

ISHIKAWA CULTURAL CENTER IN JAPAN, BY KISHO KURAKAWA

HOUSING FOR THE POOR IN THE ISLAMIC COUNTRIES OF THE THIRD WORLD

ROCHE DINKELOO AND ASSOCIATES: A CORPORATE HEADQUARTERS FOR GENERAL FOODS

BUILDING TYPES STUDY: PUBLIC ADMINISTRATION BUILDINGS

FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD

AUGUST 1979 **8** A MCGRAW-HILL PUBLICATION \$5.50 PER COPY

Letters to the editor

It was very gratifying to read your report in the March issue of ARCHITECTURAL RECORD on the Aga Khan Award (pages 117-124).

I feel that by the inclusion of such reports, the magazine performs an important service in enlarging our understanding of architectural and planning values within a global and cross-cultural perspective.

*Azim Nanji, Chairman
School of Fine Arts
and Humanistic Studies
Oklahoma State University
Stillwater*

I would like to comment on RECORD's April article on Buffalo architects protesting competition from students (page 36).

As a former student, I don't believe students should design actual buildings in the community. Over-all, it hurts the student, the architects, the school.

The university I went to did, and still does, projects in the city for the city. My ideas, as well as those of several other students, were selected for community projects. Our biggest complaint was that we did not receive credit. I enjoyed the work, thought it was good—and even watching the sun rise, realizing I hadn't slept that night, