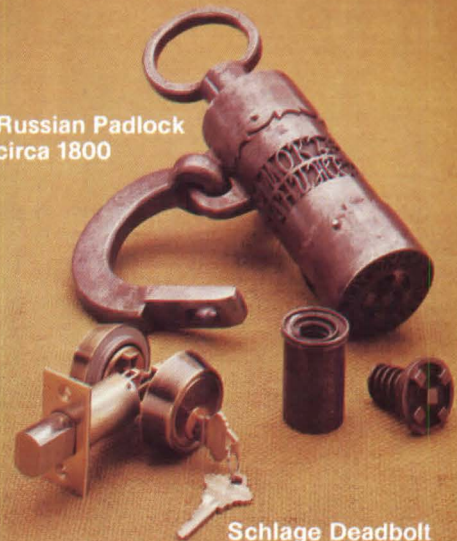
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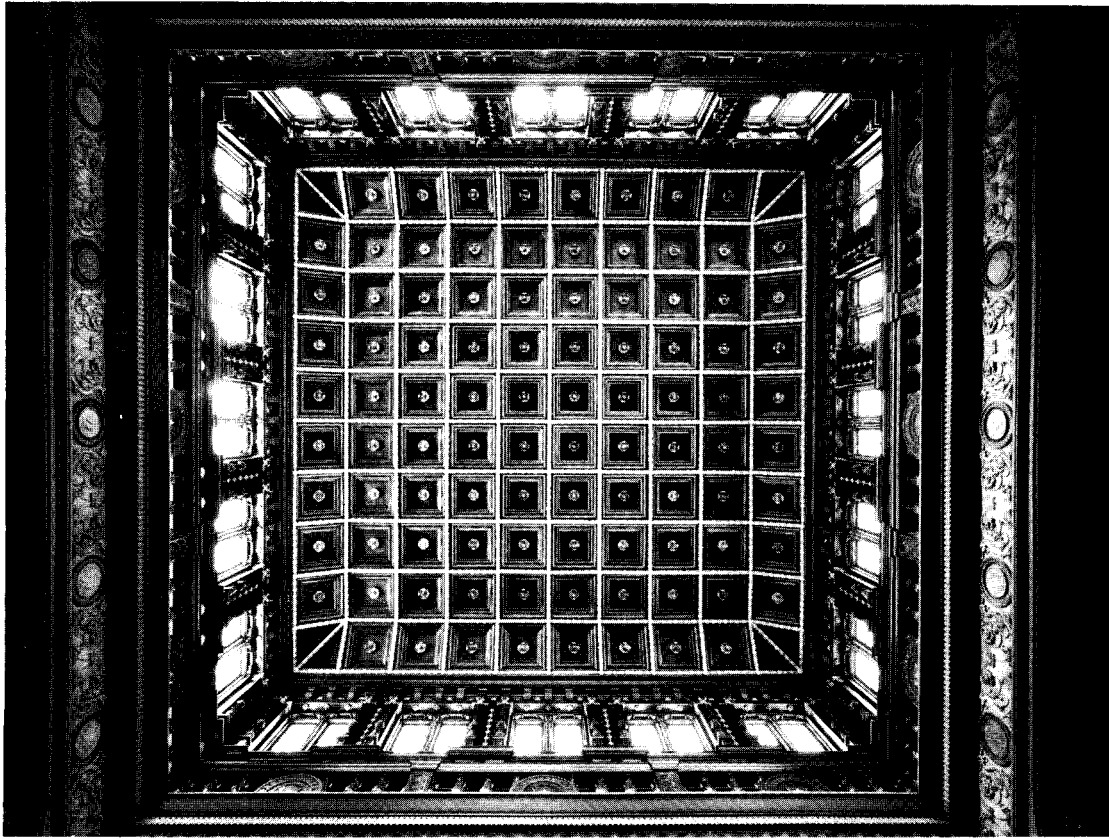
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Rick Gardner



Houston Chapter. Julia Ideson Building, Houston; Morris/Aubry Architects, Houston (above). In 1976, when construction of a new central library was complete, plans were made to restore the grand spaces, beautiful materials and exquisite detailing of the 1926, 75,000-square-foot Spanish renaissance style library in downtown Houston. The designer's objectives were to take the building

as far back to its original splendor as possible. The building was altered to meet safety and barrier-free codes and to accommodate new functions.

Texas Society of Architects. Schlumberger-Doll Research Center, Ridgefield, Conn.; Howard Barnstone, FAIA, Architects, Houston (below). The program consisted of the expansion and renovation of three existing buildings, the construc-

tion of a new structure and visual unification of the entire complex with Philip Johnson's 1952 building. The three remodeled buildings were enveloped in a sloping glass "tent" adding 20,000 square feet of laboratory and office space. The new engineering offices/computer center are connected to Johnson's structure via underground tunnel. The major materials used are reflective glass, steel and brick.



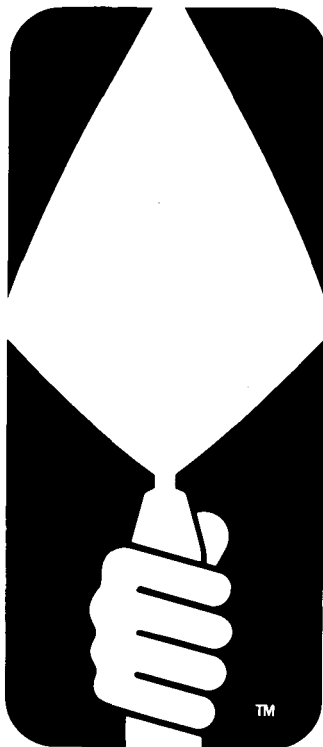
More component awards on page 290

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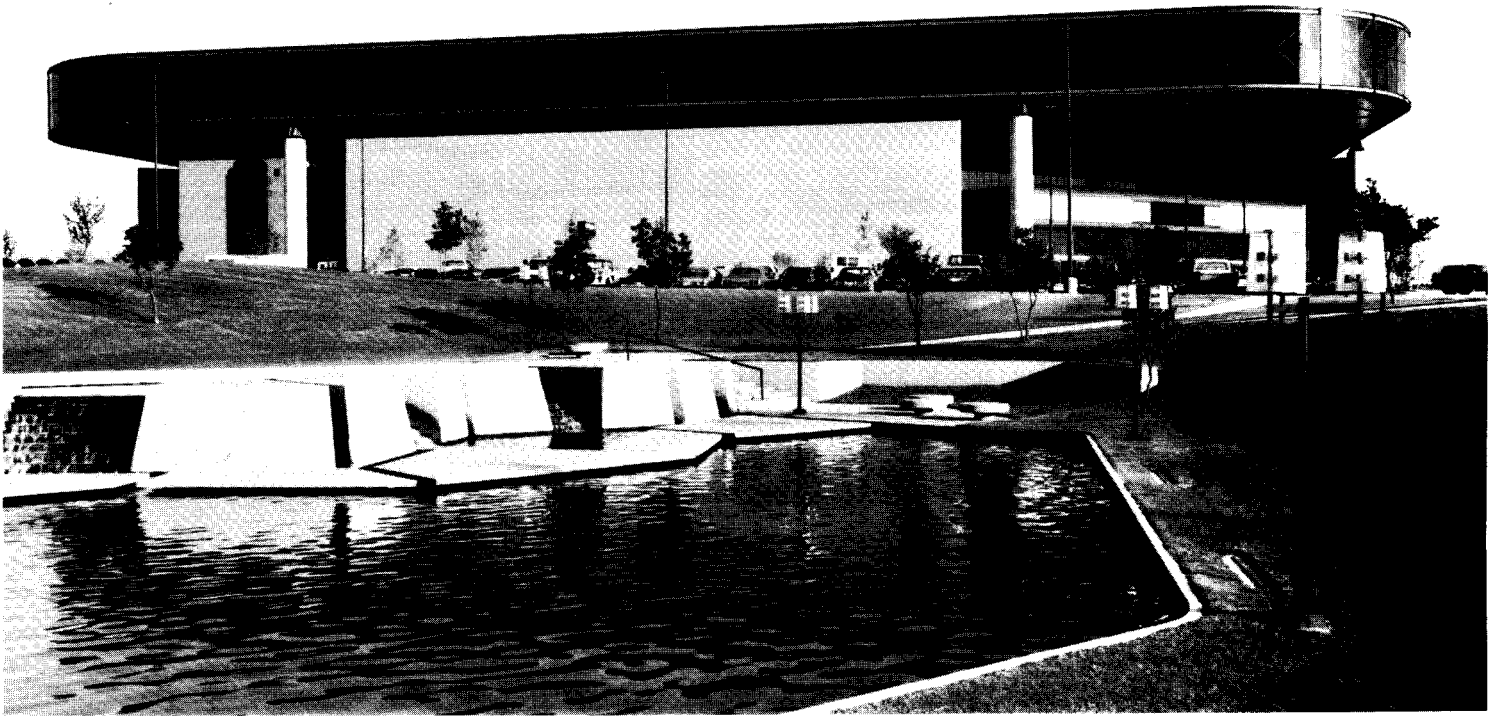
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Texas Society of Architects. Reunion Arena, Dallas; Harwood K. Smith & Partners, Dallas (above). In plan an oval inside a square, the 18,000-seat arena's four-acre roof rests on eight six-foot-diameter concrete columns around the perimeter. A 20-foot-high backlit glass fascia, accented by red piping, encircles the roof, revealing the steel truss roof frame inside. Seats mounted on floor-level telescoping sections can be extended and withdrawn, enlarging the floor area from 17,500 square feet to 30,000.

The Dome building, Chattanooga, Tenn.; The Pierce, Lacey Partnership, Dallas (right). Built in 1892 to house the *Chattanooga Times*, the building was converted, in a brutal "modernization," to mixed office and retail use in the late '40s. The recent renovation included complete gutting of the interior, new lobbies, corridors, service cores, mechanical and electrical systems and detailing to match the vocabulary of the exterior. Exterior detailing was reconstructed and the ground floor glass recessed to its previous position behind the heavy stone pilasters, matching early photographs as closely as possible.





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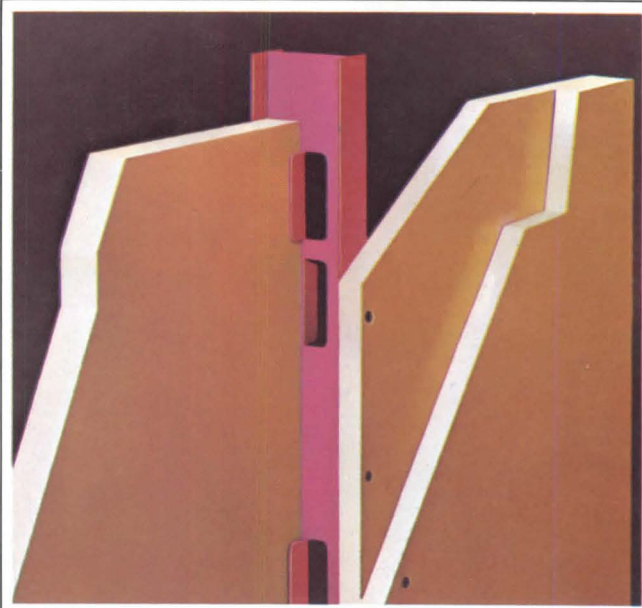
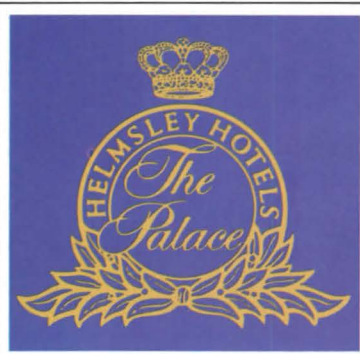
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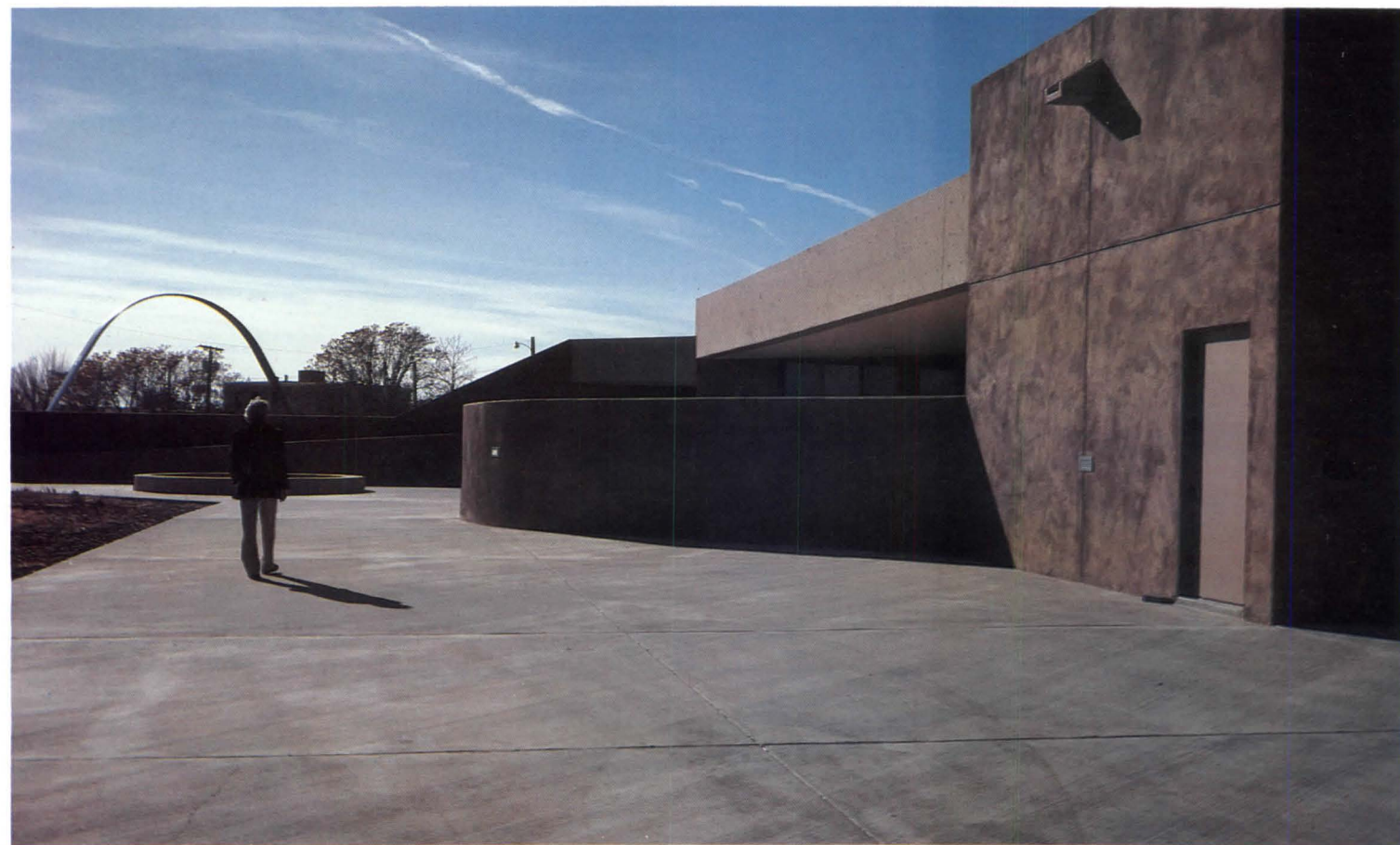
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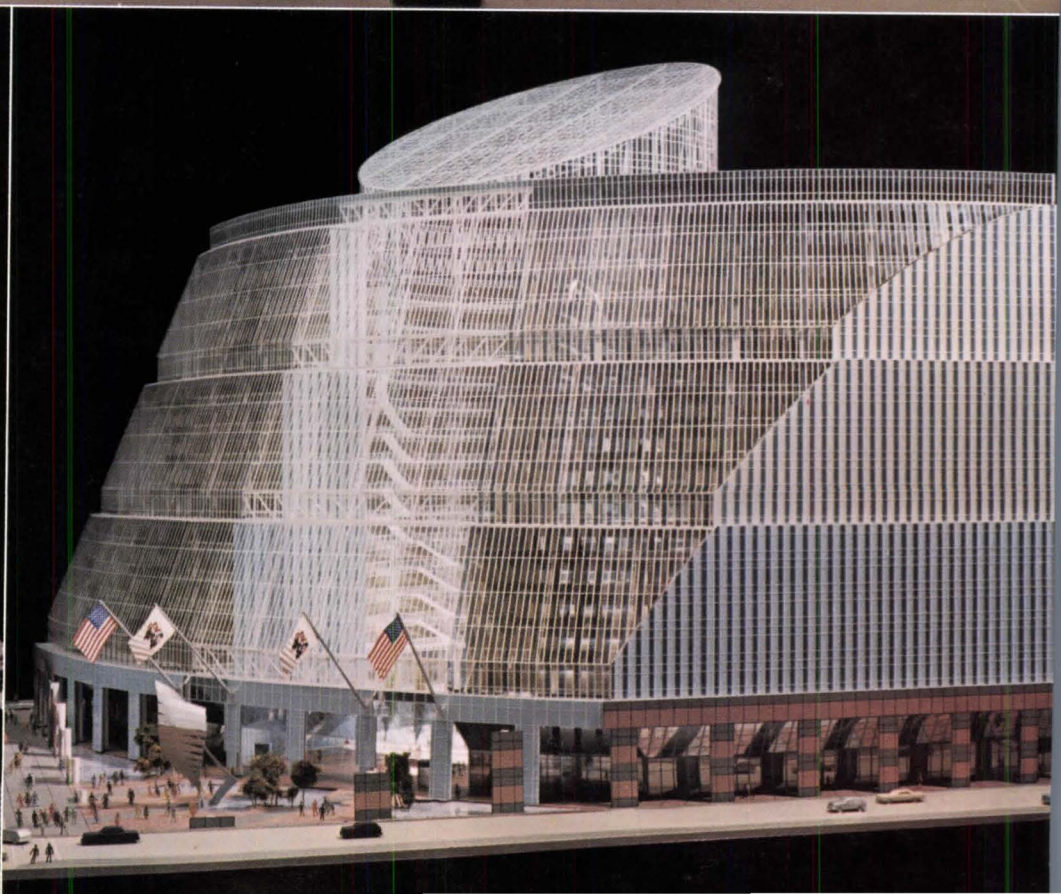
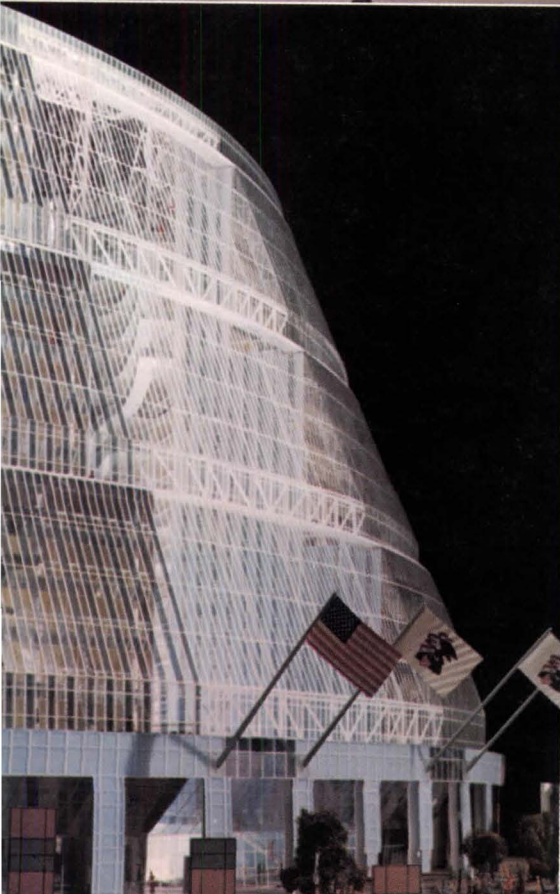
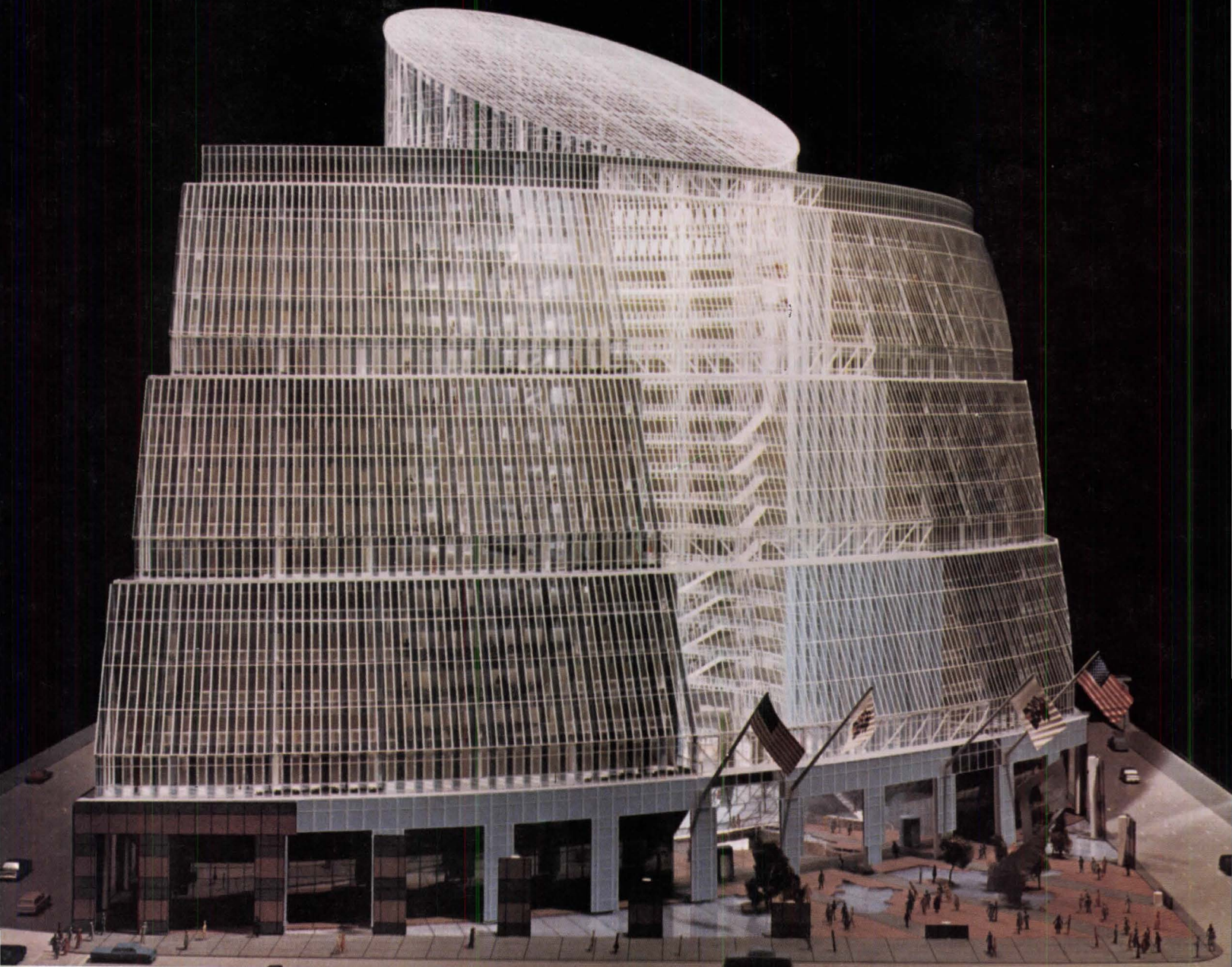


New Mexico Society of Architects. The Albuquerque Museum; Antoine Predock, AIA, Albuquerque (above). The central exhibit space is a large, flexible gallery placed partially below grade to help keep the building's profile low. Temporary exhibits are shown in two flanking galleries. An existing truck terminal was remodeled and incorporated to serve as exhibit preparation and shop areas. Dominant materials are stucco, brick floors, exposed wood beams and plaster walls. Clerestories and interior courtyards light the lobbies and gallery circulation areas. For heat, solar collectors on the roof and at grade assist heat pumps.

Arizona Society of Architects. Lath House at Heritage Square; Robert R. Frankberger, AIA, Phoenix (right). This downtown pavilion of pressure-treated 2x3-inch wood lath is supported by glue-laminated beams and curved purlins. Beneath the lath umbrella is a freestanding stuccoed wood-framed building containing meeting rooms, catering kitchen and a caretaker's apartment. It is part of an urban park on the site of the original Phoenix townsite, where it complements gardens, courtyards and a restored wood-framed house (in photo) used for smaller civic gatherings.



More component awards on page 298

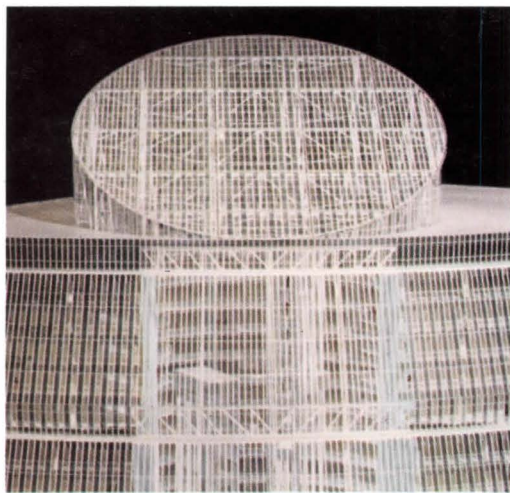


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The State of Illinois Center is a building which will illustrate how compatible glass can be with today's concern for energy efficiency. This structure—shown here in an architect's model—will occupy a full city block, and will be clad entirely in laminated glass.

Fundamental to the success of this design are the building's sloped exterior walls, the arrangement of interior space around a central atrium, and a



massive skylight. These features will take advantage of enough passive solar heating and natural light to reduce energy usage to nearly one-half the level consumed by most conventional office buildings. Since artificial lighting generally consumes 40% of a building's energy load, any heat lost through the glass walls will be more than offset by the cost reduction achieved through natural lighting. These factors, the architects and

owners say, are the keys to the building's energy efficiency.

Laminated glass leads to greater energy efficiency through environmental control when tinted or combined into reflective or insulated units. It helps prevent heat loss in the winter and screens out solar glare to ease cooling loads in the summer.

A daring concept, to be sure, and one whose glazing performance demands made laminated architectural glass the logical solution for many reasons.

For meeting rigid safety and security requirements in the skylight and sub-atrium areas, the interlayer in laminated glass acts as a shock absorber to dissipate impact shock and resist penetration. Even though the glass itself may break, the fragments tend to adhere to the interlayer, reducing the danger of glass fallout.

Tests prove that laminated glass provides an excellent and cost-effective noise barrier across the entire frequency range. It muffles sound better than either air-spaced or monolithic glass—an important consideration in this building, since an elevated train runs behind the center.

For more information why laminated architectural glass is the glazing material for today's more progressive designs, and for a list of suppliers, contact: Monsanto Plastics and Resins Company, Dept. 804, 800 North Lindbergh Blvd., St. Louis, MO 63166. (314) 694-2539.

SAFLEX

PLASTIC INTERLAYER BY **Monsanto**

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Colorado Society of Architects. Yaw Residence, Aspen; Copland Hagman & Yaw, Aspen (right). In addition to the functional requirements of a family of six, the house was designed in response to three major design problems: to accommodate maximum active and passive solar heating systems; to integrate regional forms and materials with the high-tech expression of solar hardware, and to create usable spaces for outdoor activity on the steeply sloping site. The house is organized around two parallel linear forms connected by a "functional bridge" at the upper level. The resulting negative spaces form an entry and children's play spaces and permit the natural site elements to "interlock" with the architectural forms.

Western Mountain Region and Utah Society. St. James Episcopal Church, Salt Lake City; Brixen & Christopher, Salt Lake City (below). In the renovation of an existing church, most of the interior partitioning was removed in order to develop a more unified, flexible worship space. The rector's office is centrally located and receives natural light from a skylight. Natural light is also introduced from the east through glazing above the entrance doors and from the north through clerestories. Chairs, altar and lectern are all movable to create a flexible space for worship.





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Boston, Massachusetts
Architect: I.M. Pei & Partners, New York, N.Y.
Precast Producer: Art Cement Products Co., Inc.
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Architectural Photographer: William W. Owens, Jr.,
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Gray Portland Cement, Custom Color Masonry
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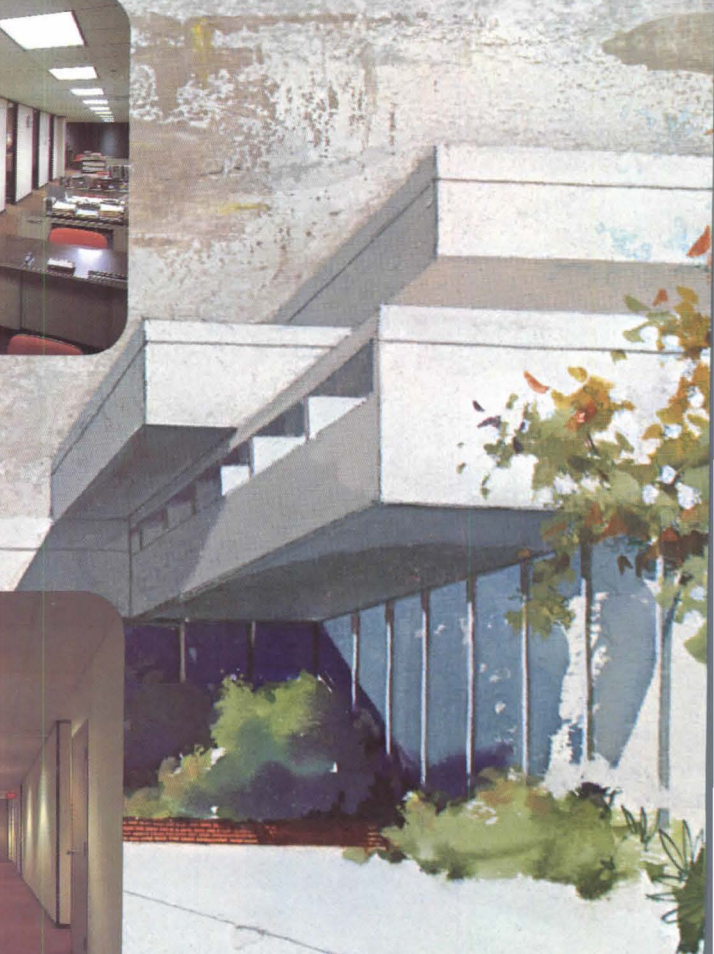


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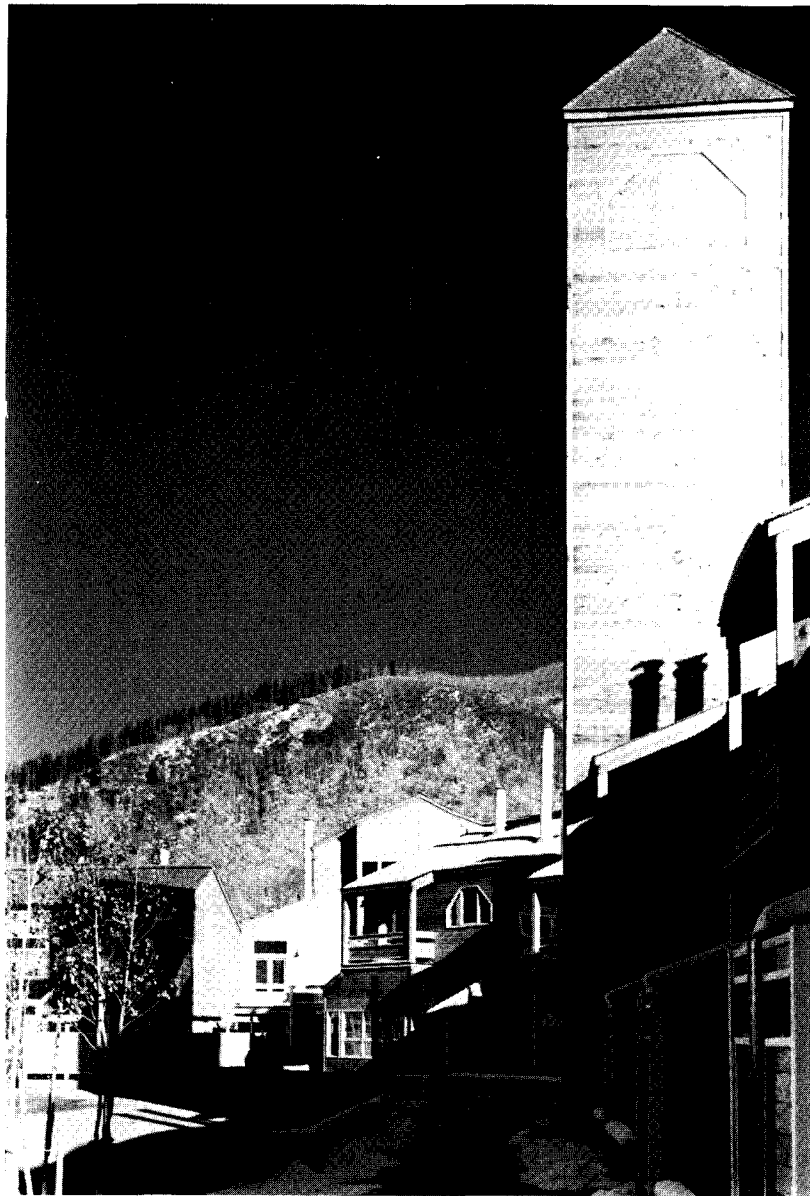
UNITED STATES GYPSUM

BUILDING AMERICA

Circle 94 on information

Western Mountain Region. Condominiums for Coldstream Corporation, Vail, Colo.; Morter Fisher Arnold, AIA, Vail (right). The program called for 45 units with tennis, squash, racquetball and swimming facilities. The design intention was to maximize the units' proximity to a stream on the north and to develop warm, sheltered exposures to the south. Wood frame town houses of various sizes are linked together at the edge of the creek. A second row of town houses is opposite the bend in the creek forming a large pedestrian plaza in the center of the project. In the tower is a manager's unit and office.

North Dakota Chapter. John M. Smith residence, Bismarck; Clark, Holman & Moorhead, Fargo (below). The first house to be developed on a hilltop subdivision, it is oriented to take full advantage of its southern exposure; to provide buffered protection from the brutal north winds, and to maintain the views from the site. A south facing two-story plant room functions as a passive solar collector. Brick pavers provide thermal mass storage. Distribution of the heated air is controlled by operation of the first floor sliding glass doors and second floor casement windows. The north facade of the building is buffered by an attached garage.



Buff Arnold



More component awards on page 304

The American Institute of Architects introduces an Unusual Addition to its Line of Practice Aids—

Preventive Medicine for Headaches

The traumatic headaches owners get from uninsured adversity can be very contagious. The architect of a project struck by uninsured fire, or casualty, or unbonded contractor default may suffer embarrassment, economic loss, and countless hours spent in the notably unpleasant task of sorting out the mess.

Having recognized that sufficient construction bonding and insurance are in your own best interest as well as your client's, however, you still have a major problem. Insurance and bonding is a complicated business, full of technical concepts and esoteric terminology. What aid can an architect possibly give to an owner struggling through the informational maze of bonds and insurance?

AIA Has the Help You Need. The definitive Second Edition of *Construction Bonds and Insurance Guide*, by Bernard B. Rothschild, FAIA, explains all the who's, what's, when's, where's and why's of

construction-related bonds and insurance, as required by AIA Document A201, General Conditions of the Contract for Construction. It provides invaluable guidance to—and mutual understanding of respective responsibilities among—owners, insurance advisors, and architects.

The *Guide* won't make you an insurance expert. Indeed, it stresses the importance of an owner's seeking the counsel of a qualified insurance professional. What it *will* do is define your proper role, as an architect, in relation to construction bonds and insurance, and give you a solid working knowledge of protective requirements and options.

Its handy looseleaf format allows you to augment the descriptive information provided with additional notes and documents from your own practice.

A Revolutionary Combination of Proven Ingredients. For the first time anywhere, the *Guide* brings together:

**Explanations* of how construction bonds and insurance requirements are met, with special reference to widely used AIA Documents.

*A comprehensive *glossary* providing clear and concise definitions of relevant insurance industry terms.

**Samples* of the many forms actually used by companies insuring construction projects.

The *Guide* explains how to start a project off on the right track by initiating the Owner's Instructions for Bonds and Insurance (AIA Document G610), and how these matters are dealt with in the

General Conditions of the Contract for Construction (A201) and other AIA Documents.

The discussion of construction bonds covers bid or proposal bonds, performance bonds, labor and material payment bonds, completion bonds, and maintenance bonds.

The *Guide's* treatment of insurance details workers' compensation insurance, employer's liability insurance, the numerous specific elements of general liability insurance, and various endorsements to property insurance.

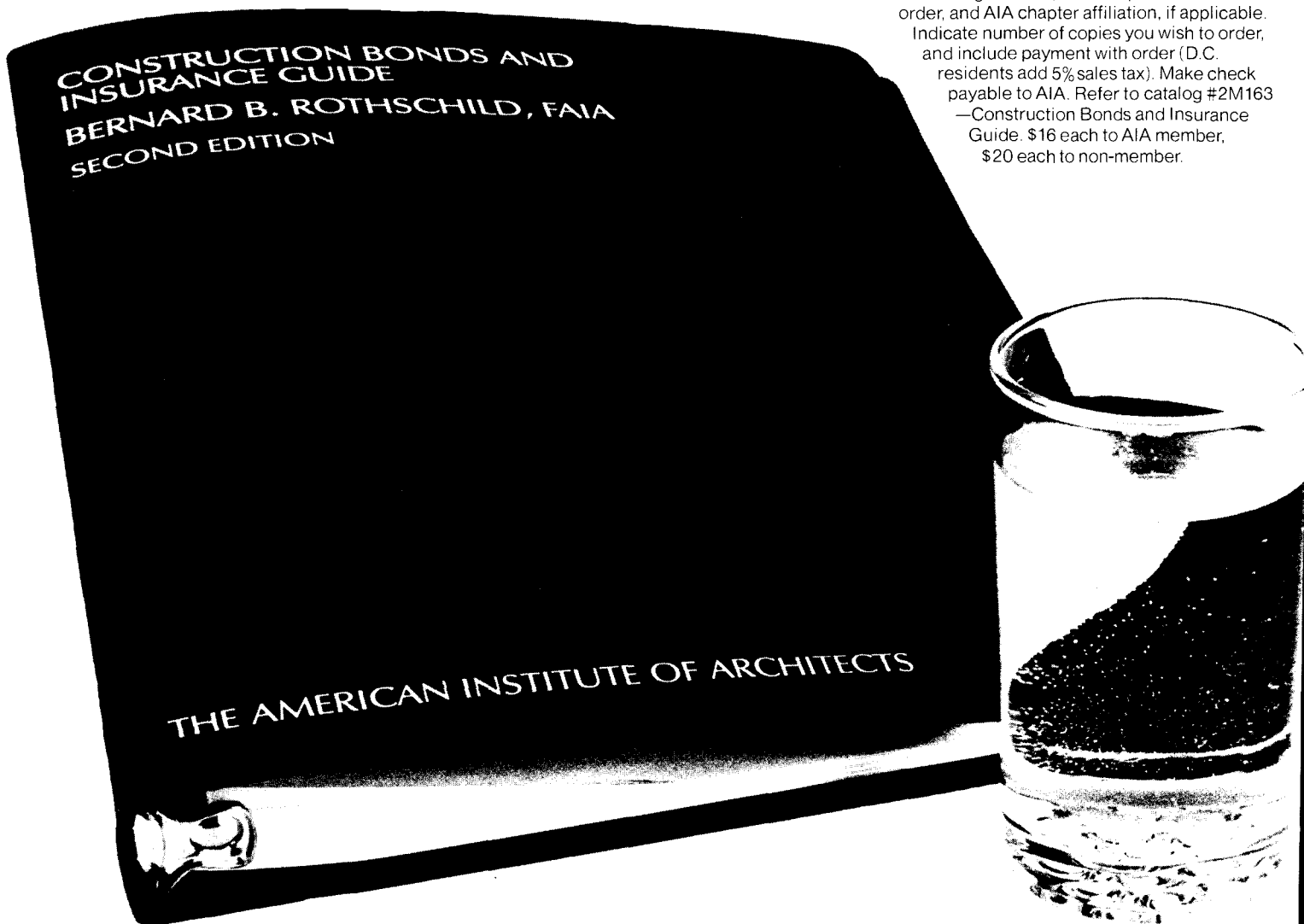
Included throughout these discussions are explanations of how levels of coverage are determined and paperwork is performed, hints about special areas of vulnerability the architect should be aware of, and notes about the considerations that apply to the architect involved in "design-build" project delivery of construction management.

In short, timely consultation of *Construction Bonds and Insurance Guide* will save everyone involved in a project from a whole range of paralyzing headaches.

Recommended Dosage: At Least One Copy Per Office. Having made the *Guide* available to your clients and their insurance advisors, you may find that the volume is constantly "on loan." Why not buy an extra copy for office use only?

Order your copies now from Publication Sales, The American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006, supplying the following information: firm name, correct mailing address, name of person to receive order, and AIA chapter affiliation, if applicable.

Indicate number of copies you wish to order, and include payment with order (D.C. residents add 5% sales tax). Make check payable to AIA. Refer to catalog #2M163—Construction Bonds and Insurance Guide. \$16 each to AIA member, \$20 each to non-member.



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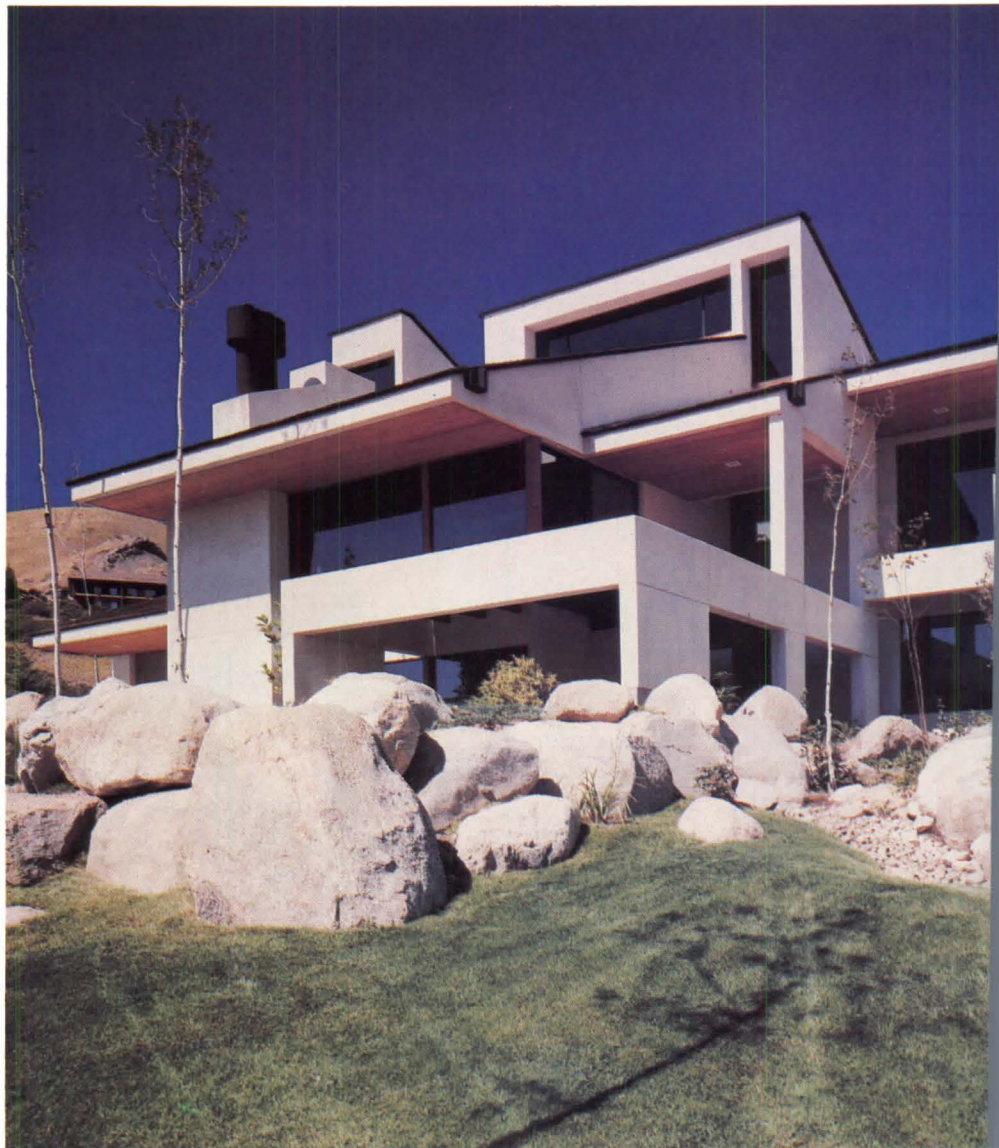


Circle 96 on information card



North Dakota Chapter. The Commons, Fargo; Clark, Holman & Moorhead, Fargo (above). The project was designed as a buffer between a commercial strip neighborhood of single-family houses. It is the first phase of an eight-acre development that will include town houses, apartments, retail shops and offices. The complex will be connected by parks and unified by common architectural elements. For The Commons, natural cedar siding and permanently finished windows were selected for their low maintenance characteristics. The design incorporates a variety of floor plans and spatial relationships to provide a sense of individuality for homeowners.

Utah Society of Architects. Edwards Residence, Salt Lake City; Edwards & Daniels, Salt Lake City (right). The architect chose a light colored stucco as the major material to "allow the shadows that are cast to fully articulate the somewhat aggressive forms of the house," in the architect's words. The glazed surfaces, which read as voids, further articulate the sculptural qualities and allow for maximum views to the southwest over the Salt Lake valley. A 30-foot-high entry gallery is the interior's focal point. The public spaces of the house have been left open for easy access to activity areas and adjacent decks.





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Most men and women seriously interested in starting their own business are eligible to apply — including those who already own a business and need capital fast for expansion...or to stay afloat...even if they've been flatly refused by banks and turned down elsewhere! Yet, too, many never qualify, simply because they do not know how to “properly” prepare the loan application...

In order to help those people applying for these guaranteed and direct loans fill out their loan applications the “right way,” ICC Business Research, through its diligent compilation and research efforts, has successfully assembled and published a comprehensive, easy-to-follow seminar manual: The Money Raiser's Guaranteed and Direct Loans Manual, that will quickly show you practically everything you'll need to know to prepare a loan application to get federally Guaranteed and Direct Loans.

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- fast application preparation procedures for getting loans for both new start up business ventures and established firms.
- advises you on how to properly answer key questions necessary for loan approval and in order to help avoid having your application turned down—gives you advice on what you should not do under any circumstances.
- what simple steps you take to guarantee eligibility—no matter if you do not presently qualify.
- where you can file your application for fastest processing.

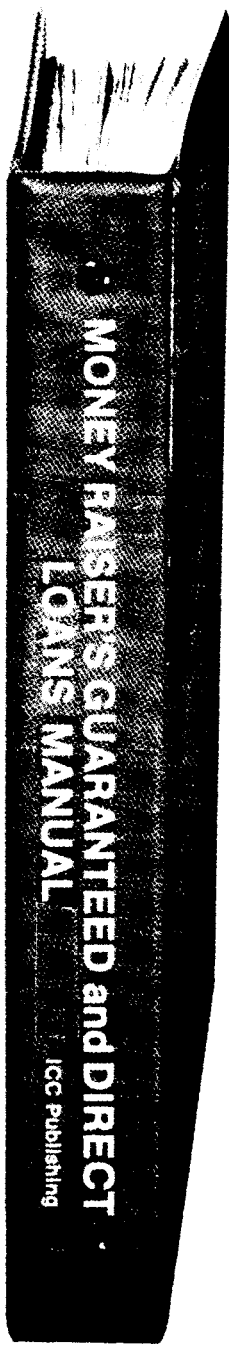
At this point the most important question you want answered is: Just where is all this loan money coming from? Incredible as it may sound—these Guaranteed Loans, Direct Loans...and Immediate Loans are indeed available right now — from the best, and yet, the most overlooked and frequently the most ignored and sometimes outright ridiculed...“made-fun-of” source of ready money...fast capital, in America — THE UNITED STATES GOVERNMENT.

Of course, there are those who upon hearing the words “UNITED STATES GOVERNMENT” will instantly freeze up and frown and say:

“...only minorities can get small business loan money from the government!”

Yet, on the other hand (and most puzzling) others will rant on and on and on that:

“...don't even try, it's just impossible — all those Business Loans Programs are strictly for the Chryslers, the Lockheeds, the big corporations...not for the little guy or small companies.” etc.



Still there are those who declare:

“...I need money right now...and small business government loans take too darn long. It's impossible to qualify. No one ever gets one of those loans.”

Or you may hear these comments:

“...My accountant's junior assistant says he thinks it might be a waste of my time!” “Heck, there's too much worrisome paperwork and red tape to wade through!”

Frankly — such rantings and ravings are just a lot of “bull” without any real basis — and only serve to clearly show that lack of knowledge...misinformation...and not quite fully understanding the UNITED STATES GOVERNMENT'S Small Business Administration's (SBA) Programs have unfortunately caused a lot of people to ignore what is without a doubt — not only the most important and generous source of financing for new business start ups and existing business expansions in this country — but of the entire world!

Now that you've heard the “bull” about the United States Government's SBA Loan Program — take a few more moments and read the following facts:

- Only 9.6% of approved loans were actually made to minorities last year
- What SBA recognizes as a “small business” actually applies to 97% of all the companies in the nation
- Red tape comes about only when the loan application is sent back due to applicant not providing the requested information...or providing the wrong information
- The SBA is required by Congress to provide a minimum dollar amount in business loans each fiscal year in order to lawfully comply with strict quotas. (Almost 5 billion this year)

Yet, despite the millions who miss out — there are still literally thousands of ambitious men and women nationwide who are properly applying — being approved — and obtaining sufficient funds to either start a new business, a franchise, or buy out or expand an existing one. Mostly, they are all just typical Americans with no fancy titles, who used essentially the same effective know-how to fill out their applications that you'll find in the Money Raiser's Guaranteed and Direct Loans Manual.

So don't you dare be shy about applying for and accepting these guaranteed and direct government loans. Curiously enough, the government is actually very much

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interested in helping you start a business that will make a lot of money. It's to their advantage — the more money you make the more they stand to collect in taxes. In fiscal 1981, our nation's good old generous “uncle” will either lend directly or guarantee billions of dollars in loan requests, along with technical assistance and even sales procurement assistance. Remember, if you don't apply for these available SBA funds somebody else certainly will.

Don't lose out — now is the best time to place your order for this comprehensive manual. It is not sold in stores. Available only by mail through this ad, directly from ICC Business Research, the exclusive publisher, at just a small fraction of what it would cost for the services of a private loan advisor or to attend a seminar. For example:

Initially, this amazing Guaranteed and Direct Loans Manual was specially designed to be the basis of a Small Business Loan Seminar — where each registrant would pay an admission fee of \$450. But our company felt that since the manual's quality instructions were so exceptionally crystal-clear that anyone who could read, could successfully use its techniques without having to attend a seminar or pay for costly private loan advisory assistance services.

Therefore, for those purchasing the manual by mail, no 3 day class, no course and accommodations are required. And rather than \$450 we could slash the price all the way down to just a mere \$35 — a small portion of a typical seminar attendance fee — providing you promptly fill in and mail coupon below with fee while this special “seminar-in-print” manual offer is still available by mail at this relatively low price!

Remember, this most unique manual quickly provides you with actual sample copies of SBA Loan application and all other required forms—already properly filled in for you to easily use as reliably accurate step-by-step guides—thus offering you complete assurance that your application will be properly prepared...and thereby immediately putting you on the right road to obtaining fast, no red-tape loan approval.

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Even after 15 days — here's how you are still strongly protected — if you decide to keep the manual — and you apply for an SBA Loan anytime within 1 year...your loan must be approved and you must actually receive the funds or your money will be refunded in full.

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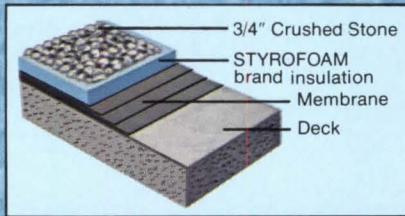
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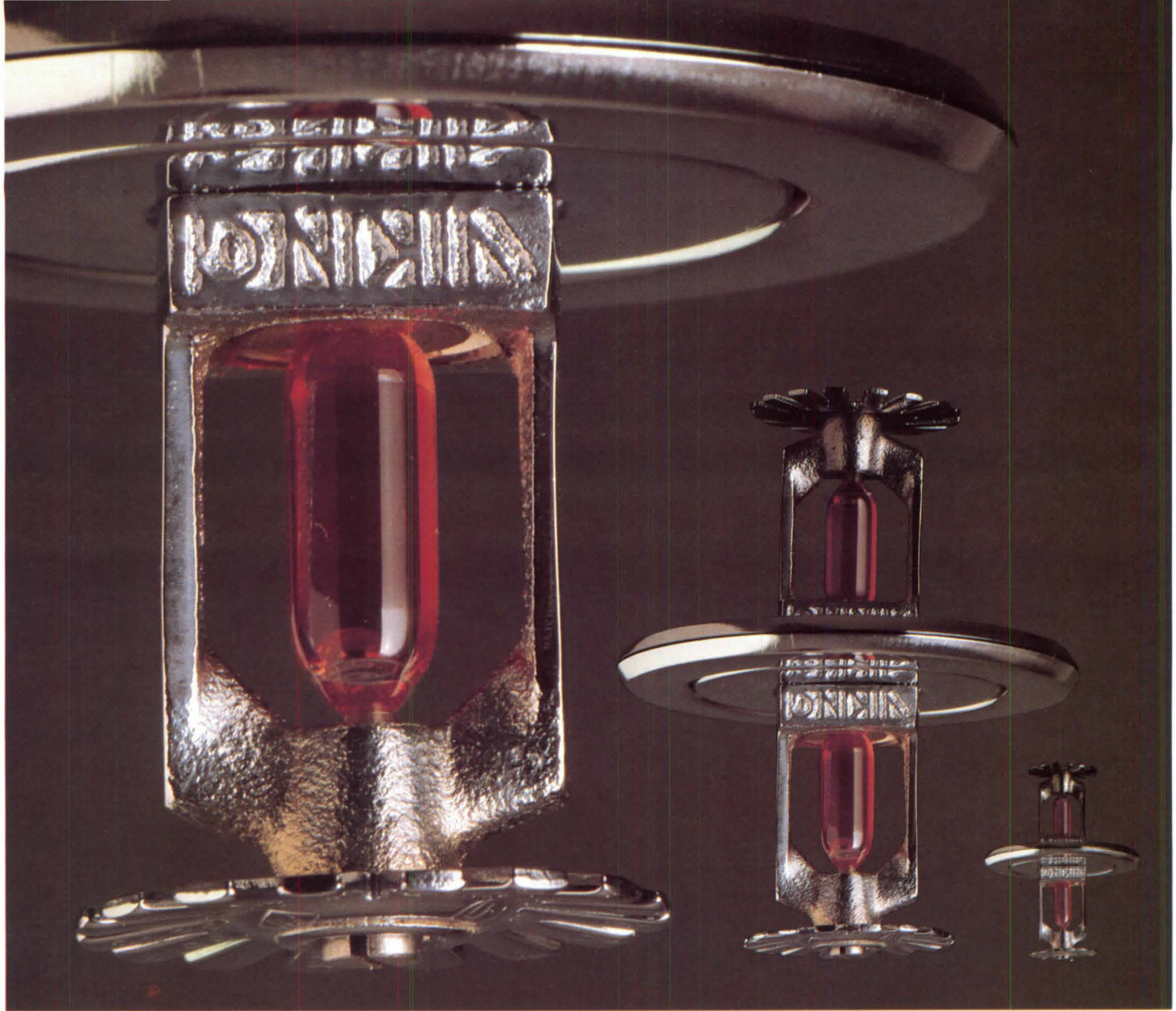
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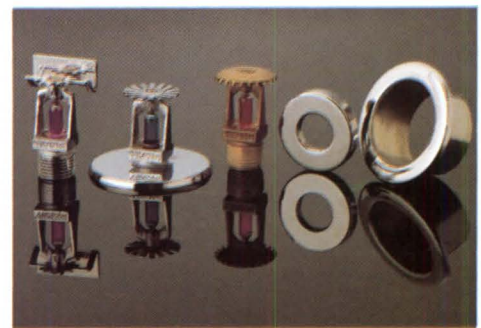
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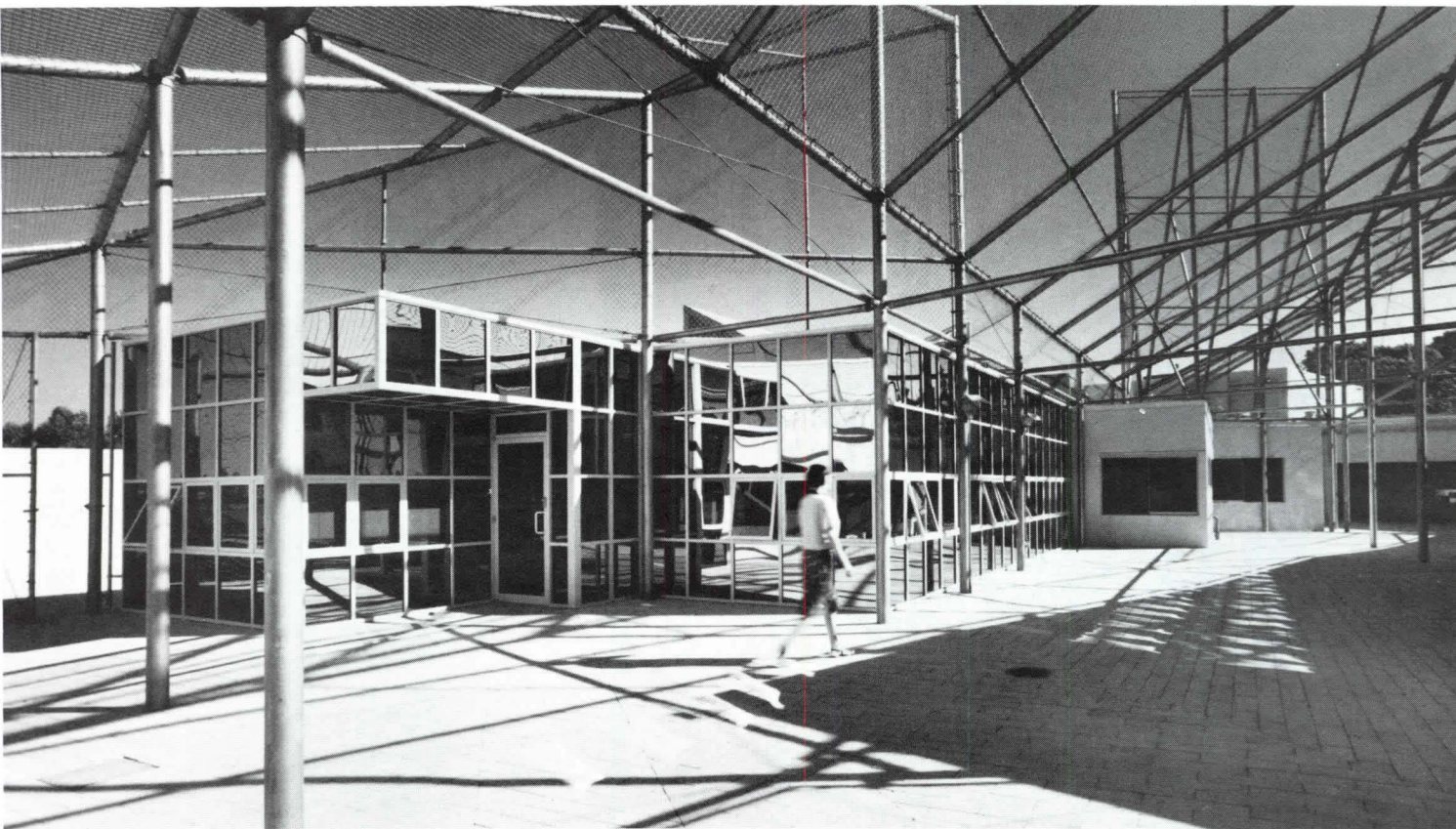
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Tim Street-Porter

Los Angeles Chapter. Cabrillo Marine Museum, Wilmington, Calif.; Frank O. Gehry & Associates, Santa Monica, Calif. (above). The 20,000-square-foot museum provides a place to exhibit and research the marine life of Southern California. It houses a large display area, small auditorium, multipurpose room, aquarists' laboratories, classrooms and service areas. The building is actually a series of pavilions, each housing a dif-

ferent function, grouped around an outdoor courtyard that has a chain link "ceiling." The main circulation space, which is also used for exhibits, is outdoors, to take advantage of the temperate climate and save on construction and energy costs.

Hawaii Society of Architects. Civic Center Parking, Honolulu; Anbe, Aruga & Ishizu, Honolulu (below). In order to conceal and diminish the impact of the

two-story, 939-car parking facility, the architect used a landscaped roof deck and gently sloping earth berms around the perimeter of the structure. The design of the 5.13-acre garage was to visually relate to the Hawaii Capital District structures and the open spaces within the Civic Center. Parked cars are only visible through entrances and exits. Large circular tree well openings were provided for the existing monkeypod trees.



More component awards on page 312

THE AIA JOURNAL

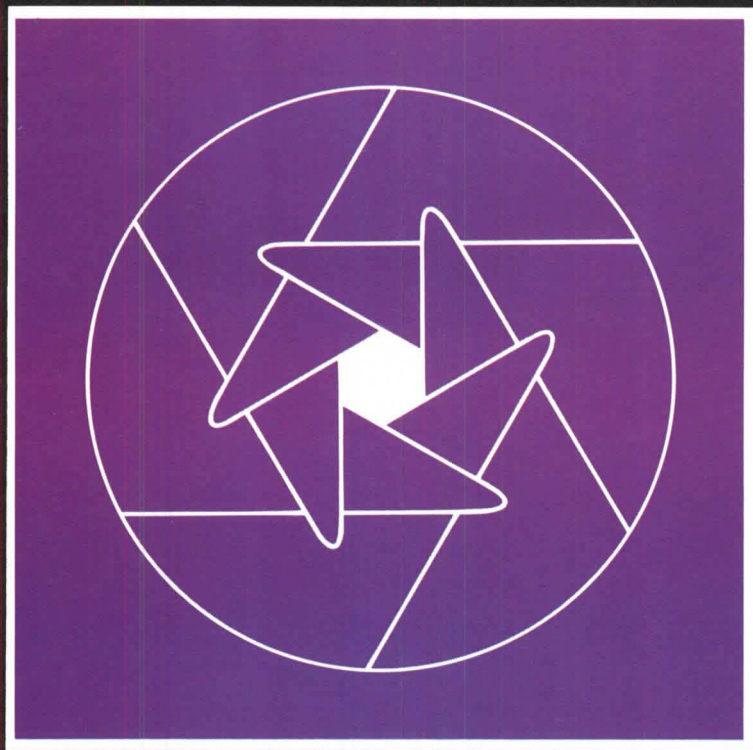
1981

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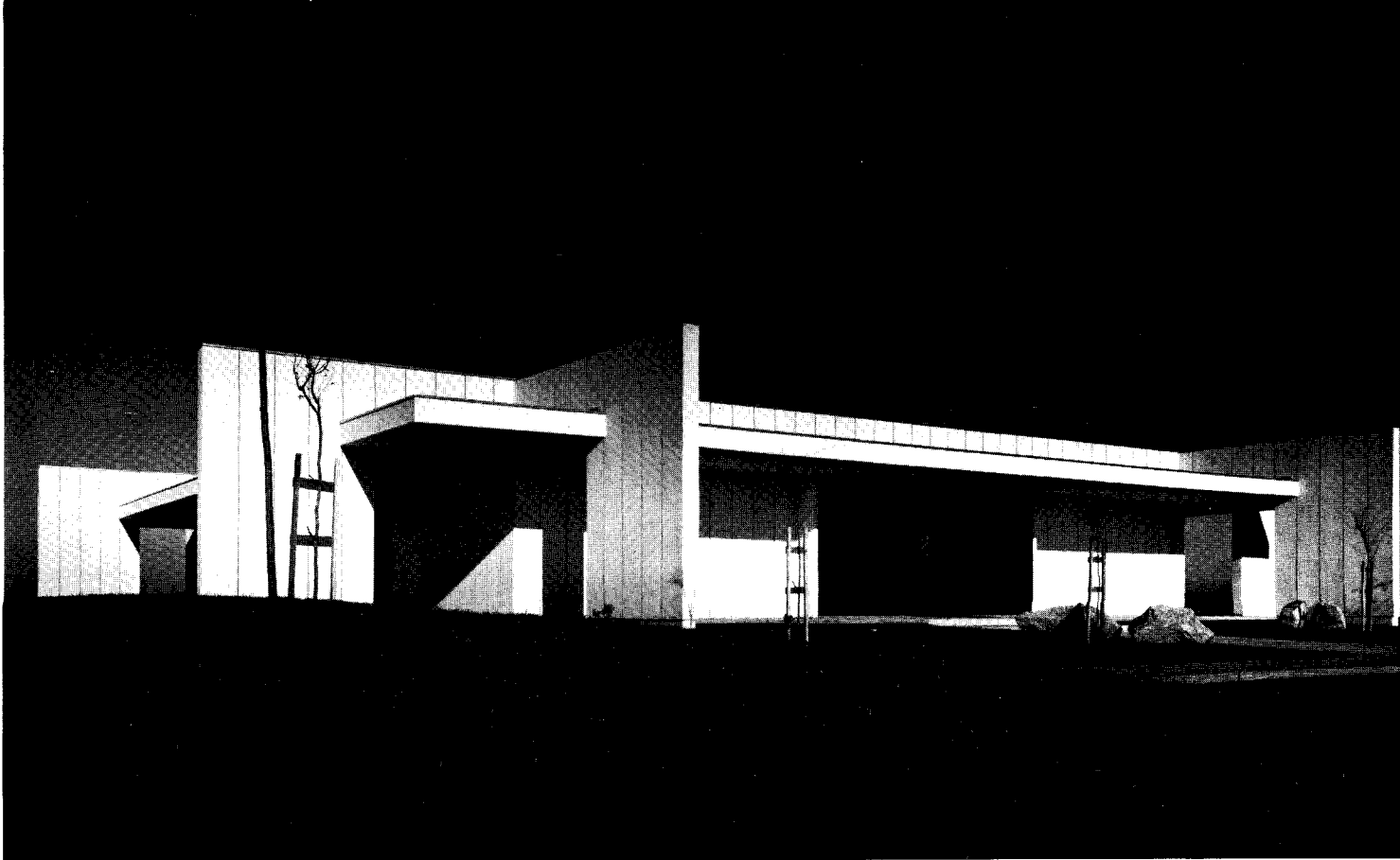
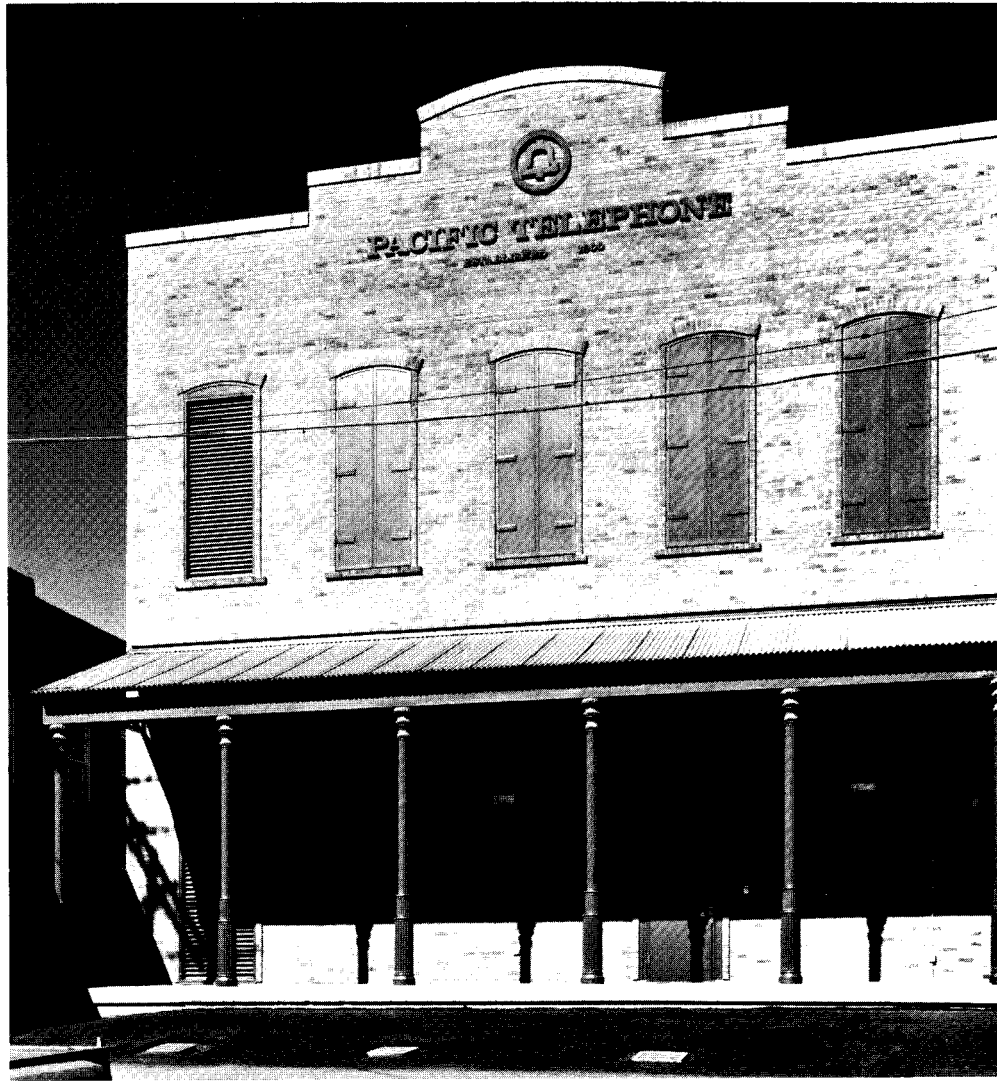
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Central Valley Chapter. Central Dial Office, Truckee, Calif.; Dreyfuss & Blackford, Sacramento, Calif. (right). The square footage of an existing main telephone switching center has been expanded by 100 percent in the new structure that is compatible with the surrounding 19th century mountain gold rush community. The exterior is brick with 19th century steel shutters covering the upper level windows on the street side facade. The Kor-ten steel covered lean-to porch structure frames with cast iron columns are also reflective of the gold rush era.

Port Sacramento Land Co. Office, West Sacramento, Calif.; Angello-Vitiello-Niyya, Sacramento (below). The white, scratch stucco exterior has large, squared overhangs that protect the windows from direct sunlight. The building is situated on gently rolling man-made knolls. Inside, the working spaces are located around a central skylit atrium. The reception area accommodates standing displays, seating area and a reception station.





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New AMP Undercarpet Wiring System puts power in its place... between carpet squares and floor.



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Here is AMP's answer to the high costs and complexity of hard service wiring in commercial office areas. The AMP Undercarpet Wiring System is just laid out on the flooring and covered with standard carpet squares. It can be easily re-arranged as office layouts are changed. It's made to take the pounding of foot traffic as well as furniture moving.

By eliminating the problems involved with under-floor ducts, power poles and conventional

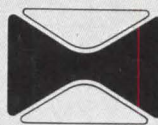
poke-thru devices, adaptability to changing needs is tremendously increased. Desks need not be located near existing walls. New conduits and the need for core drilling are eliminated.

Installation is easy. Just lay out the system and cover it with standard carpet squares. AMP Undercarpet Wiring System configuration gives no hint that it's there.

Another plus is that you don't

have to wait on construction schedules. What's more, only minimal training is necessary for installers.

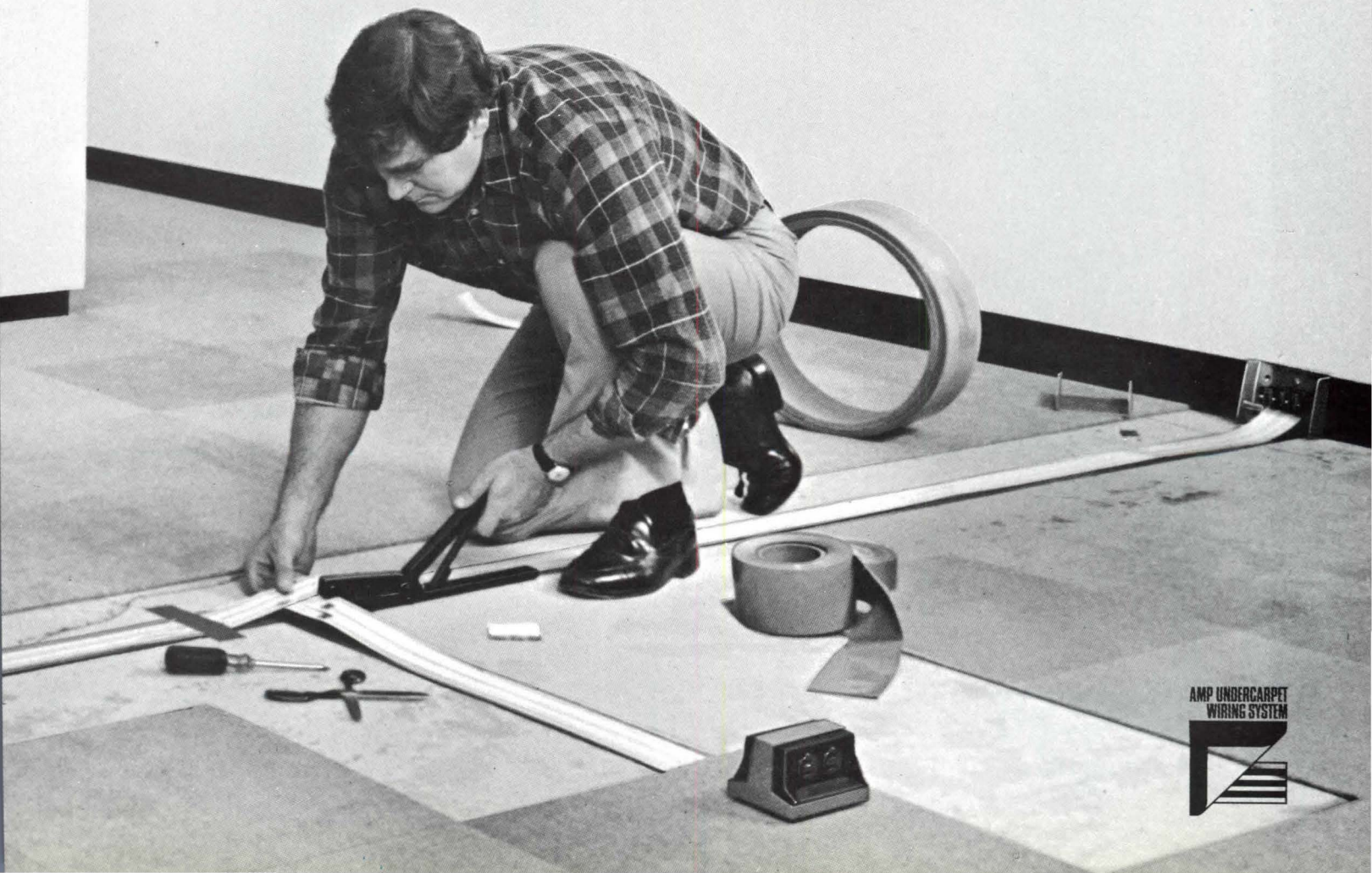
The new AMP Undercarpet Wiring System is U/L Listed and will appear in the 1981 printing of the National Electrical Code (currently approved under Temporary Interior Amendment Article 328). For more information, please write AMP Special Industries, P.O. Box 1776, Paoli, PA 19301. Or call (215) 647-1000.



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Rob Super

Northern California Chapter. Santa Clara County Transit Facilities, San Jose; The Architectural Association and MBT Associates, San Francisco (above). Located on a 90-acre site, the complex houses administrative offices, an overhaul and repair shop, a minor maintenance shop and a fueling facility. To provide unobstructed flexible work spaces, the buildings are long-span steel structures clad in insulated metal sandwich panels. The bright

colors reflect those of the buses, and the building forms are reminiscent of the bus design. The buildings are situated on the site to allow for the simplest flow pattern for the vehicles and to eventually provide room for expansion.

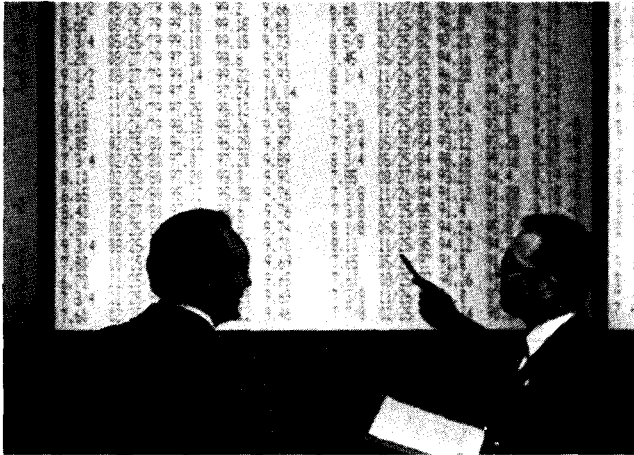
Fournou's Ovens Restaurant and Lounge Expansion, San Francisco; Esherrick Homsey Dodge & Davis, San Francisco (below). The Stanford Court Hotel sought to expand its restaurant and lounge

in a manner that would be appropriate to the existing character of the hotel and its interior. The solution was the addition of linked conservatories that create 3,000 square feet of interior space. The addition uses the hotel's exterior wall as its "back." Wrought iron and curved glass are used on the exterior and bas relief elements on the interior to give the addition an appearance of a 19th century Parisian restaurant.



More component awards on page 322

DYNAMIC NEW DIMENSIONS IN VISUAL PRESENTATION —with General Electric Professional Large Screen TV Projection



IN BUSINESS—General Electric projectors display real-time computer-generated data for Merrill Lynch Government Securities, New York.



IN ENTERTAINMENT—General Electric color projector brings large screen race action to Ontario Jockey Club, near Toronto, Ontario, Canada.

General Electric professional large screen television projectors—displaying color or monochrome pictures up to 25 feet wide—bring new dimensions of presentation impact to a broad spectrum of applications.

A wide choice of new and improved color and monochrome models is available to meet specific requirements for television display applications, in standard or high brightness, for various scan standards.

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These projectors can display any size television picture from two feet to 25 feet wide, with high resolution and contrast over their full range of light output.

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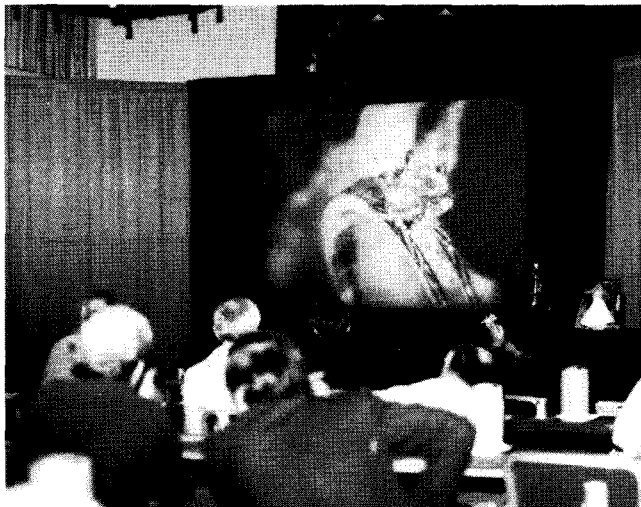
Business. Sales meetings, industrial training, product presentations, real-time display of computer-generated data, teleconferences.

Aerospace and Defense. Situation displays, simulator training.

Entertainment. Theatre television and closed-circuit TV events, overflow crowds, discotheque special effects.

Television Production. Backgrounds for news programs, special effects, data display, program previewing.

Call or write: General Electric Company, Video Display Equipment Operation, Electronics Park 6-206, Syracuse, NY 13221. Phone: (315) 456-2152.



IN SALES—General Electric color projector dramatically displays new product highlights at Keepsake® Diamond Rings annual meeting.



IN THE BOARD ROOM—At Mellon Bank N.A., Pittsburgh, General Electric color projector displays data, graphs, and information programs.

GENERAL  ELECTRIC

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The KAD II Koh-I-Noor Auto Draw is electronically controlled to produce rapidly a virtually limitless library of lettering styles, symbols and designs used in engineering, electronic and architectural drawings, as well as the drawings of many other disciplines. Once demonstrated, KAD II requires no special operating skills.

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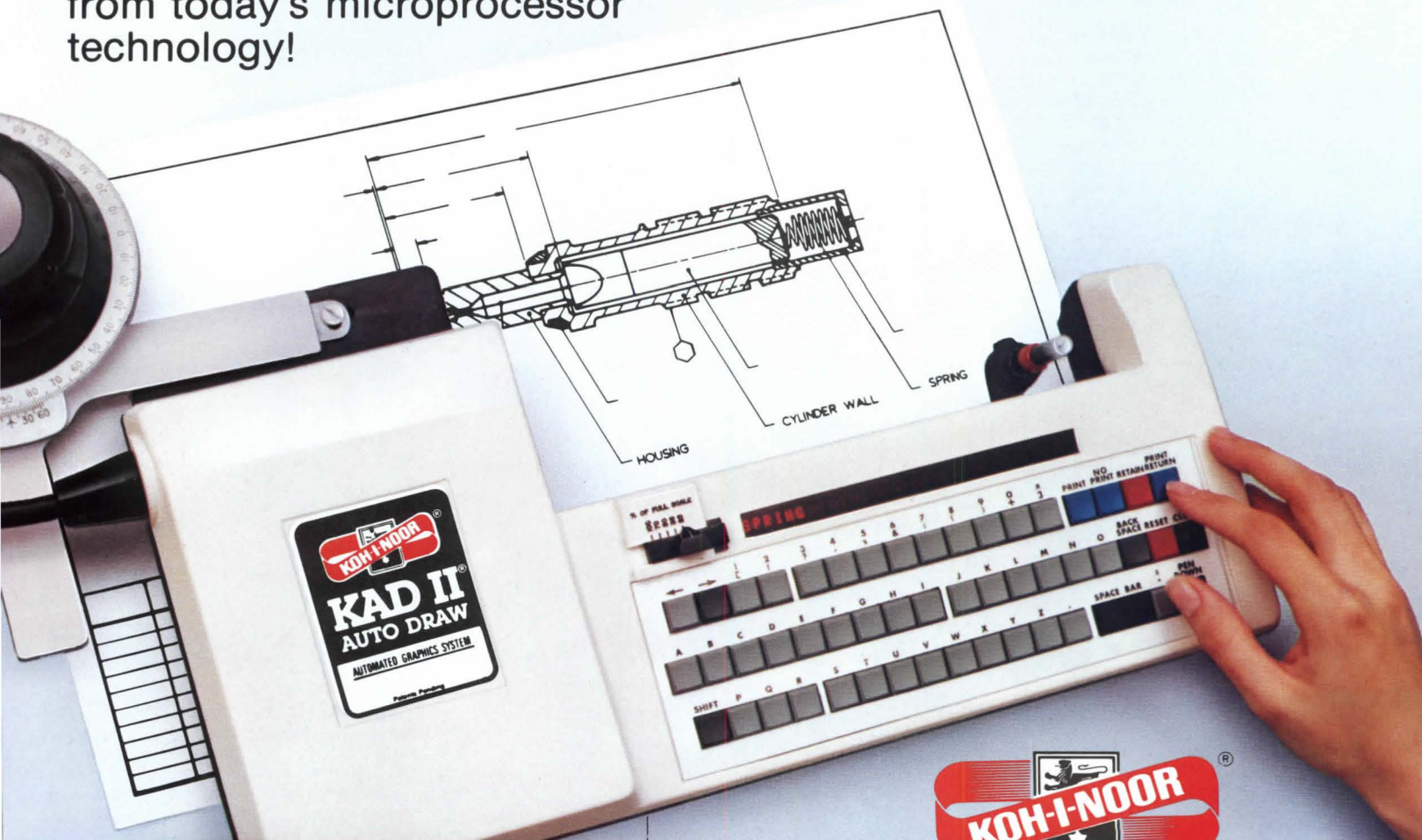


provided by any hand lettering device.

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IBM Building, Southfield, Michigan
Gunnar Birkerts and Associates, Architects
Birmingham, Michigan

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#801



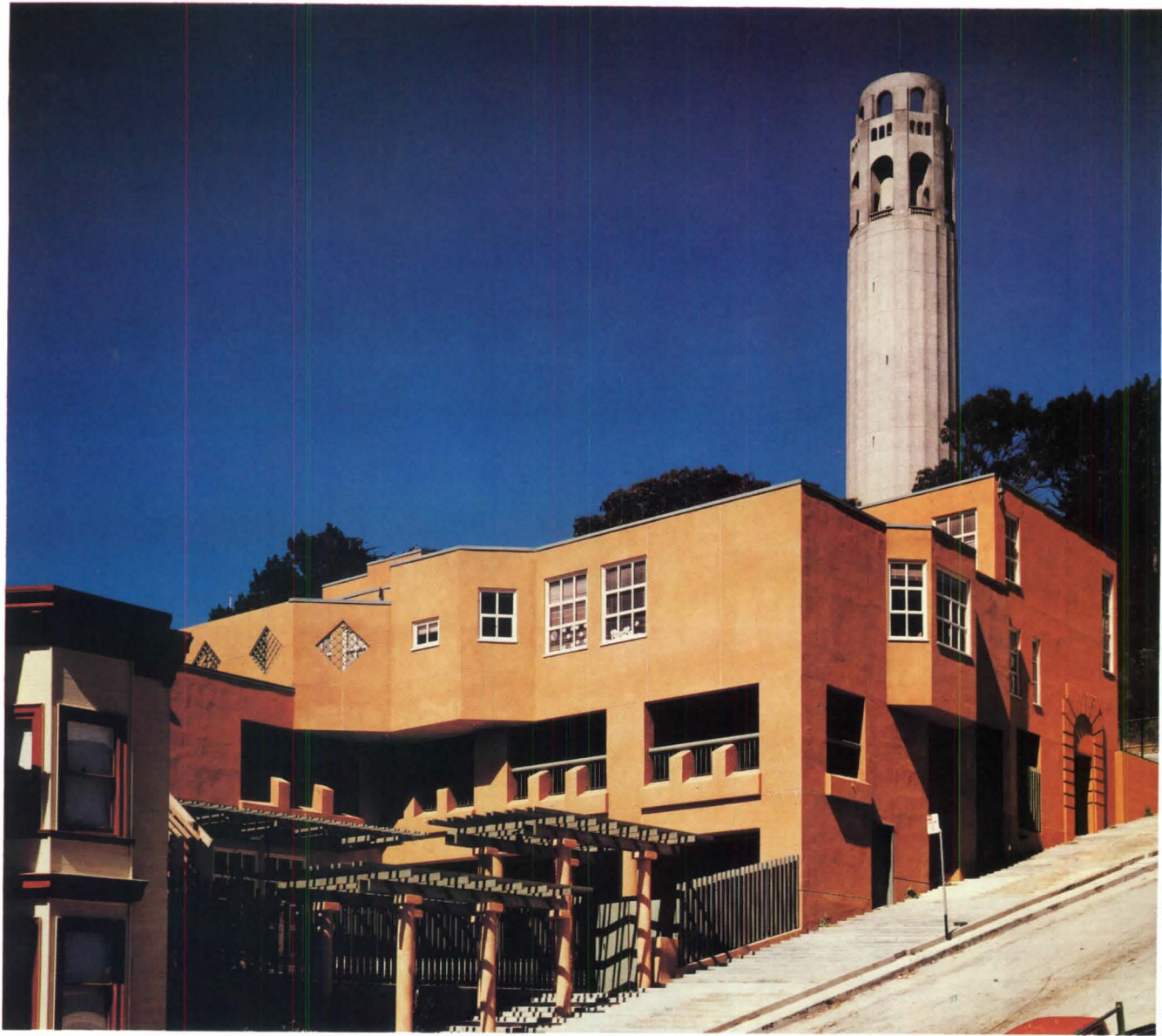
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Northern California Chapter. Garfield Elementary School, San Francisco; Escherick Homsey Dodge & Davis, San Francisco (above). Located near Coit Tower on Telegraph Hill, the 40,000-square-foot elementary school accommodates 460 students. The street facade reflects the predominant character of the surrounding neighborhood—three-story walkup apartment buildings. Its steeped arrangement helps bring light and air into the interior. To take advantage of the mild climate, the school has exterior passages and promenades, large openable windows and other openings.

Pacific Heights Town Houses, San Francisco; Daniel Solomon & Associates, San Francisco (left). The dwellings are designed to make full use of the large site but also to relate to the scale of the less dense neighborhood. A sense of open space is given to the street by large passages under the units that lead to a central garden. Two units are located in the garden as “mew houses.” Wherever appropriate, the two-story units on the street side have the vertical proportions of their Victorian neighbors.



Joshua Freiwald

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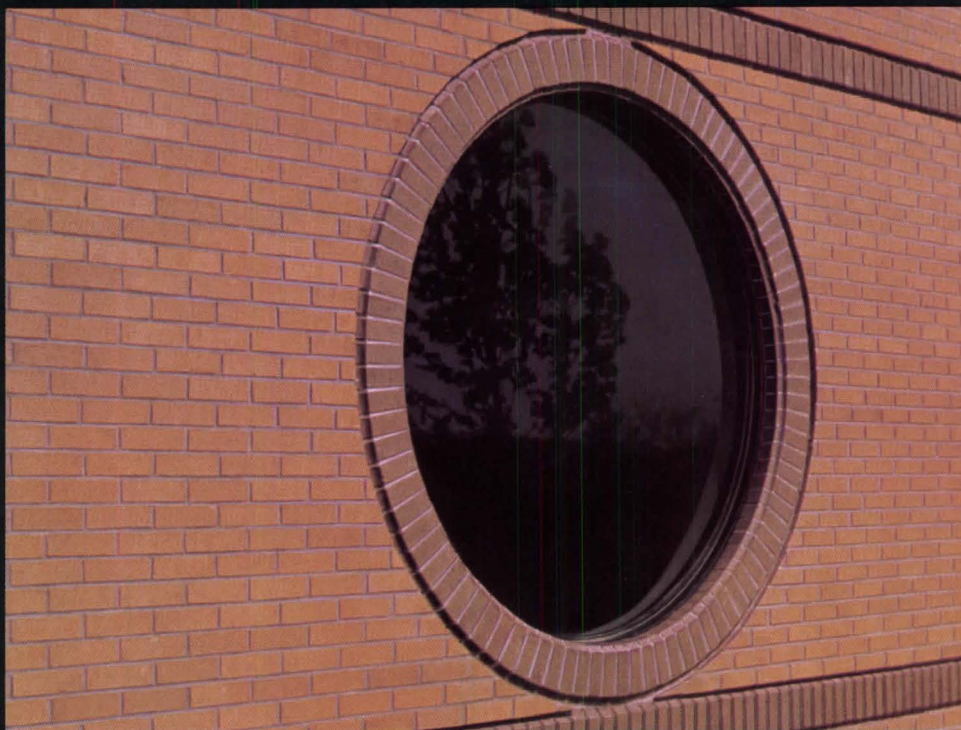
Caution: EXOLITE double skinned sheets are combustible thermoplastics. Precautions used to protect common combustibles should be observed. Building Codes should be followed carefully. Further data are available from CYRO Industries.



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Circle 109 on information card

Why some of today's most memorable creations are based on brick.



Forget, for a moment, that brick is economical, long lasting and energy-efficient. That it's good looking and practically maintenance-free. Because one of brick's most endearing qualities, to an architect, is a flexibility that frees him to create unique design solutions. And the Ward Building outside Washington, D.C., by Donald N. Coupard and Associates, is a very good example.

The Ward design features a variety of trend-setting shapes and elements not usually found in a brick building. Like the distinctive porthole-type windows (above), with circumferences rimmed by brick set in a circular soldier course. Brick's variety of color

enabled Coupard to create an interesting effect by matching these circular brick with horizontal bands on the exterior walls—in contrast to the basic orange-red, modular brick used for the bulk of the wall surfaces.

It all adds up to an original building design which is beautifully suited to its function and location—based on brick.

For more information about the Ward Building, and about other innovative design applications of brick, write for a free copy of "Brick in Architecture," Vol. 36, #5, from the Brick Institute of America, 1750 Old Meadow Road, McLean, Virginia 22102.



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The knowledge business



Circle 112 on information card

Portland Chapter. Park Place Condominiums, Portland; Evenson/Lundgren/Larson & Partners, Portland (right). The complex consists of five buildings with unit sizes varying from 1,400 to 1,600 square feet. Because of the irregular shape of the site, the two center buildings step down a steep hill, which allows the roof of one unit to become the outdoor deck of the unit above. The other three buildings are more conventional, but all units have large decks and panoramic views of Portland and the Cascade Mountains.

Abbey Street Pier, Newport, Ore.; Griggs, Lee, Ruff, Ankrom, Portland (below). The city's urban renewal agency commissioned the architect to design a public pier in the heart of Newport's historic fishing district. The pier's building reflects the historic character of the district with its flat street facade, wood frame and heavy timber construction. The southeast elevation is angled to focus the view toward the Yaquina Bay bridge. The half round windows symbolically recall the bridge's form. The interior has light colored walls, paneled ceiling and exposed trusses. Large display windows and a skylight admit natural light.



Stephen Cridland

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Paul Harber

Seattle Chapter. Shelton (Wash.) Wastewater Treatment Facility; Kramer, Chin & Mayo, Shelton (left). For a number of years the waters of the city's Oakland Bay were polluted, unfit for water-contact recreation and shellfish harvesting. In order to achieve and maintain water quality standards, it was determined that the collection system needed enlargement and that a new secondary treatment plant should be built. A 3.4 MGD oxidation ditch secondary treatment plant was chosen to be situated on a new 10-acre site south of the city's center. Careful site planning and landscaping were undertaken to ensure that the plant would have minimum impact on its largely residential neighborhood.

Peggy Moore residence, Freeland, Wash.; Arne Bystrom, AIA, Seattle (below). The house is located on 13 wooded acres on an island overlooking Puget Sound. The client wanted a house of heavy timber with a bedroom loft, pitched roof and high spaces. In keeping with the Northwest tradition of building with wood and logs, the architect developed a design of simple forms, reminiscent of the barns of the region. At the interior's center is a tall, glass-walled court around which the major spaces of the house take shape. The sleeping loft opens to the double height volume of the living room and has magnificent views of the sound.





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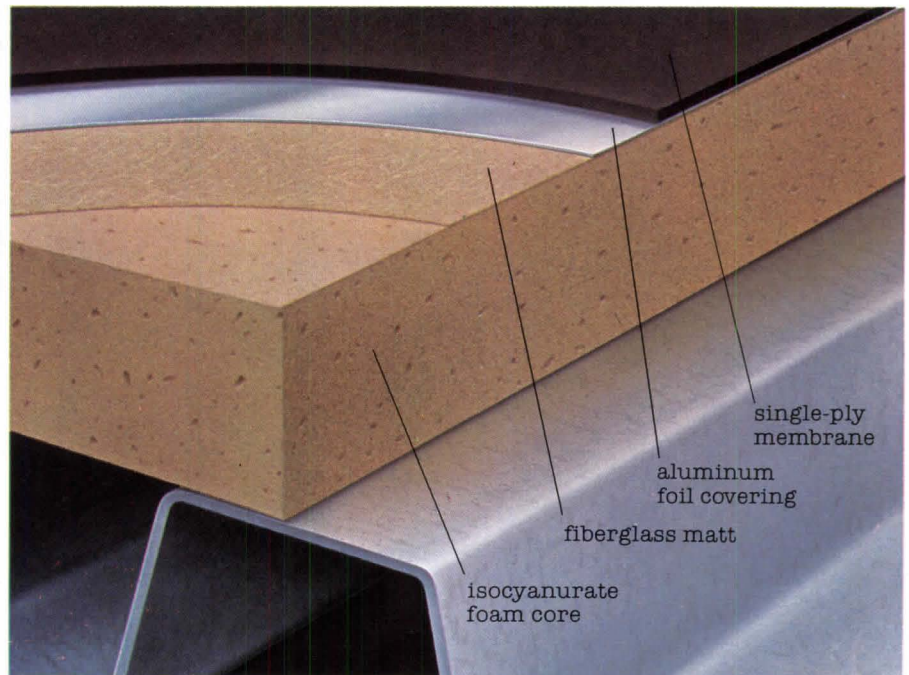
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It took a lot of heavy thinking to come up with a revolutionary new light-weight roof insulation designed specifically for single ply roofs. But that's just what we did. And we call it Ply-I.

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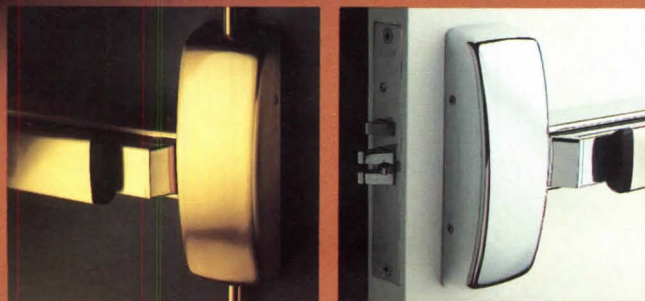
So when plans call for skylights or glazing of any kind, think cast acrylic sheet instead of ordinary glass. It's clearly superior. If you would like to learn more about USS Acrylic Sheet products, contact Don Bowman, at USS Novamont, Inc., Subsidiary of United States Steel, 7350 Empire Drive, Florence, Kentucky 41042. Phone (606) 283-1501.



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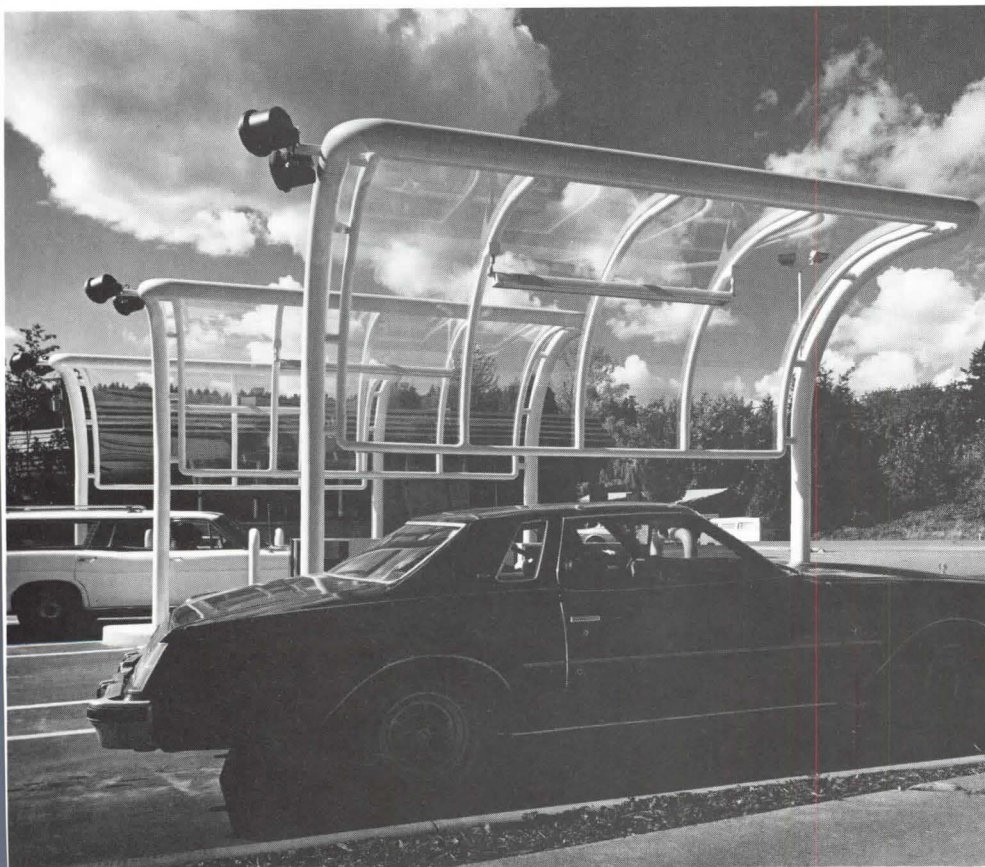
KIDDE

Circle 117 on information card



Seattle Chapter. North Puget Sound Radiation Therapy Center, Bellingham, Wash.; Johnson, Erlewine & Associates, Seattle (above). A group of physicians decided a facility was needed to provide radiation treatment for local cancer patients. The building was to be small, economical and have as few rooms as possible to function properly, with the option of future expansion. The design is a simple rectilinear solution. Variations of a crossed circle are used as inexpensive "graphic" carve-outs throughout the exterior and interior. The wood frame building has a concrete vault around the treatment room.

Seattle-First National Bank: Juanita (Wash.) Branch, Motor Banking Facility; Hobbs Fukui Associates, Seattle (left). Located in a suburban shopping center, a strong, visible facility was desired for high image and identity. Six-inch round standard steel pipes were curved to create each unit. Weather protection is achieved with clear plastic, and lighting is provided by fluorescent fixtures. The kiosks provide colorful identification of the facility within an otherwise typical and cluttered setting. Prefabrication allows the units to be considered as a prototype for other installations. □



Art Hupy

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ITT OUTDOOR LIGHTING

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THE SOLUTION IS:

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The HYDROZO COLORSEAL-CONCRETE System is designed as a two-coat stain and seal system for concrete block, poured and precast concrete and stucco wall surfaces. The system includes an initial coating of high quality, opaque stain which colors the substrate in a uniform manner without a heavy buildup of paint film. The result is a consistent color tone without spoiling the natural beauty and texture of the surface.

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The HYDROZO COLORSEAL-CONCRETE System provides long-lasting durability, moisture protection and color hold.



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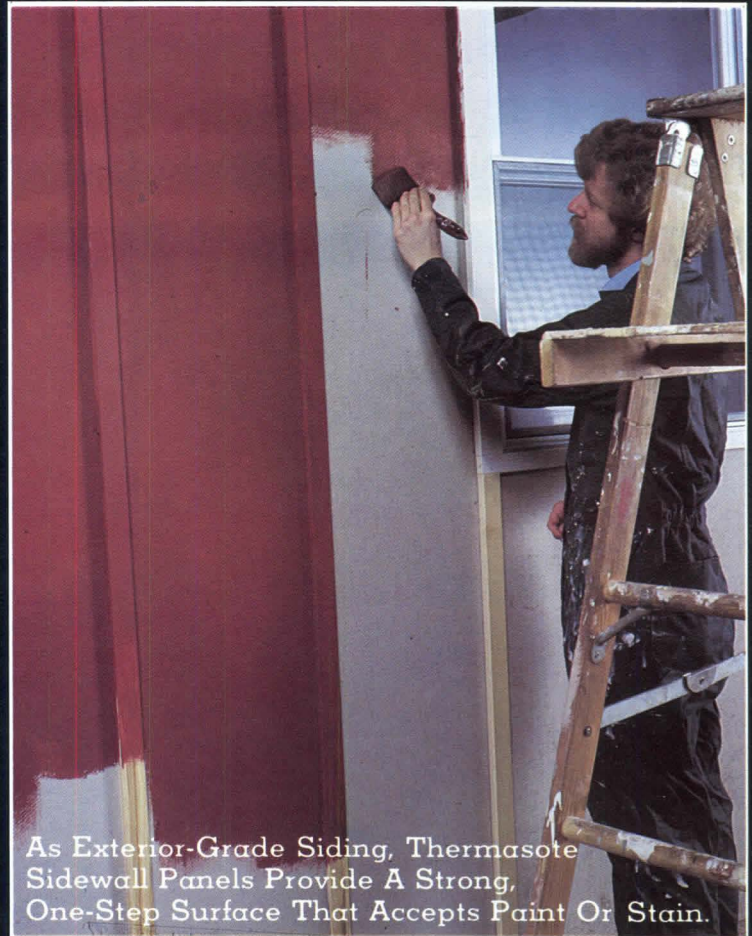
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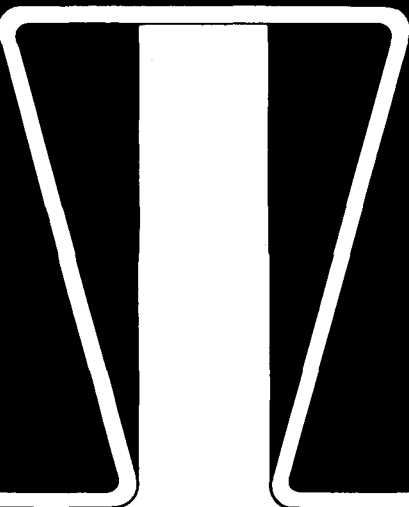
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Energy from page 29

tems. Federal incentives were recently increased to reduce the cost of residential and commercial solar energy systems by 40 and 15 percent respectively, and many states have enacted solar tax credit programs. The survey also concluded that 50 percent of American consumers have never seen a solar space or water heater. When asked if the existence of a significant tax credit would encourage them to purchase a solar system, 60 percent of the homeowners surveyed and 45 percent of the potential commercial purchasers surveyed answered in the affirmative.

California elevated solar energy's profile significantly by ordering the state's four major utilities to offer customers solar water heaters, monthly rebates, a tax credit and lower energy rates as part of the state's energy conservation effort. The unprecedented program will involve approximately 375,000 of the state's 8.5 million households.

Just before Carter Administration Energy Secretary Charles Duncan Jr. came to the AIA 1980 national convention in Cincinnati to praise architectural innovation and the Institute's support for federal energy performance standards, the "citizens' lobbying" organization Common Cause sued President Carter, the Energy Department and the Office of Federal Procurement Policy for allegedly failing to develop and implement energy conservation plans as required by law. Among other charges, Common Cause cited study results indicating that "nine of the 18 largest energy-using federal agencies increased their energy consumption in buildings from 1975 to 1978" and that "10 of the largest 18 agencies, including DOE, have increased their overall energy consumption" in the same period.

Practice: The Issues Included Firesafety, Liability, Licensure

Tragic hotel fires at the Hilton and MGM Grand Hotels in Las Vegas and the Stouffer's Inn in Harrison, N.Y., focused the nation's attention on firesafety in buildings and on the implementation and enforcement of building codes.

The MGM Grand fire bore out recent studies showing that suffocation or poisoning from smoke kills an estimated three-fourths of the people who die in burning highrises. Of the 84 victims at the MGM Grand, 60 probably died from the rapid spread of smoke and fumes, according to investigators. Fumes emanate when plastic furniture, fiberboard tiling, carpet and the plastic used to coat electrical wiring catches fire.

Ironically, fire-retardant materials

may compound the smoke and fume problem, because burning plastic produces particularly deadly carbon monoxide faster than most other materials do. Smoke and gases circulate along the plenums, ducts and elevator shafts that honeycomb every highrise.

In the MGM Grand fire (which officials say was started by an arsonist) a plenum above the first floor ceiling apparently distributed dense black smoke, carbon monoxide and other plastic-fueled toxins, including cyanide, throughout the building after the flames reached an overheated electrical box in the first-floor ceiling.

Blowers that continued to run drew smoke into the hotel's towers unimpeded by disabled fire emergency smoke dampers. Smoke also travelled up interior stairwells through "seismic joints," designed to mitigate earthquake damage, where metal rather than fire-resistant expansion bellows were used.

The three hotel fires, which took 118 lives in less than three months, prompted intense scrutiny of the nation's patchwork of an estimated 18,000 separate state, county and local firesafety codes. Although many localities have strengthened codes in recent years, practically none has forced compliance to pre-existing buildings.

In some metropolitan areas, comprehensive building codes have sent developers into the suburbs to build their highrises where codes are less stringent and, ironically, firefighting equipment is often less sophisticated. If the Stouffer's Inn had been on the other side of the highway—in White Plains rather than Harrison—the full sprinkler system required there would have saved the 26 victims of the blaze, it was suggested.

Some building code officials reacted to the chain of hotel fires by cautioning against knee-jerk responses. "To suddenly change codes in such situations is design by crisis," said a Dallas official. The owners of the MGM Grand Hotel reacted by renovating their facilities with a tough emphasis on firesafety; the fully-sprinklered facility will even have sprinklers in the entry carport to douse automobile fires.

Professional liability remained a prominent practice issue last year. The number of construction industry arbitration claims for the first six months of 1980—1,441 cases—was the highest ever recorded for any comparable period in the 54-year history of the American Arbitration Association. The total value of claims and counterclaims was also the highest on record, said AAA. Dollar value increased by 52.3 percent over the first six months of 1979. Owners and contractors or subcontractors were the combatants in 855

continued on page 342



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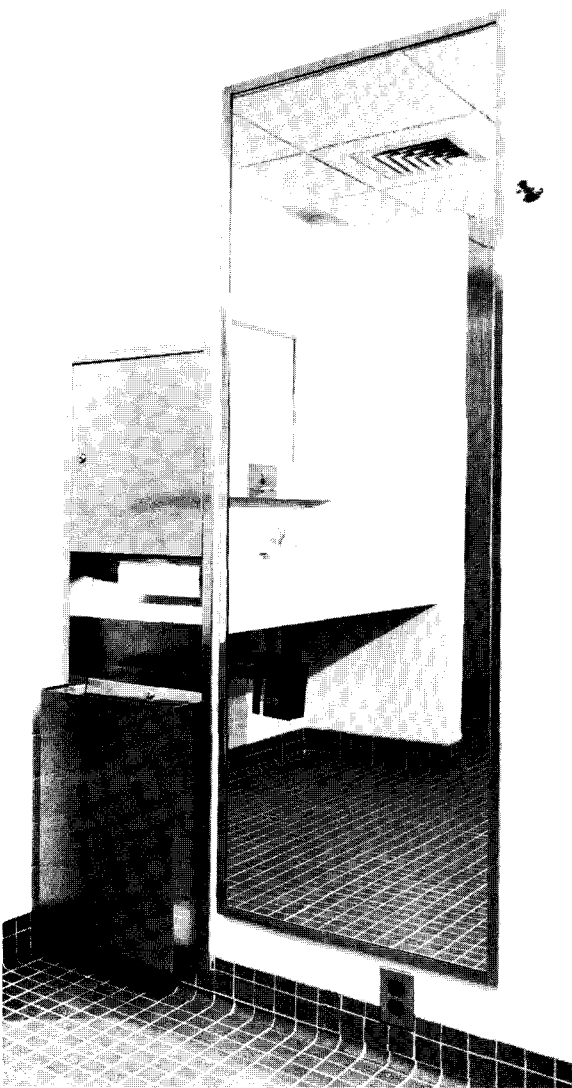
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Practice from page 340

of the disputes in the 1980 period. Owners and architects or engineers were involved in 160 cases, AAA said.

AIA's 1980 President Charles E. Schwing, FAIA, carried the profession's concerns about liability to Capitol Hill. In testimony, he urged passage of the Service Liability Partial Self-Insurance Act, calling the Senate bill a "piece of urgently needed legislation that is of prime importance to the entire design profession as well as to the public."

The legislation would allow architectural and engineering firms a limited tax deduction for funds set aside to satisfy professional liability claims and associated expenses. The trust funds could be invested in low-risk government securities or government-insured bank accounts. The assets could not be invested in the business of the firm, and all funds withdrawn for nonliability purposes would be taxable. If funds were used to satisfy liability claims or associated expenses, the firm would receive an offsetting tax deduction.

Sen. Charles McC. Mathias (R.-Md.), sponsor of the bill, said that A/Es have been "hard hit" by the rising cost of professional liability insurance. "The exorbitant cost of liability insurance is driving increasingly large numbers of firms out of the insurance market," he said.

Schwing and American Consulting Engineers Council President-elect William R. Ratliff pointed during their testimony to a survey of A/E firms conducted for AIA and ACEC by accountants Deloitte, Haskins & Sells. One-third of the firms responding to the survey had experienced liability claims over the past five years. The average liability policy reported was \$449,000 with a deductible of \$8,000. Large firms proved more likely to experience claims, and the cost of insurance was revealed to be more severe for smaller firms. Insurance costs exceeded 2 percent of gross receipts for 64 percent of the responding firms. Twenty-four percent of the firms surveyed had no liability insurance, with 80 percent of that group naming high cost as their reason for going bare. Two-thirds of the survey respondents said they would make some use of the design liability trust fund.

In other news, the National Council of Architectural Registration Boards voted to require every applicant for NCARB certification to hold a professional degree in architecture from an accredited school. The requirement goes into effect on July 1, 1984.

According to a survey of architectural graduates by the Association of Collegiate Schools of Architecture, there isn't any evidence to support the oft-quoted proposition that half of the nation's architectural graduates never enter the profession.

With support from the National Endowment for the Arts, ACSA tracked 1967, 1972 and 1977 graduates of 25 accredited programs and found that a "clear majority" of the 3,000 to 3,500 annual graduates with professional degrees in architecture find work either in architecture or in a closely related field.

Yet another survey shed light on why graduates may be staying in architecture. A Professional Services Management Association survey of architectural and engineering firms showed that, in a reverse of 1978 statistics, architects had a higher level of profit (9.1 percent mean) than engineers (6.5 percent mean). The survey also revealed that both architectural and engineering firms in the sunbelt enjoyed higher profits (9.1 percent mean) than those in the Northeast (4 percent mean).

The year brought hints of a higher profile for the architectural profession: The National Endowment for the Arts announced a \$700,000 grant to collaborators Guggenheim Productions and WETA TV, the public broadcasting station in Washington, D.C., for a five-part television series on architecture and design. The grant, the largest ever made for arts programming on television, required \$1.4 million in matching funds from nonfederal sources. Guggenheim and WETA, who collaborated before on the NEA funded "A Place to Be: The Construction of the East Building of the National Gallery of Art, 1968-78," announced that the host for the series would be Spiro Kostoff, professor of architectural history at the University of California, Berkeley.

Preservation: The Fate Of Proposed Landmarks Passes to Their Owners

In one of his last acts as President, Jimmy Carter signed into law a package of major revisions to the nation's historic preservation program. The legislation authorized the nation's historic preservation fund at \$150 million annually for fiscal years 1981-87 and significantly altered the procedures for designating national landmarks.

A major change was the addition of an owner consent provision requiring that private owners of properties nominated for the National Register of Historic Places grant their consent before their properties are listed. Under the law, only a private owner may block historic designation, thus preventing federal incentives for preservation and disincentives for demolition from coming into play. If an owner objects, the Interior Department may still declare a property eligible

continued on page 344



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Preservation from page 342
for landmark status, protecting it from federally funded projects.

The legislation, which resulted from a compromise between House and Senate bills, also mandated more public notice of proposed designation. Property owners are to be notified if a building is being considered for listing on the National Register, including the majority of property owners in a historic district proposed for listing. Any single owner or local government may appeal.

The legislation validated all landmark designations made to date, including the controversial Historic Green Springs District in central Virginia. Last year the district became the first national landmark designation to be challenged in court when a vermiculite mining company sued to have the designation lifted. U.S. District Court Judge Robert R. Merhige Jr. overruled the Interior Department's designation of the 14,000-acre site, faulting Interior for not developing rules, criteria and procedures for the historic landmark program and ordering Interior to develop standards and procedures that would call for public hearings in landmark designations. The Interior Department's planned appeal of the decision was

rendered unnecessary with President Carter's signing of the new preservation law.

The economic feasibility of urban preservation in Chicago's North Loop was demonstrated in a study prepared by the Landmarks Preservation Council of Illinois under contract with the National Trust for Historic Preservation.

Redevelopment is scheduled for six North Loop blocks in which 13 buildings considered "architecturally significant" are located. Conducted to weigh the feasibility of rehabilitating rather than demolishing the buildings, the study focused on one block in the threatened area. It found that renovation of five buildings in the block—dating from 1872 to 1928—involving half a million square feet would cost approximately \$56 per square foot, or 78 percent of the cost of similar new construction. Chicago Mayor Byrne turned the study report over to the city's planners for further investigation.

Preservation and new urban design got underway together along the nation's "Main Street," Pennsylvania Avenue in Washington, D.C. Venturi Rauch & Scott Brown's Western Plaza, etched with Pierre L'Enfant's original plan for the capital city, was completed in time for Ronald Reagan's inaugural drive down

the avenue. Pershing Park, a smaller, landscaped plaza designed by M. Paul Friedberg & Partners and Jerome Lindsey, was finished this spring. Underway within two blocks of the adjacent plazas are three new major office and mixed use projects.

Two preservation/renovation efforts bracket the new construction, one late in getting started and the other late reaching completion. At the western end of the avenue is the Willard Hotel, built in 1901, closed after Washington's 1968 riots and vacant ever since. Scheduled for demolition, it was bought by the Pennsylvania Avenue Development Corporation for \$5.5 million and made the subject of a competition for its redevelopment and expansion onto an adjacent site. Developer Stuart Golding won the competition with a design by Hardy Holzman Pfeiffer more than two years ago. The developer blames high interest rates and escalating construction costs for the delay in construction, but said he was confident of getting construction funds by the PADC's June 7 deadline. Farther east is the 1899 Romanesque old post office, which sits prominently amidst the Neoclassical government buildings lining the avenue's south

continued on page 346

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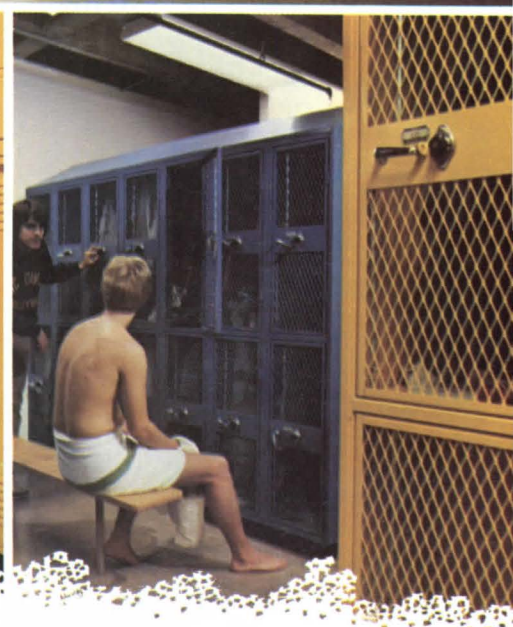
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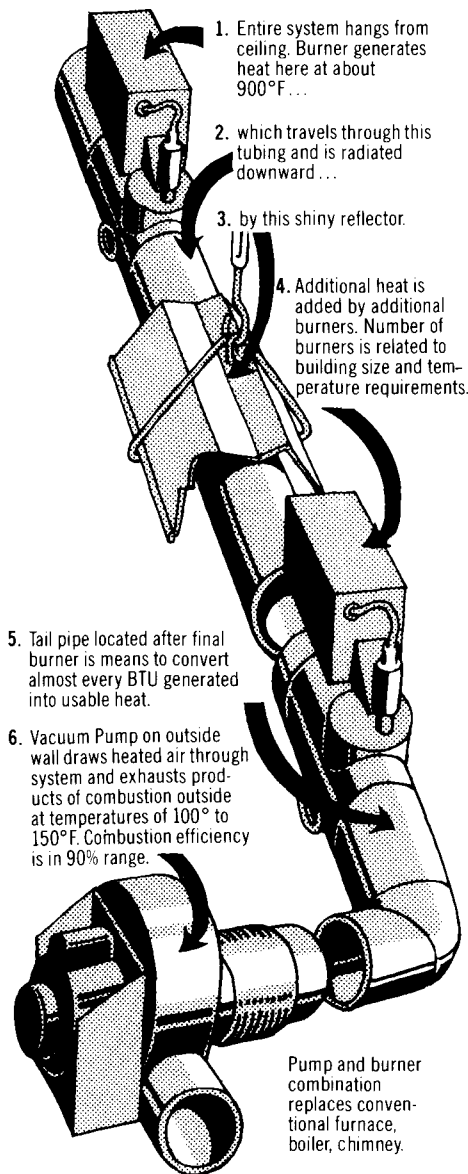
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Preservation from page 344

side. The General Services Administration is overseeing the architectural team renovating the building for mixed uses. GSA predicts mid-1982 completion for the project, originally scheduled for completion last year.

This year legislation that would increase tax incentives for private rehabilitation of historic buildings had been introduced in the House of Representatives. The Rehabilitation and Historic Preservation Tax Incentives Act of 1981 (H.R. 2315) contains three provisions.

The first allows a 10 percent tax credit to encourage quality rehabilitation of historic owner-occupied residences and other structures that are not covered under the investment tax credit. Secondly, the bill would increase the credit from 10 percent to 25 percent for rehabilitation expenditures related to certified historic structures, since this rehabilitation is often more costly than that of nonhistoric structures. The third section expands the investment tax credit to the rehabilitation of multifamily residential property.

The Institute: Backing Concern with Knowledge In Design and Energy

"To raise the knowledge level and credibility in the energy field of every AIA member." That's how 1981 AIA President R. Randall Vosbeck, FAIA, phrased his principal goal for the year ahead when he took office at AIA headquarters in December 1980. The native Minnesotan brought considerable credibility to energy concerns, having built a flourishing energy-conscious practice in Alexandria, Va., and a home that meets 80 percent of its water heating and 70 percent of its space heating requirements with a hybrid solar system. Viewing the energy crisis as "creating fantastic opportunities" for architecture, his enthusiasm underscored the theme for the 1981 convention in Minneapolis—"a line on design and energy"—and propelled development of the Institute's unprecedented three-year energy professional development program, a comprehensive curriculum in energy-conscious design that was scheduled to premiere at the Minneapolis convention and extend through the spring of 1983.

Taking office with Vosbeck in December were AIA First Vice President/President-Elect Robert M. Lawrence, FAIA, of Oklahoma City; Secretary Harry W. Harmon, FAIA, of Long Beach, Calif., and Vice Presidents Robert Broshar, FAIA, of Waterloo, Iowa; George M. Notter, FAIA, of Boston and Ray K. Parker of Little Rock, Ark.

Vosbeck's fellow national officers were

elected at the Cincinnati convention. Delegates also voted in favor of changes in Institute bylaws that broadened the eligibility requirements for associate and affiliate membership in the Institute, raised supplemental dues from \$155 a year to \$160 and raised AIA membership dues from \$55 to \$70 in the first year, from \$80 to \$95 in the second year and from \$105 to \$140 in the third year and beyond.

The most important convention vote came in favor of replacing the Institute's mandatory code of ethics and professional conduct with a statement of ethical principles to be followed on a voluntary basis by the membership. Such action had been recommended by both legal counsel and the Institute's legal decision impact task force, following a study of ways to minimize legal risks of any potentially anti-competitive elements. The mandatory code had been in effect, though much amended, since 1909.

At its March 1981 meeting in Vail, Colo., the Institute's board of directors approved the new voluntary statement of ethical principles consisting of 12 guidelines of conduct for AIA members in fulfilling the "highest standards of professionalism, integrity and competence." It applies to all professional activities and addresses members' responsibilities to the public, to clients and users of architecture, to colleagues in architecture and the building industry and to the art and science of architecture.

The Institute's ethics change was prompted by the lawsuit brought last October by the Justice Department against the American Consulting Engineers Council. The suit challenged three provisions in ACEC's voluntary ethical guidelines that warned its members against the pitfalls of accepting contingent contracts, providing free services except to charitable or religious institutions and participating in design competitions without compensation. ACEC called the suit "tantamount to the government's repainting or resurfacing a bridge 45 days before it is to be replaced by a better structure." Shortly thereafter, it adopted a new code of ethics containing five "fundamental canons" and deleting the three controversial provisions.

At this writing, ACEC and the Justice Department are at a standstill over the settlement of the antitrust suit. The department's conditions for settlement are that ACEC require its member organizations to submit written certification that they have no rules or policies that contain the cited provisions and annual certification verifying continued absence of the provisions. In response ACEC Executive Vice President Larry Spiller said that no ACEC state organization code contains

continued on page 348

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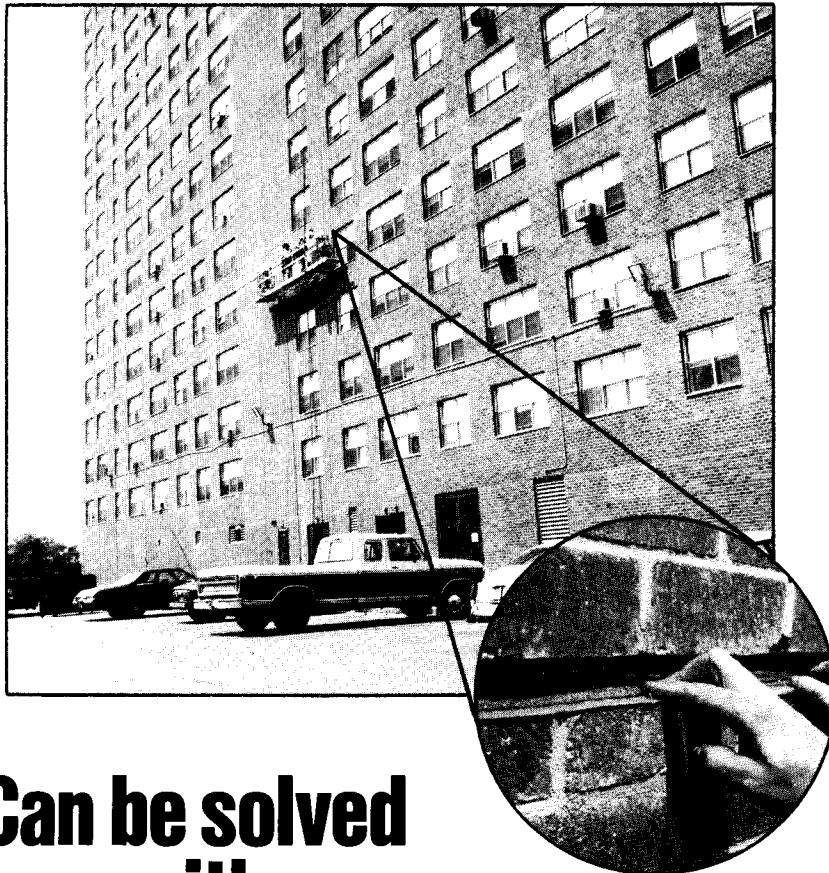
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The Institute from page 346

any of the disputed provisions and that under the ACEC federation structure the national council cannot dictate policy to its member organizations. The two parties are working toward an equitable resolution.

Last year in the midst of a political campaign highly influenced by the financial weight of private political action committees, AIA's board of directors approved the establishment of an AIA political action committee that would "aid in the election of congressional candidates who have demonstrated their interest in and commitment to the advancement of the architectural profession and its goals, by contributing money to their campaigns." Presidential, state and local campaigns would not be involved, nor would contributions go to lobbying for the passage of legislation. Governed by a 13-member board of trustees (eight from AIA's executive committee) and assisted administratively by the Institute, AIA/PAC would be voluntary, nonpartisan, nonprofit and unincorporated.

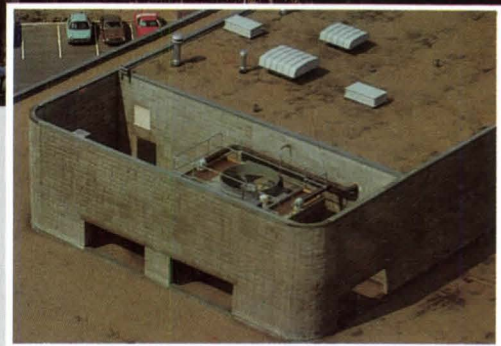
In other news, AIA's documents committee completed work on a new generation of construction management documents, four of which are revised and four entirely new. The new documents, all currently available from AIA and its authorized distributors, are A311/CM, "Performance Bond/Labor and Material Payment Bond/CM Edition," G701/CM, "Change Order/CM Edition," G722, "Project Application and Project Certificate for Payment" and G723, "Project Application Summary." The revised documents, also available, are A101/CM, "Owner-Contractor Agreement/CM Edition," A201/CM, "General Conditions of the Contract for Construction/CM Edition," B141/CM, "Owner-Architect Agreement/CM Edition" and B801, "Owner-Construction Manager Agreement."

An AIA task force, the American National Metric Council and the National Bureau of Standards' center for building technology collaborated in the preparation of *The AIA Metric Building and Construction Guide*, edited by Susan Braybrooke and published last year by John Wiley & Sons, New York City. The book proposes a "rational, voluntary process" for coupling metric conversion in the construction industry with dimensional coordination.

Published under the aegis of AIA's financial management committee was *Financial Management for Architects: A Guide to Understanding, Planning and Controlling the Firm's Finances*. Written by Robert Mattox, AIA, the book is aimed at helping architectural firms solve their two most important financial problems: profitability and solvency. □



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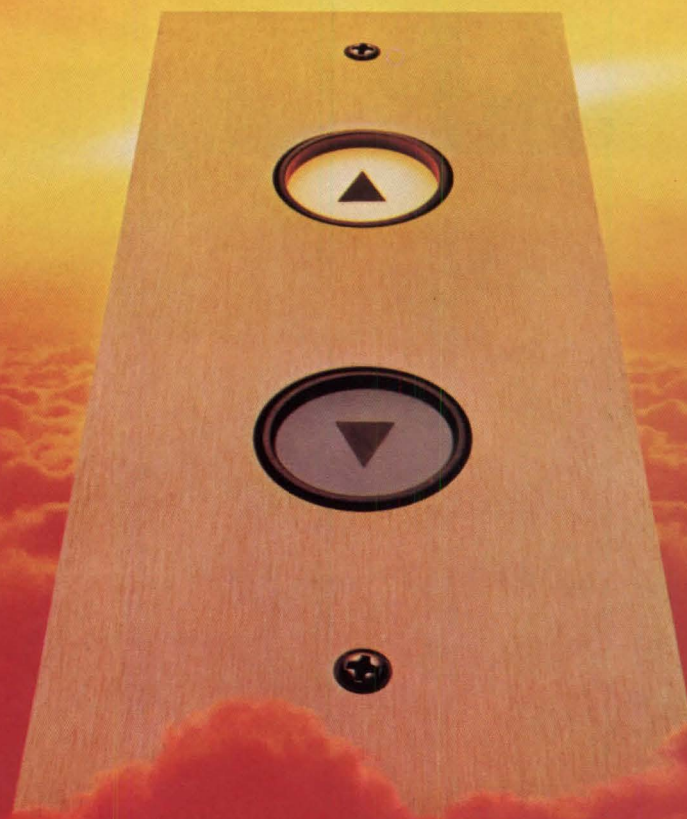
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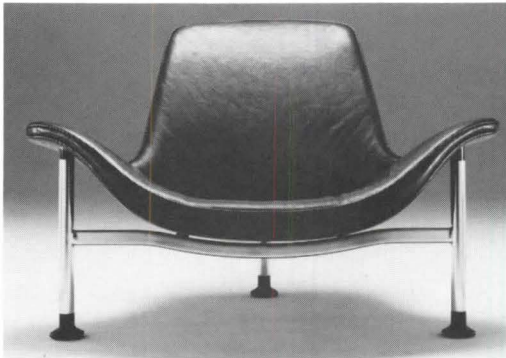


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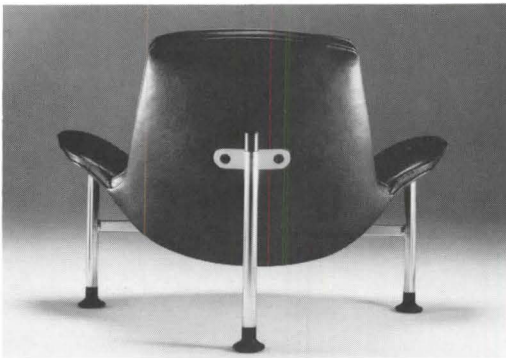
GENERAL  ELECTRIC

Furnishings

As resources for design and objects of design. By Stanley Abercrombie, AIA



1



2

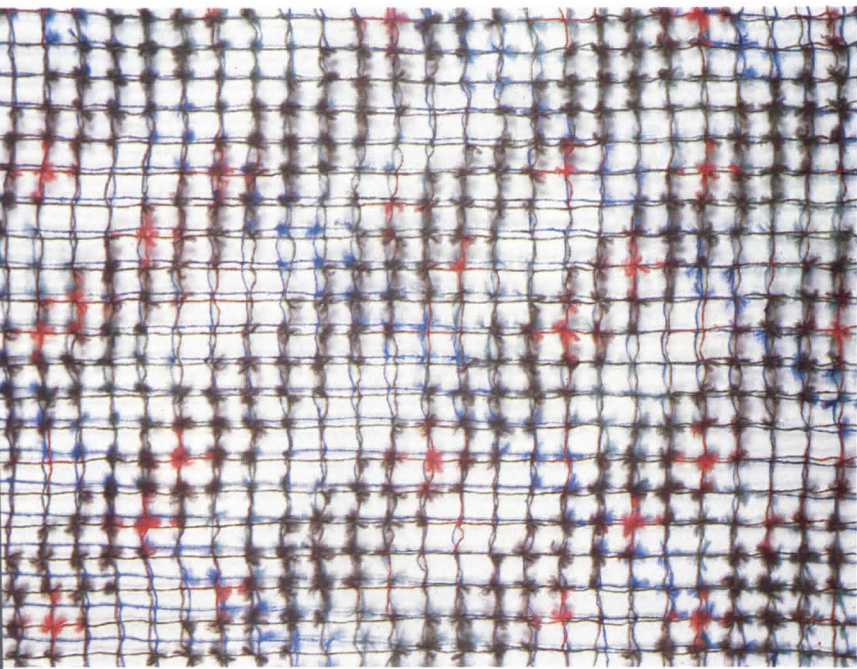
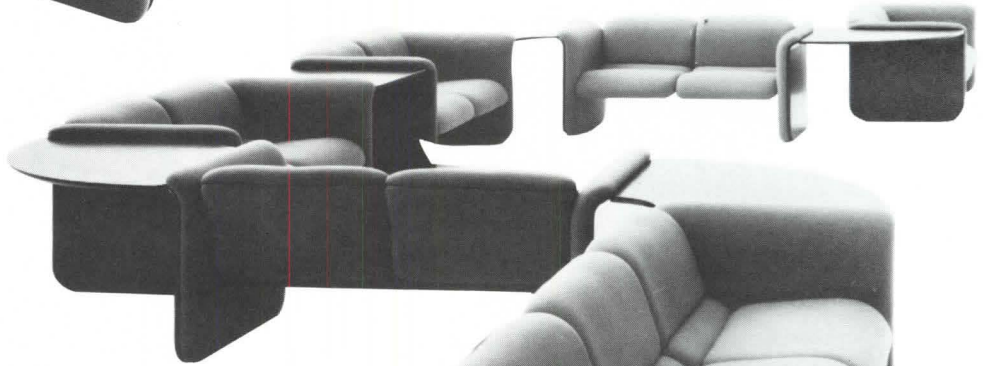
Jørgen Kastholm's wide leather lounge chair on a three-legged base (1) is produced in Germany by Kusch & Co. and imported here by Harvey Propper, Inc. From Haifa, Israel, are Elie Epstein's lighting fixtures of unglazed hand-thrown pottery. The cluster shown (2) is approximately 18 inches in diameter, and each drum in the cluster can be individually lowered from a ceiling mounting plate. Clusters of three drums are also available, as are individual drums, and white enamel coatings inside the drums are an additional option. In the table design by T. Ammannati and G. P. Vitelli for Longhi of Milan (3), a glass top rests on a lattice of natural ash or, as shown, walnut stained ash. The Series 84 seating group (4), now available through Vecta Contract, is a versatile collection of upholstered seating units for lobbies, lounges or waiting areas. The units have end panels of enameled wood and can be used separately or grouped together and linked with square or quarter-round table elements. "Plaid Net" by Joanne Segal Brandford of Ithaca, New York (5), is woven of linen and synthetic fiber and was shown in the recent "Art Fabric: Mainstream" exhibition organized by the American Federation of Arts, New York. Andre Vandenbeuck's "Chariot" chaise (6) has been reintroduced by Stendig; its back and seat frames are wrapped with panel sewn aniline dyed leather in black or tan, and the strong but simple base is of polished chrome tubular steel.



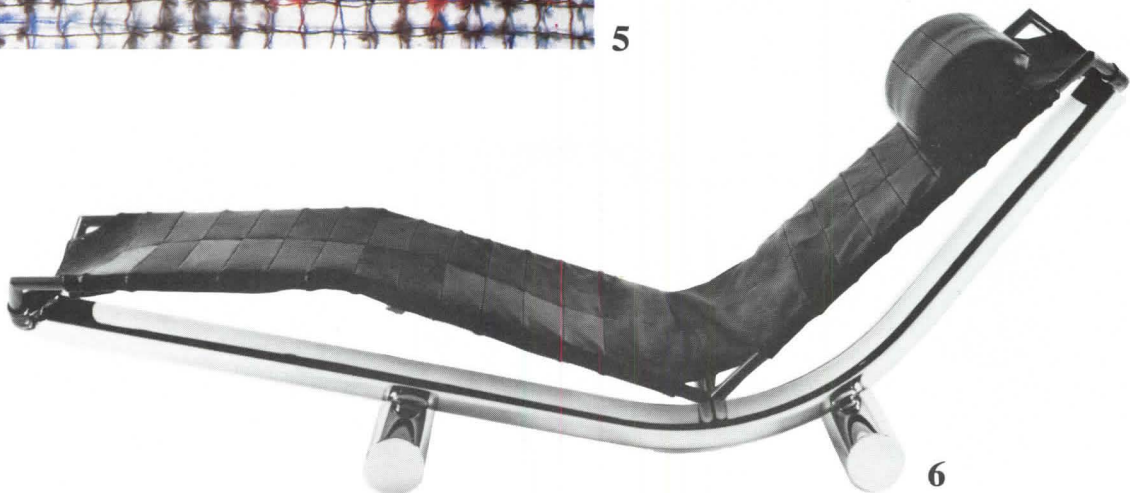
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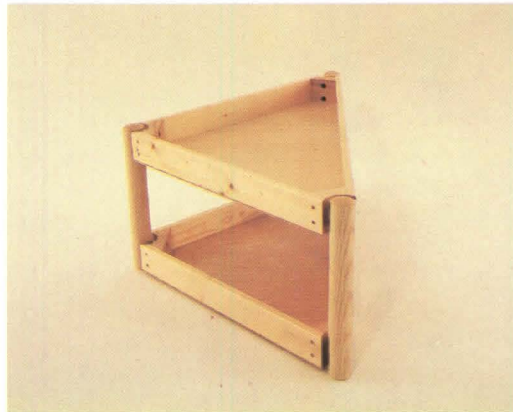
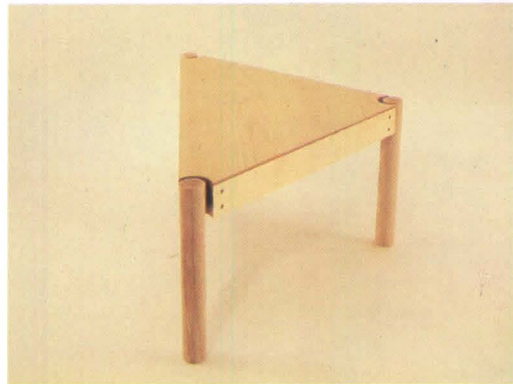
The Facit "Posture Stool" (1), for drafting tables or other uses, has a triangular footrest of heavy gauge chrome plated steel, adjustable in height. A pneumatic control (that little lever under the seat) can vary seat height from 23½ inches to 28¼ inches, and a back knob adjusts seat angle and back rest height. The one-piece five-legged base is of cast aluminum, the rear of the back rest is faced with a plastic shell and the back and seat are upholstered in 75 percent wool, available in nine colors.

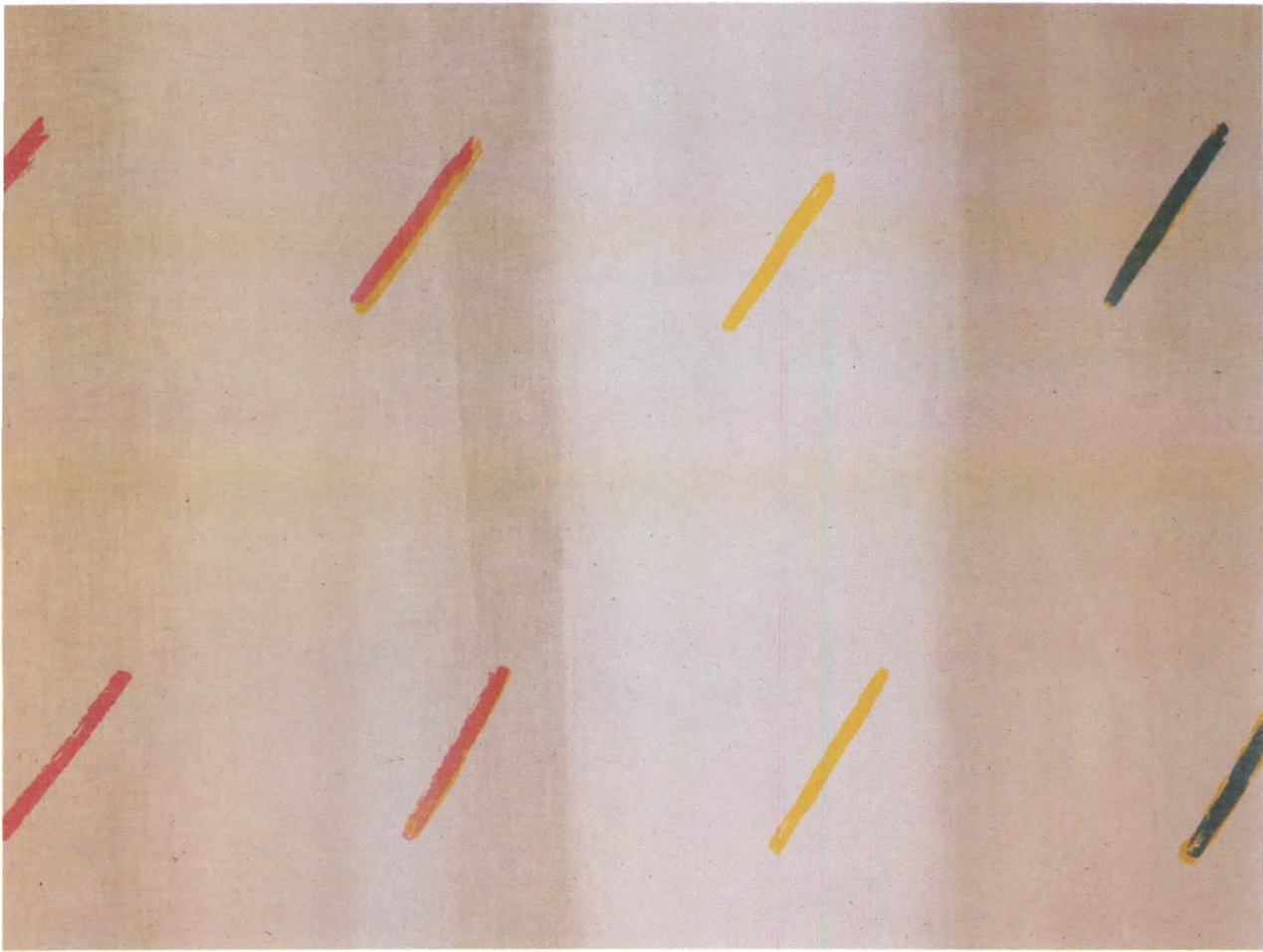
"Multitavolo" is a collection of modular table units produced by Enolinea of Genoa. The simplest unit (2), half a square in plan, is 16 inches high; unit (3) is the same size, provides two storage trays; unit (4), with a swivel top, can be used as a bar. Combinations of these basic elements, adjacent or stacked, can form bigger tables, étagères or benches.

One of 14 Italian-designed fixtures in a new quick-ship lighting program (shipping from New York City to anywhere in the

U.S. within 10 business days) instituted by a.i. (Atelier International) is Tobia Scarpa's "Papillona" lamp (5). It has a 300-watt or 500-watt halogen bulb inside a reflector of metalized prismatic glass, providing direct upward light and some diffused downward light; the supporting column and base are of black or white enameled aluminum.

"Direction" (6) by fabric designers Nob and Non Utsumi is from their "Collection 1" for Knoll. Straight from the construction site (by way of the design studio of Bill Goldsmith and the showroom of LCS) is the "Turkey Leg" table (7) on a base of reinforcing bars. Stendig's "Piediferro Series S" tables (8) rest on the distinctive dark gray pyramidal steel bases designed by Afra and Tobia Scarpa, and are available in three heights, several shapes (square, round, oval or "race-track") and many widths and diameters. Possible table top materials include marbles, plastic laminates and a box-grained natural oak. □





6



8



7

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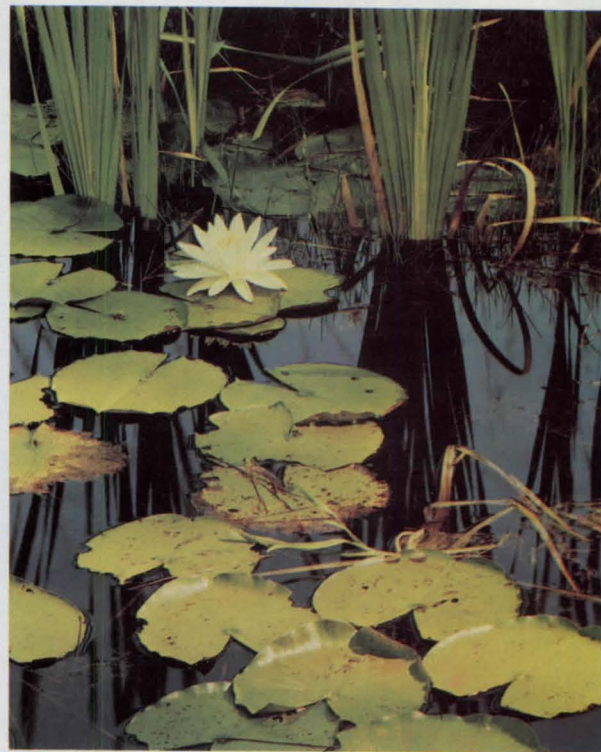
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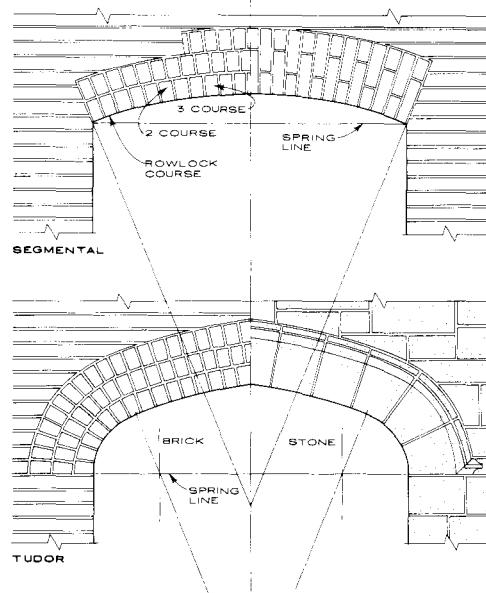
Architectural Graphic Standards. Ramsey/Sleeper. Seventh edition. Prepared by The American Institute of Architects; Robert T. Packard, AIA, editor. (Wiley, \$75.)

The seventh edition of this encyclopedic handbook is a splendid successor to the earlier editions that have served the design professions and the building industry so effectively for nearly 50 years. The new edition is the second to be prepared by AIA and is a thorough revision as well as an expansion of the sixth. More than 140 architectural and other design professional firms are contributors to the seventh edition, which reflects the many changes in design concerns, building practices and building technology that have occurred over the past 10 years. A chapter-by-chapter comparison with the sixth edition reveals the broad scope of the revision and the extent of new material presented—estimated by the editors to be 70 percent. This has been accomplished with the addition of slightly more than 100 pages, something of an editorial feat to keep the volume within readily manageable proportions.

It is still true, as the original authors George Ramsey and Harold Sleeper remarked in the preface to the fifth edition, that there is no limit to what might be included in a reference book of this nature except that of size of the volume. Consequently, selection of subject matter becomes a process of overriding significance; and it is competent and successful selection of content that has been one of the keys to the continued pre-eminence of *Architectural Graphic Standards* as a comprehensive building reference and standards guide. The seventh edition of 785 pages continues this tradition. In addition to current information on sizes, dimensions, capacities and details of building components, materials and equipment, expanded treatment is given to land planning and site development and to mechanical and electrical systems. Increased emphasis is placed on data relating to energy efficient buildings, environmental protection and design for the handicapped.

The general format and organization of the seventh edition are similar to those of the sixth. The contents are arranged in chapters substantially paralleling the 16

divisions of the Uniform Construction Index, except for chapter 1 which is devoted to general planning and design data. A new chapter 17 on metric units and dimensioning has been added, and the two combined chapters of the sixth edition, "Specialties and Equipment" and "Mechanical and Electrical," have been divided and expanded to provide separate chapters under each heading. In several instances, reassignments of data between



chapters have been made, but the expanded index makes location of the new positions a simple matter.

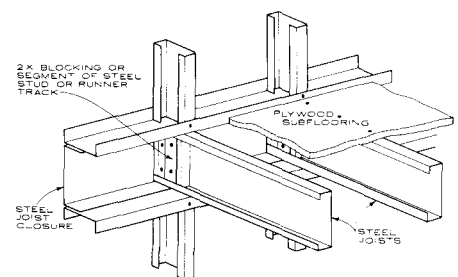
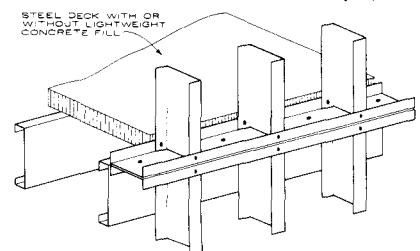
One of the more noticeable changes in the new edition is the expansion of the general planning and design information of chapter 1 by the addition of new material and by transfer of items previously presented elsewhere in the book. This chapter is organized under four sections dealing with design elements, recreation, transportation and environmental factors. In the first section, the former two pages giving dimensions of the human figure have been replaced with six new ones of anthropometric data which include applications to work stations, space usage and accessibility. Swimming pools now appear in the recreation section of this chapter, and new airport information is included under transportation. The section on environmental factors covers architectural acoustics and sound control, illumination, sun control, thermal comfort, and solar heating data and design. In this section where inclusion of some engineering design procedures and calculations results in an appreciable amount

of text, the book departs somewhat from its fundamental emphasis on graphic presentation of information, but it is difficult to see how this could be avoided completely in these areas of increasingly complex technology if the subjects are to be treated at all. Nonetheless, due to the skillful page composition throughout the section, this textual material may be consulted as readily as that contained on pages where graphic presentation predominates.

The treatment of sitework has been expanded considerably, and chapter 2 is now introduced by new material on land planning and site development, replacing the information on subdivision planning formerly contained in chapter 1. New plates are presented on landscaping, embankment stabilization, site furnishings, playground equipment, building layout and procedures and site planning for fire protection. There is also new information on site lighting, site graphics and garden-type retaining walls.

Another change that will be apparent to users of the new edition concerns chapter 13. Formerly called "Assembled Construction," it is now titled "Special Construction" and has been considerably reduced in size by transfer of content to other chapters. For example, information on fireplaces now appears in chapter 4 on masonry, and data relating to stair construction in concrete, steel or wood are given in chapters 3, 5 and 6, respectively. New plates present data for air-supported structures and underground structures.

continued on page 363



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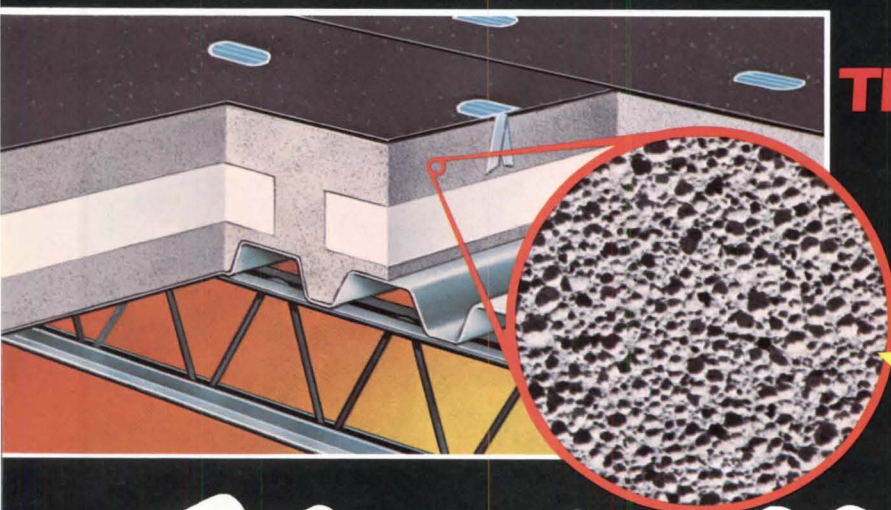
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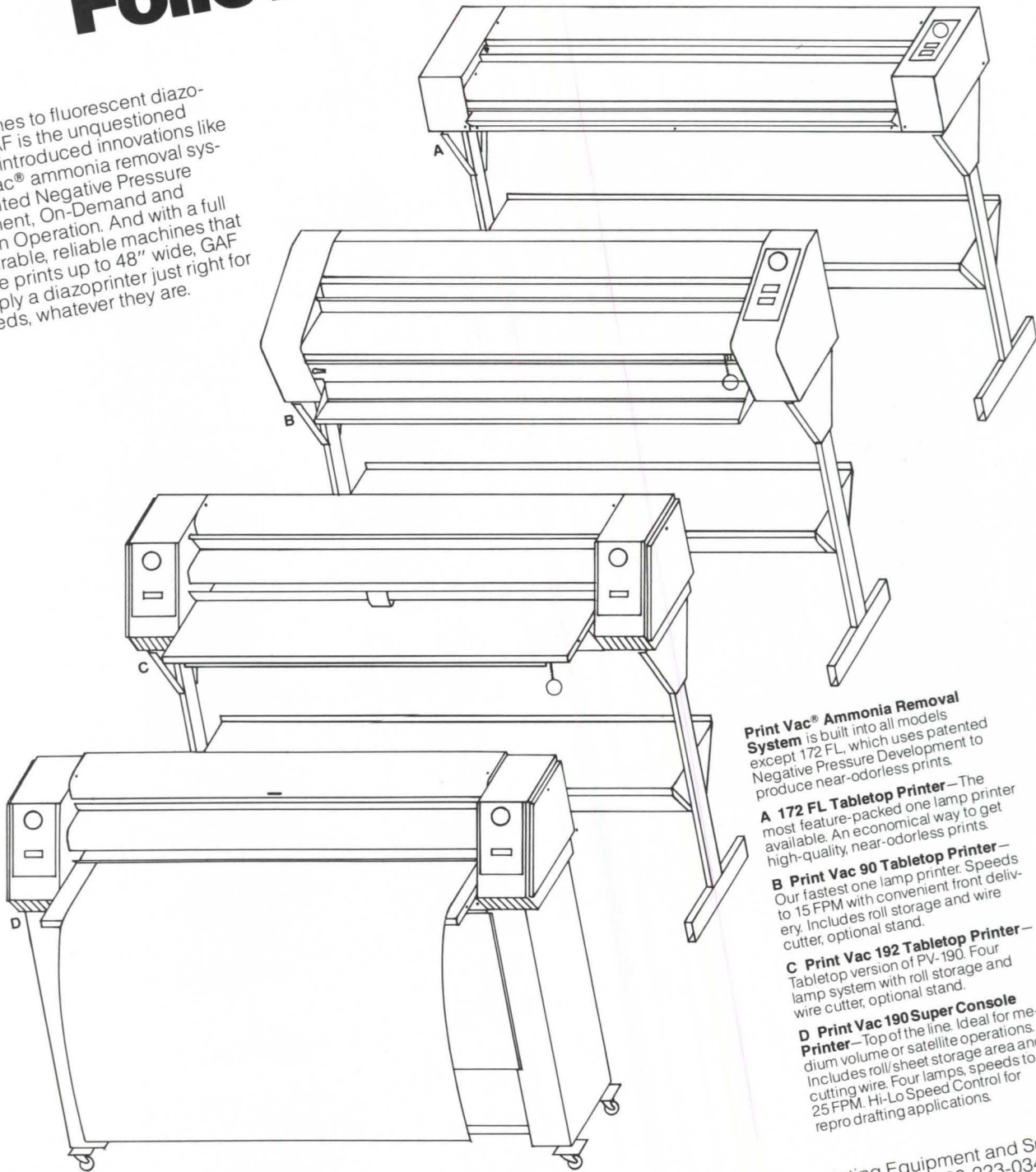
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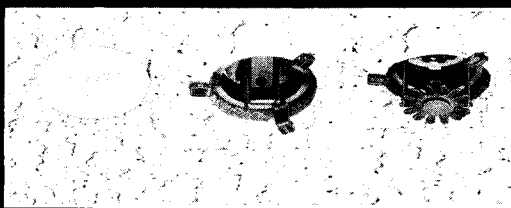
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Books from page 359

and the information pertaining to seismic design has been expanded.

The new chapter on metric units gives an overview of the metric (SI) system and its application to building design. Following a discussion of metric dimensions and drawing practice, there is a set of design drawings for a building, illustrating the use of SI units on plans, elevations and sections, and in detailing. There is also an interesting table that gives suggested adaptation in design and construction, for various categories of materials and components, when metric building procedures are used during the period of the industry's transition from English to SI units.

In keeping with the high professional level of its content, the seventh edition is also a handsome volume. The graphic reproduction, page composition and the clarity of the notes and other printed matter should make consulting the book both an easy and pleasant task. There seems no doubt that this edition of *Architectural Graphic Standards* will maintain the book's standing as one of the most comprehensive and usable reference guides available to the building industry, and that it will continue to merit those honorifics, "the one book in every office" and "the architect's bible," that have been bestowed on earlier editions.

Harold D. Hauf, FAIA

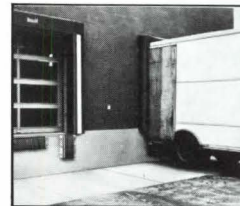
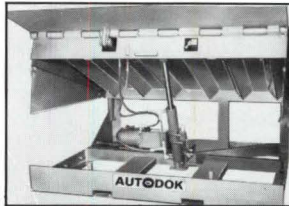
Twentieth Century Limited: Industrial Design in America. Jeffrey L. Meikle. (Temple University Press, \$17.50.)

In the years 1925-1940, Americans experienced a profound reorientation that affected the way they lived, the products they used and how they perceived their environment. The umbilical cord was severed that had maintained Old World traditions in the arts. Replacing it were the machine and technology as the controlling force for the future. Examples of this reorientation can be found in a variety of media, from artists such as Charles Sheeler's 1931 painting of the Ford River Rouge Plant with the title "Classic Landscape" to the aerodynamic smoothness of Chrysler's Airflow automobile of 1934. Streamlining, simplicity, speed, elemental forms and cleanliness are the elements identified with the machine as it becomes the symbol and icon as well as the reality of the new age. The quest for a unique American artistic expression, a constant concern from the winning of independence onward, comes under the domination of the machine in the years 1925-1940.

For many years, historians of architecture and art of the '20s and '30s have tended to concentrate on the European interpretation of the machine, as in the hands of Le Corbusier, Mendelsohn,

continued on page 364

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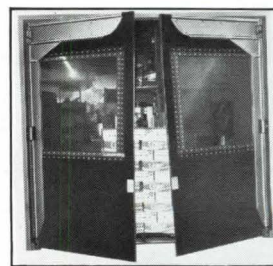
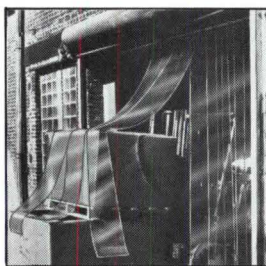
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Books from page 363

Mies, Gropius and the Bauhaus, the American experience with the machine in architecture and art is usually seen as heavily indebted, if not completely controlled, by European ideas. Especially important in this was the Museum of Modern Art and its propagandizing: "Modern Architecture, International Exhibition," 1932 (out of which came Hitchcock's and Johnson's *The International Style* and others). In actuality, America owed little to the European theorists and the American acceptance of the machine was completely overlooked. The American experience of acceptance of the machine was more complete and more profound than ever imagined by Europeans.

Among those who helped create the American machine culture, the industrial designers Norman Bel Geddes, Raymond Loewy, Henry Dreyfuss, Walter Dorwin Teague and Harold Van Doren stand out. The subject of Jeffrey Meikle's book is the contribution of the first four of the above men to this reorientation in America and the emergence of the industrial designer as a profession in the later 1920s and '30s. Harold Van Doren, who began as a Toledo, Ohio, designer, achieved prominence in the '30s and wrote one of the major textbooks on the subject, *Industrial Design* (1940), is excluded since his papers could not be located. Meikle's title, *Twentieth Century Limited*, takes its name from the New York Central's crack express that operated between New York City and Chicago in the '20s and '30s. Several of the great streamlined steam locomotives operated on this line: the 1934 Commodore Vanderbilt and the 1938 Trojan helmeted, designed by Henry Dreyfuss. Dreyfuss also redesigned, or, as he described, "cleanlined," the cars in 1938, creating an antiseptic, machine-like interior. The traveler ensconced in these fully airconditioned glass and aluminum capsules and watching the country pass at 100 mph, could easily believe the promised machine future was now. Yet, already the streamlined trains were dinosaurs, being replaced by alternative means of transportation that would transform the entire society and make us all more dependent upon technological expertise.

Today, the work of the 1930s designers has an air of imposition; their application of streamlined shapes, forms and trim seems imposed, a shell of covering that hides complex machinery. In a sense, this was both the genius and the failure of the 1930s industrial design. Certainly, it is true that a functional basis did lie in streamlining aeroplanes, ships and trains. Wind tunnels, which came into wide use in the 1920s, provided the "scientific basis" for the experiments, and actual tests indicated that in spite of the added weight of the heavy shrouds on the loco-

motives, their speed and pulling power significantly increased. Economically, streamlining should be justified with transportation. On the level, though, of Hoover vacuum cleaners designed by Dreyfuss, Texaco service stations designed by Teague or the Sears Coldspot refrigerator designed by Loewy, it was simply styling, with the purpose of creating obsolescence and new consumer wants.

The Depression and the falling off of consumption sent the business community—manufacturing, sales and advertising—scrambling for new ways to attract purchasers. One of Meikle's major contributions is his investigation of the complex history of business marketing and the actual contribution of the industrial designer. How much the restyling and redesign of products during the Depression contributed to economic recovery is difficult to assess. Meikle concludes that while the designers themselves, always great self-publicists, made extravagant claims, basically they provided "insurance" for companies in updating products. The growth in industrial design, or more accurately, redesign or "product development," was significant in the 1930s, both within and outside corporations.

While the industrial design profession argued that its involvement improved the functioning of a product, in actuality most of the changes were cosmetic. The involvement of Raymond Loewy with the Sears Coldspot refrigerator in 1932 is revealing. Loewy completely changed the boxy, old fashioned refrigerator, strongly resembling an ice box, into a sleek, white enamel, chrome trimmed, efficient-looking and modern machine. Sears became the industry leader in refrigerator sales. Having designed the "perfect refrigerator," what more needed to be done? Model change enters the picture and, for the next three years, Loewy made annual model changes: of chrome trim, different contours on the casing and fender skirts, each a "new design that would have no connection with the previous one in reference to design treatment," as he wrote.

Of the big four industrial designers whom Meikle treats, none was specifically trained in engineering, and only Loewy had a prior interest in technology. Advertising background is the most common element. Norman Bel Geddes was perhaps the most important in raising public consciousness. His book *Horizons* (1932) had wide circulation and projected the vision of a streamlined, machine-controlled environment.

Certainly the most important contribution of the 1930s industrial designer lies in the area of household products, and in the manner that modern design entered the American home, through the back door and into the kitchen and the

continued on page 366



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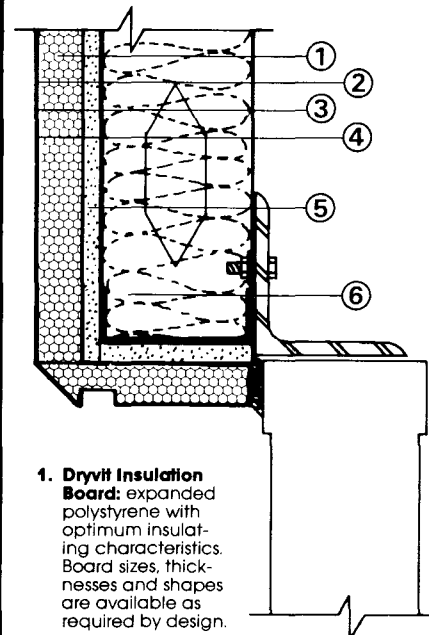
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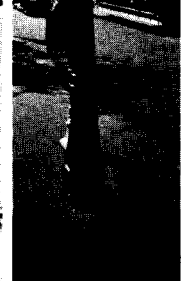
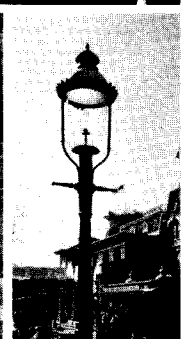
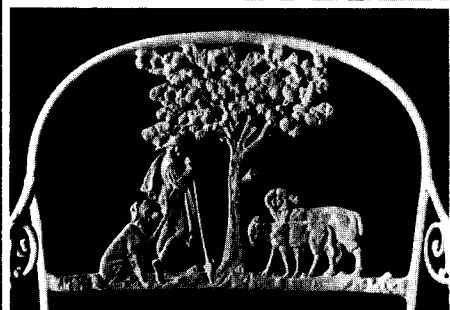
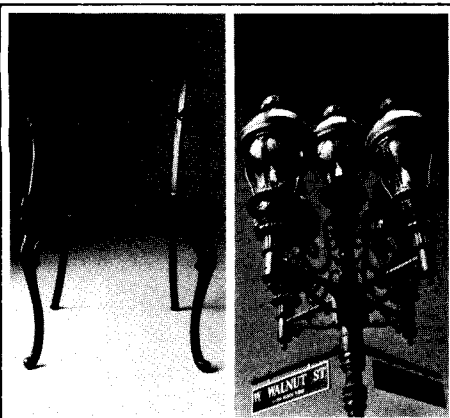
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Books from page 364

bathroom. Significantly, all attempted to be architects basically with interior redesign for corporations and less frequently with entire buildings. Evidence exists that architects in the 1930s perceived the industrial designer as major competition and attempted to block, sometimes with success, their practicing as architects.

The most significant impact on architecture, though, came with the New York World's Fair of 1933-40, and the theme "The World of Tomorrow." All of the major designers were involved. Dreyfuss created a model "Democracity" inside the central symbol of the fair, the Perisphere; Loewy did a Rocketport as part of the Chrysler transportation exhibit, and Teague did a number of exhibits, including the Ford Co. ramped building. Probably the most impressive was the General Motors Highways and Horizon exhibit that included a tremendous streamlined wedge-shaped building by Geddes and Albert Kahn (with Eero Saarinen).

This book is an important contribution to the emergence of modern design in America. The criticisms are minor: some slightly awkward passages and some hesitation in visual analysis. Finally, full implication of the American machine reorientation needs more analysis. However, to have answered the last would be to have written a different book. Meikle's study is a vital addition to the literature of the period. *Richard Guy Wilson, Chairman, Division of Architectural History, School of Architecture, University of Virginia*

Building Conversion and Rehabilitation: Designing for Change in Building Use.

Edited by Thomas A. Markus. (Butterworths, \$39.95.)

In his introduction to this collection of papers delivered at a British symposium on building conversion, Thomas Markus says that the question of the reuse of the existing building stock has created widespread interest in architectural education and practice. Rather than attempt a seminal definition of building conversion and rehabilitation, he presents a series of case studies that show the diversity of approaches to conserve the built environment, ranging from the strict restoration of a period piece of high architecture to the imaginative reuse of more ordinary buildings.

The book examines the theory and practice of building conversion in Britain through the recent work of educators and practicing architects. No systematic or general theories analogous to those used in planning and design of new buildings have yet emerged, partly because of the relatively recent attention to the conversion of existing buildings. This is evident in the essays Markus has included. One is

immediately struck by the variety of approaches used in practice and also by the great schism that exists between practitioners and educators. Many of the educators represented in this book attempt to develop theories of conversion by using theories in mathematics, psychology, chemistry and physics. The practitioners, on the other hand, take a nuts and bolts approach. It should not be surprising, then, that the link between the two is missing.

The chapters provided by the practitioners are probably of greatest interest to the American audience. Discussion ranges from methods by which the vacant spaces in Covent Garden have been analyzed and catalogued to the acoustical problems encountered in the conversion of the Holy Trinity Church, Southwark, to an orchestra rehearsal hall.

Markus says in the introduction that "... the most useful purpose of the [book] is to highlight how wide the gap is between the [practitioners and educators], particularly if the outcome is to encourage teachers and research workers on the one hand, and design practitioners on the other, to seek ways of bridging it." The purpose has been admirably achieved. Bridging the gap, however, is a step still to be taken in both Britain and America. *Richard Wagner, Assistant Professor, Department of Architecture, College of Architecture and Design, Kansas State University*

The First One Hundred Years of Town Planning in Georgia. Joan Niles Sears. (Cherokee Publishing Co., \$15.)

The last settled of the original 13 colonies, Georgia was from the beginning a carefully planned settlement. In this modest book, a revised doctoral dissertation, Joan Niles Sears traces the histories of 91 towns established under the authority of the colonial and state governments in the century after 1733. Founded as centers of trade and administration, as religious communities, as forts or merely for profit, some of the towns were planned by the legislature itself while others were laid out at the discretion of proprietors or of trustees appointed by the governing body. Despite these disparate origins, the early towns of Georgia tended to follow a limited number of plan forms that the author has named, after their earliest or pre-eminent Georgia examples, "Washington," "Augusta," "Sparta" and "Savannah."

Following an initial discussion of Georgia's geography, Sears explains the plan types and their uses. These considerations introduce an extended treatment of individual towns that Sears has organized temporally and geographically. The chapters are grouped into broad chrono-

continued on page 368

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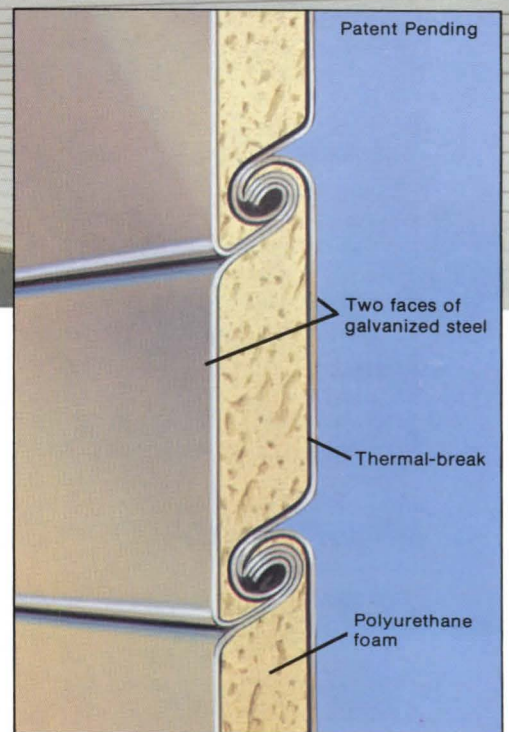
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Books from page 366

logical divisions—the proprietary era, the years of royal government and the period of statehood—and within these according to the particular land cession in which each town lay. While topography is sometimes discussed, buildings never are.

The individual accounts are relatively straightforward institutional histories. The temporal/spatial organization tends to make the accounts rather repetitious, since there was little variation in official planning policy from region to region. The author continually refers to an “idealistic liberalism which took into account the well-being of all Georgians” as a motivating factor in official town planning. Aside from the doubtful appropriateness of this statement to a slave society, one is led to ask what the exact tenets of this idealistic liberalism were, and why they led to the choice of the specific plans used.

There is little explanation of this thesis nor much analysis of any sort. What the book does have is a lot of information about town legislation and more than 70 town plans and views, most dating from the 19th century. The plans and views would be more useful if their dates had been attached to the captions, rather than appended to the text at the end, especially since the author rarely discusses development beyond the original plans, and many of the plans illustrated were drawn long after the towns were established. *Dell Upton, Architectural Historian, Richmond, Va.*

Modern Architecture: A Critical History. Kenneth Frampton. (Oxford University Press, \$17.95.)

In some elevated circles, it is hardly worth the bother of having a book published about your work unless it includes at least an introduction by Kenneth Frampton. Having served simultaneously as professor at both New York City's Columbia University and London's Royal College of Art and as a fellow of the Institute for Architecture and Urban Studies, Frampton is a transatlantic fountainhead of erudition about architecture. We don't mention this in order to imply that his reputation is overinflated; it isn't. Frampton is extraordinarily well informed, full of facts and interesting opinions.

No, we mention his reputation in order to suggest how important his book is likely to be. When he turns his attention to the history of the modern movement, many of his admirers—many of them also influential, many of them also teachers—are bound to follow. Through this chain of influence over students of architecture, Frampton's history is potentially the most important since Giedion's.

The book is, the subtitle tells us, not

just a history but a critical history, whatever that means. To infer from the written evidence, it means a history that is highly selective, emphasizing issues, theories and movements rather than buildings, and there is no pretense at being comprehensive. Well, fine, we already have plenty of comprehensive histories.

Even so, there is something dangerous about a history that is broadly influential and narrowly personal. Missing completely here, for a few examples, are Albert Kahn and Felix Candela, Richard Morris Hunt and Bruce Goff, Paul Rudolph and I. M. Pei. A drawing by Alberto Sartoris is shown on the dust jacket, but neither it nor Sartoris is mentioned inside. Pierre Chareau, to whose *Maison de Verre* Frampton once devoted more than 50 pages of *Perspecta*, is also unmentioned. These—and more—are deliberate omissions, of course; nevertheless, those who assign this history to their students should warn them of the book's selectivity.

What the book does, it does very well. What Frampton tells us about architectural theory is invariably interesting. As concerned as he is with esthetics and ideas, whether or not they were ever manifest in construction, he is equally concerned with the social, political and economic milieu that were the breeding grounds of those theories and on which they hoped to act. If the relationship between society and art is not always clear—if we do not always know which was the cause, which the results, or if there were any successful relationship at all—we should probably blame society and art, not Frampton.

Within the limits of emphases on theory and on social relevance, it is Le Corbusier who receives the most attention here, in three nonconsecutive chapters. But in the book's final paragraph, a plea for heightened environmental character, it is Aalto who emerges as the hero. “How rarely,” Frampton writes, “do we encounter a modern work where the inflection of a chosen tectonic penetrates into the innermost recesses of the structure, not as a totalizing force but as the declension of an articulate sensibility. That modern society still possesses a capacity for such inflection finds confirmation in the finest work of Aalto. Against his inspiring achievement, the present tendency of modern building to be devoid of content, to be reduced, so to speak, through the way in which it is built, returns us to the Heideggerian challenge that building, dwelling, cultivating and being were once indivisible.”

The book could have profited from more illustrations, for there are references some of us need help with. Are we really familiar, as Frampton assumes, with Behrens' Turin Vorhalle of 1902,

continued from page 370

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Books from page 368 mentioned twice, or his 1920 I. G. Farben building? And Van der Vlugt's 1933 Bergpolder flats? Frankly, they don't leap to mind.

But if we do not always understand Frampton's references, if we cannot always unravel his prose and if we do not always agree with his opinions, we must acknowledge that he has written a fascinating, rich book, performing the great service of making us aware of our own architecture's fascinating, rich past.

Stanley Abercrombie, AIA

Improving Your Waterfront: A Practical Guide. Department of Commerce, Office of Coastal Zone Management. (U.S. Government Printing Office, \$5.)

One of the principal purposes of this guide is to suggest a wide range of developments for waterfront renewal projects and to note the various sources of governmental aid that may be used. The focus is on implementation rather than on the design of waterfront renewal. Using the case study approach, the guide describes alternative management structures that have been used successfully around the country.

Socorro: A Historic Survey. John P. Conron, assisted by Anthony Alofsin. (University of New Mexico Press, \$12.95.)

Socorro, N.M., site of a Spanish mission built in 1626, abandoned for years and then resettled about 1816, is a study in architectural styles in the Southwest in the 19th and early 20th centuries. This book, which provides an architectural survey of the town, is not a guidebook, but rather a preservation plan for a historic site, prepared under contract by the Santa Fe, N.M., architectural firm of Conron & Lent. A useful guide to the preservation of any historic district, it contains a draft of an ordinance presented to the Socorro city council and a survey of tax incentives, financing and urban homesteading. The study is a model for architectural surveys of small cities throughout the U.S. The book is complemented by photographs by Joseph E. Smith, a commercial photographer in the late 1800s.

Paint Handbook. Edited by Guy E. Weismantel. (McGraw-Hill, \$37.50.)

Directed to the users of paint and other coatings, this book is the work of 21 experts who have collaborated in the production of a comprehensive guide on the specification and applications of paints, varnishes and lacquers. Among the topics considered are paint fundamentals, surface preparation, coatings for metals and wood, applications techniques and interior architectural coatings. The emphasis is on paint specifications rather than paint for-

mulation, with attention given to the most appropriate finish for a particular surface under varying climatic conditions. The architect who wants a practical guide to coatings will find the book useful.

Foster Associates. Reyner Banham. (London, RIBA Publications, 3.75 pounds.)

This is a modest little book, reviewing a body of work that, neither modest nor little, includes some of the most celebrated modern (yes, modern) work being done today. The emphasis is on breadth of coverage of the work by England's Foster Associates (the book includes almost 50 buildings dating from 1963 to 1979) rather than depth or detail (no building gets more than three pages in this survey, many only one). We are thus given a valuable understanding of the genesis of some of the best-known buildings, but are left with a hunger for more information. How is the glass wall at Ipswich detailed? What are the interchangeable panels of the Sainsbury facade made of? Reyner Banham's introduction, just as you'd expect, is both thought-provoking and delightfully readable. It emphasizes that, although most of the buildings shown have a "high-tech" gloss about them, their design is really governed by a sensible care for appropriate—not necessarily high—technology.

continued on page 372

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Building owners expect their architects and engineers to have the practical knowledge it takes to translate energy theory into a reliable form of practice.

This book, written by two architects and an engineer who have hands-on experience in energy-conscious building design and redesign, does just that. It presents a proven process that design professionals can use (or adapt) to study the present energy performance of a building, uncover opportunities for energy-conscious improvements, evaluate those opportunities, and see to it that they are carried out to the owner's best benefit.

The book describes in detail a manual technique for calculating energy usage and shows in a sample problem how that technique can be applied. This allows the reader to evaluate any energy design solution, including solar assisted alternatives. It also provides a basis for understanding computer-aided energy estimating techniques.

In developing their work, the authors have recognized that non-energy related concerns such as user comfort, environmental impact and visual appearance are as important in an energy-related design as energy performance itself, and they urge designers to iden-

tify these at the outset of a project and to keep them in mind to the end.

An opening chapter offers a look at the basic concerns of energy planning, including such concepts as comfort; illumination and daylighting; the building envelope; heating, ventilating and air-conditioning; and the very concept of energy itself.

Chapter 2 takes up the roles and responsibilities of the team needed to carry a project through to a successful end. Team members discussed include the owner, the architect/engineer, the building users and operators, energy suppliers, product manufacturers and building officials.

Chapter 3, a key part of the book, shows how to study a building's present performance (or, in the case of a new building, analyze a set of building plans) so the energy planner can examine the impact of any proposed changes suggested as a way to greater energy efficiency.

Chapter 4 pinpoints those opportunities, describing the best way of identifying them. The following Chapter 5 then shows how best to narrow the list of possibilities to those that make the most sense in terms of cost, time, payback and technical feasibility. Two

levels of evaluation are given—"quick" and "detailed."

Chapter 6 shows what is needed to carry out the recommendations stemming from the evaluation, and offers much sound advice to the energy planner and owner for monitoring the results and maintaining the renewed building at a peak of performance.

This chapter is followed by a sample problem which illustrates the procedural steps presented in the various chapters.

Finally, an appendix includes discussions on system response and cost benefit analysis.

There is also a glossary and a practical reference list.

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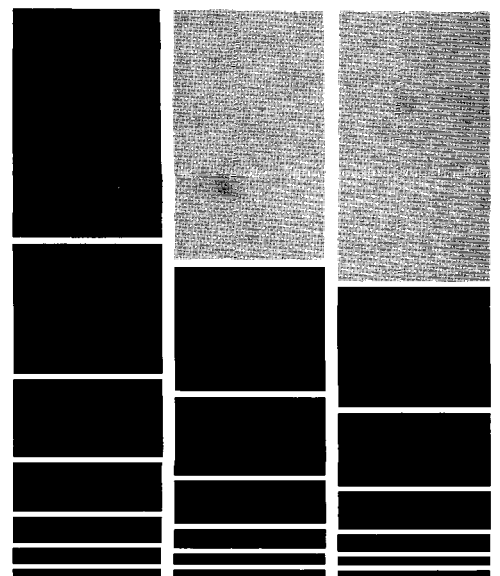
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Books from page 370

Southwestern Colonial Ironwork: The Spanish Blacksmithing Tradition from Texas to California. Marc Simmons and Frank Turley. (Santa Fe: Museum of New Mexico Press, \$25.95 hardbound, \$14.95 paperbound.)

Historian Marc Simmons and blacksmith Frank Turley have collaborated in the preparation of this interesting book on ironmaking by Hispanic craftsmen in the colonial Southwest. The first 40 pages are devoted to the history of ironmaking in Spain, colonial Mexico and the Spanish Southwest. The major part of the book concerns the ironsmith and his methods and products that were used in the home and on farms and ranches and in missions. The manufacture and uses of ironwork objects are shown in numerous photographs and drawings.

Earth-Sheltered Housing: An Annotated Bibliography and Directory. Pauline A. Keehn. (CPL Bibliographies, 1313 E. 60th St., Chicago, Ill. 60637, \$11.)

A problem in compiling a bibliography on a subject of rising current interest is that it is outdated before it can be published. This one on earth sheltered construction is commendable, although it necessarily omits significant books and articles on the subject recently off the press. The bibliography, one in a series published by the Council of Planning Librarians, contains references to more than 300 titles published between 1950 and 1980. There are annotated references to books, papers, journal articles and conference proceedings. Among the other inclusions are a list of some architects and others involved in earth sheltered architecture, addresses of four book sellers and indexes by author and subject.

The California Bungalow. Robert Winter. (Hennessey & Ingalls, \$14.95.)

As ubiquitous as Coca-Cola, bungalows dot the American landscape, but the bungalow's "real home," says Robert Winter, is California, suggesting that state's "style of life, its mild climate, its casual living with nature." Although Winter makes a nod toward bungalows elsewhere, he concentrates on those in California, particularly southern California. He places the bungalow in its economic and social context, tells of its form and function, describes the "implications and innovations." Interestingly written and illustrated with an array of black and white photographs and plans, the book will interest those who see architecture as a beacon light in social history.

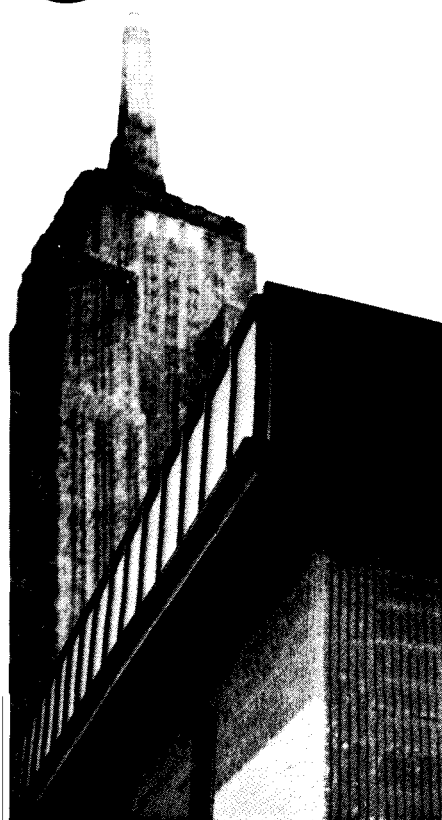
Winter, who lives in a Pasadena bungalow that is on the National Register of Historic Places, is professor of the history of ideas at Occidental College. "It is good to come home," he says.

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Architecture in the Seventies. Udo Kultermann. (Architectural Book Publishing Co., \$29.95.)

Forty-five of what Udo Kultermann considers to be "the most interesting buildings completed in the 1970s" are briefly described and illustrated in this book. The 27 countries covered range from the U.S. to Iran. Kultermann characterizes the work as not turning its back on the future but as becoming "respectful of the past." It is this tension, he says, that makes the buildings "so fascinating to study." Work in the U.S. is represented by Richard Meier's Bronx Development Center; Moore Grover Harper's Whitman Village on Long Island; Moshe Safdie's Coldspring New Town in Baltimore; Stanley Tigerman's Illinois Regional Library for the Blind and Handicapped, Chicago, and Harry Weese's Village Hall, Oak Park, Ill.

Fabrics for Historic Buildings. Second edition. Jane C. Nylander. (Preservation Press, \$6.95.)

Textiles are more perishable than building materials and pose a real problem when new upholstery or other fabric is required. This small paperbook of 58 pages, written by the curator of textiles and ceramics at Old Sturbridge Village, Mass., is invaluable for homeowners or preservationists who need to buy appropriate fabrics for various restoration projects. It catalogs more than 300 commercially available reproductions of fabrics in this country in the 18th and 19th centuries. The list is divided into five periods, each of which is introduced by a terse description of characteristic fabrics of the period. Advice is given also on the use of appropriate nonreproduction fabrics. The booklet contains a list of manufacturers, a glossary and a bibliography.

The Works in Architecture of Robert & James Adam. With a new introduction by Henry Hope Reed. (Dover, \$50.)

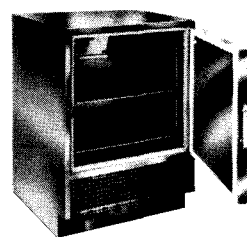
Scholars are indebted to Dover Publications, Inc., New York City, for the many reproductions of celebrated books of architecture that the firm publishes. Many of them are impossible to find except in the rare books rooms of libraries. This large format book, surely one of the handsomest Dover has yet published, reproduces three volumes originally brought out between 1778 and 1822 and all of the 106 original plates.

Added to the pleasure of this republication is a splendid essay by Henry Hope Reed. He concludes:

"With the inevitable return of the classical tradition, the Adam style is bound to be rediscovered and variations on it will once again be executed." When they are, this volume will be a gold mine for designers. □

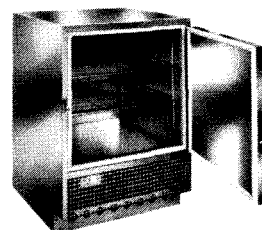
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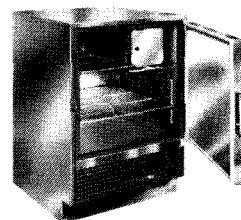


UC-5-CW* refrigerator with cold wall cooling system is equipped with push-button defrost, automatic reset and condensate evaporator. Capacity—5.4 cu. ft. (155 ltr.)

UC-5-F-CW* freezer is equipped with manual hot gas defrost. Capacity—4.6 cu. ft. (130 ltr.)

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Refer to Sweet's Catalog 11.20/Je for quick reference.

AIA JOURNAL/MID-MAY 1981 373

Circle 149 on information card

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Circle No.		Page No.	Circle No.		Page No.
23	Advanced Coating Technology	59	8	Consolidated Aluminum Corp.	18-19-
	<i>Gerbig, Snell, Weisheimer & Assoc.</i>			<i>Weitzman, Dym & Assoc.</i>	
96	Alcan Building Products	303	111	Construction Management, Inc.	3
	<i>The Marschalk Co., Inc.</i>		153	Construction Specialties	
107	Alcoa Div. Stolle	320		<i>Brian J. Ganton Productions</i>	
136	AllianceWall	358	41	Control Data Corp.	94-
	<i>Liller, Neal, Weltin, Inc.</i>			<i>E. H. Brown Adv. Agency</i>	
37	Allied Chemical	88-89	88	Copperweld Tubing Group	2
	<i>Bryant Press, Inc.</i>			<i>Dix & Eaton, Inc.</i>	
55	Alma Desk Company	116	24	Covington Technologies	
	<i>Long, Haymes & Carr</i>			<i>Reeds and Farris</i>	
73	Amarlite	265	109	Cyro Industries	3
	<i>Cargill, Wilson & Acree</i>			<i>Gray & Rogers</i>	
63	American Airlines Freight System	128	27	Disco Aluminum Products Co.	
	<i>Bozell & Jacobs</i>			<i>Circle S Advertising</i>	
46	American Coatings Corp.	102	97	Donn Corp.	3
	<i>The Creative Bunch</i>			<i>Widerschein/Strandberg Assoc.</i>	
26	American Gas Assoc.	64		Dover Corp., Elevator Div.	
	<i>J. Walter Thompson</i>			<i>Caldwell, Barlett, Wood</i>	
70	American Olean Tile	134-135	99	Dow Chemical	3
	<i>Lewis & Gilman</i>			<i>Campbell-Mithun, Inc.</i>	
18	American Plywood Assoc.	45 thru 48	141	Dryvit Systems, Inc.	364-3
	<i>Cole & Weber, Inc.</i>			<i>Fern/Hanaway, Inc.</i>	
103	AMP Products Corp.	314-315	74	Dukane Corp.	2
	<i>The Aitkin-Kynett Co.</i>			<i>E. R. Hollingsworth & Assoc.</i>	
2	Andersen Windowwalls	6-7	77	DuPont (Antron)	270-2
	<i>Campbell-Mithun, Inc.</i>			<i>BBD & O, Inc.</i>	
16	Arco Polymers, Inc.	41	58	DuPont (Corian)	1
	<i>Kight, Cowen, Abram</i>			<i>N. W. Ayer, ABH Int'l.</i>	
1	Armstrong Cork Co.	Cov. 2, pg. 1	134	Ebco Manufacturing Co.	3
	<i>Marsteller, Inc.</i>			<i>Howard Swink Advertising</i>	
154	Armstrong Cork Co.	2-3	156	Edison Electric Institute	54a-
	<i>Marsteller, Inc.</i>			<i>N. W. Ayer</i>	
155	Armstrong Cork Co.	5	137	Elastizell Corp. of America	3
	<i>Marsteller, Inc.</i>			<i>Kenrick Advertising, Inc.</i>	
143	Atlas Door Corp.	367	145	Elliptipar, Inc.	3
	<i>American Ad Group</i>			<i>J. P. Lohman Organization</i>	
112	AT&T Business Sales	326	122	Epic Metals Corp.	3
	<i>N. W. Ayer ABH Int'l</i>		80	Faber-Castell Corp.	2
110	Brick Institute of America	324		<i>Grant Marketing Communications</i>	
	<i>Henry J. Kaufman & Assoc.</i>		39	Follansbee Steel Corp.	
11	Buckingham Virginia Slate	24		<i>Group Marketing & Communication</i>	
	<i>Riddick Advertising</i>		44	Ford Glass Div.	
54	Burns & Russell	115		<i>Wells, Rich, Greene</i>	
	<i>Marc Smith Company</i>		76	Formica Corporation	
9	Cabot, Samuel, Inc.	21		<i>Michael R. Abramson Assoc.</i>	
	<i>Donald W. Gardner Adv.</i>		138	GAF Corp.	3
144	Canadian General Tower	368-369		<i>Shaw & Todd</i>	
	<i>Gemini Enterprises</i>		5	Gail Architectural Ceramics	
113	Ceco Corporation	328-329		<i>Averill Advertising</i>	
	<i>Fensholt, Inc.</i>		25	General Aluminum Corp.	
6	Celotex Corporation	14-15		<i>The Marketing Package Store</i>	
	<i>Mike Sloan Advertising</i>		133	General Electric Lamp Div.	
14	Celotex Corporation	28-29		<i>Meldrum & Fewsmith</i>	
	<i>Mike Sloan Advertising</i>		72	General Electric Silicone	
47	Celotex Corporation	103		<i>Ross Roy N.Y./Compton</i>	
	<i>Mike Sloan Advertising</i>		105	General Electric Video	
148	Cheney Flashing Co.	373		<i>Conklin, Labs & Bebee</i>	
	<i>MR Associates</i>		95	Georgia Marble Company	
57	Cold Spring Granite	120		<i>Corporate Communications</i>	
	<i>Kerker & Associates</i>			<i>& Marketing</i>	
12	Columbia Lighting, Inc.	25			
78	Columbus Coated Fabrics	273			
	<i>Lord, Sullivan & Yoder</i>				

Circle No.	Page No.	Circle No.	Page No.	Circle No.	Page No.
90	Gold Bond Bldg., Prod. Div. Nat'l Gypsum Co. 292-293 <i>Faller, Klenk & Quinlan</i>	91	Milliken Carpets 294 <i>Milliken Advertising Agency</i>	108	Stanley Works, The 321 <i>Keiler Advertising</i>
82	Grinnell Sprinkler Systems 280 <i>Hutchins/Y&R</i>	92	Monsanto Company 296-297 <i>Monsanto Adv. & Promotion Services</i>	48	Stark Ceramics 104 <i>Ira Thomas Associates</i>
139	Grunau Sprinkler 362 <i>William Eisner & Assoc.</i>	13	Nucor (Vulcraft) 26-27 <i>Faller, Klenk & Quinlan</i>	36	Stendig International 87 <i>Allisam Productions</i>
30	Haws Drinking Faucet Co. 77 <i>Manabach & Simms/Pacific</i>	152	Olympic Stain Cov. 4 <i>Kraft Smith</i>	64	Stern-Williams Co. 128 <i>Ad Mar Co., Inc.</i>
121	Homasote Company 339 <i>Gillespie Advertising</i>	118	Otis Elevator Co. 336 <i>Poppe Tyson</i>	89	Sterner Lighting Systems 291 <i>Kerker & Associates</i>
3	Howmet Aluminum Corp. 8 <i>Crume & Associates</i>	52	Owens-Corning Fiberglas 112-113 <i>Oglivy & Mather</i>	107	Stolle Corp., Div. of Alcoa 320 <i>Lord Sullivan & Yoder</i>
120	Hydrozo Coatings Co. 338 <i>Johnson AdGraphics</i>	75	Owens-Corning Fiberglas 268 <i>Oglivy & Mather</i>	85	Tamko 285 <i>Noble & Associates</i>
98	ICC Business Research 306 <i>Innovation Concepts Advertising</i>	124	Parker Company, The Charles 342 <i>Les Howe Advertising</i>	42	Thiokol Corporation 96
34	Inryco, Inc. 82 <i>Melrose Adv. Assoc.</i>	123	Peerless Electric Co. 341 <i>Hayes, Davidson, Inc.</i>	33	Tyler Elevator Products 108 <i>Kleco</i>
28	Insopmet Industries 68-69 <i>Gray & Rogers</i>	4	Pittsburgh Corning Corp. 10-11 <i>David J. Westhead Co.</i>	35	U. C. Industries (Subsidiary of U. S. Gypsum) 84-85 <i>Marstrat, Inc.</i>
20	Integrated Ceilings 53	49	PPG Industries (Glass) 106-107 <i>Ketchum, MacLeod & Grove</i>	81	Unistrut/GTE 279 <i>Doyle, Dane, Bernbach</i>
87	International Masonry Inst. 288 <i>Henry J. Kaufman & Assoc.</i>	104	Progress Lighting 316 <i>R. Presser & Assoc.</i>	83	Unistrut/GTE 281 <i>Doyle, Dane, Bernbach</i>
119	ITT Outdoor Lighting 337 <i>John Malmo Advertising</i>	56	PSAE (Masterspec) 118 <i>Clarkson Associates</i>	84	Unistrut/GTE 283 <i>Doyle, Dane, Bernbach</i>
149	Jewett Refrigeration Co. 373 <i>Bowman, Block, Fatin & Cook</i>	76	Rambusch 269 <i>R. Presser & Assoc.</i>	114	Unistrut Interior Bldg. Systems 331 <i>Hedlund & Associates</i>
10	Johns-Manville (BSD) 22-23 <i>Broyles, Allebaugh & Davis</i>	127	Republic Steel Corp. 345 <i>Meldrum and Fewsmith</i>	129	United McGill Corp. 347 <i>Bannerman Industrial Advertisers</i>
38	Joy Manufacturing Co. 90 <i>Covey & Koons</i>	147	Richards-Wilcox Mfg. Co. 372 <i>Hanson Advertising</i>	17	United States Gypsum 42 <i>Marstrat, Inc.</i>
21	Kawneer Architectural Products 56-57 <i>Garrison, Jasper, Rose & Co.</i>	53	Rixson-Firemark 114 <i>Motivation Dynamics</i>	19	United States Gypsum 50-51 <i>Marstrat, Inc.</i>
67	KDI Paragon, Inc. 132 <i>Lloyd S. Howard Assoc.</i>	128	Roberts-Gordon 346 <i>Gelia, Wells, Mohr & Lippman</i>	94	United States Gypsum 300 <i>Marstrat, Inc.</i>
126	Kentucky Wood Floors, Inc. 344	43	Robertson, H. H. 97 <i>Creamer, Inc.</i>	45	United States Steel Corp. 100-101 <i>Compton Advertising</i>
101	Kim Lighting 311 <i>Kim Advertising</i>	15	Rohm & Haas 33-38 <i>Al Paul Lefton Co.</i>	116	United States Steel/Chemical Div. 333 <i>Daniel W. Evans Adv.</i>
79	Koh-I-Noor Rapidograph 274-275 <i>KR Advertising</i>	115	Rmax 332 <i>The Richards Group</i>	50	Van Huffel Tube Corporation 109
106	Koh-I-Noor Rapidograph 319 <i>KR Advertising</i>	130	Sandell Mfg. Co. 348 <i>Tower Advertising</i>	60	Vaughn-Walls (American Seating) 284a-284b
125	Kohler Company 343 <i>Campbell-Mithun, Inc.</i>	117	Sargent 334 <i>Adams, Rickard & Mason</i>	40	Vecta Contract 92
150	Knoll International 78-79 <i>Epstein, Raboy Advertising</i>	132	Schindler-Haughton Elevator Corp. 350 <i>Widerschein/Strandberg Associates</i>	100	Viking Corp. 308 <i>The Adbureau, Inc.</i>
29	Koppers Company, Inc. 71-76 <i>The Advertising Center</i>	71	Schinnerer, Victor O. & Co. 136 <i>Govatos/Dunn</i>	66	Von Duprin 130-131 <i>McQuade Bloomhorst</i>
7	Kroin 17 <i>Architectural Complements</i>	86	Schlage Lock Company 286 <i>B. J. Steward Advertising</i>	102	Weather Shield Mfg., Inc. 313 <i>Four Star, Inc.</i>
151	Levolor Cov. 3 <i>Muller, Jordan, Weiss</i>	68	Schure Manufacturing Co. 132 <i>Batz, Hodgson, Neuwoehner</i>	142	Welsbach Company 366 <i>Bolster & Associates, Inc.</i>
59	Levolor 122-123 <i>Muller, Jordan, Weiss</i>	22	Shand, Morahan Company 58 <i>Hakanson & Associates</i>	95	Westinghouse Electric Co., Elevator Div. 376 <i>Marsteller, Inc.</i>
62	Libbey-Owens-Ford (LOF) 126-127 <i>Campbell-Ewald</i>	69	Shatterproof Glass 133 <i>Film Associates of Michigan</i>	51	Wilsonart 111 <i>McKone & Company</i>
	Libyan Government, People Bureau 124 <i>Huron Advertising</i>	61	Silbrico Corporation 125 <i>Elving Johnson Advertising</i>		
31	Marley Cooling Tower 349 <i>The Foxridge Agency</i>	32	Sloan Valve Company 80 <i>Marsteller, Inc.</i>		
140	McGuire Co., Inc. W. B. 363 <i>R. T. Blass</i>	65	Soleil, Division ELR, Inc. 129		
93	Medusa Cement Co. 299 <i>Hayden, Stanford & Assoc.</i>				
35	Meisel Photochrome Corp. 357 <i>Hoffman Advertising</i>				

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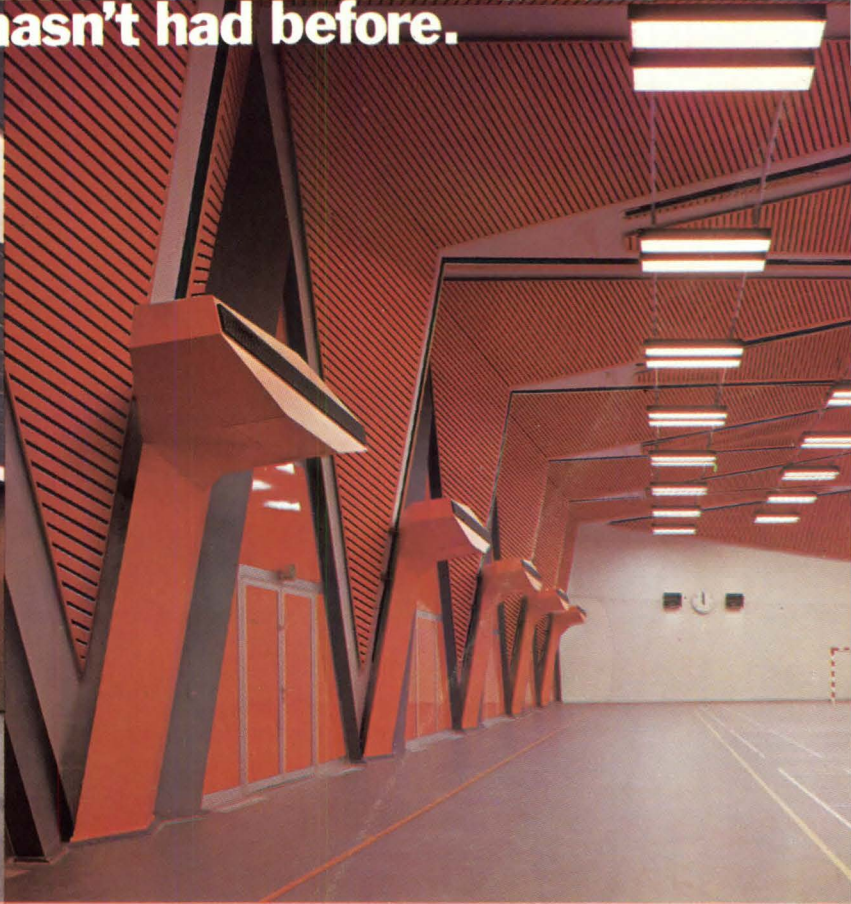
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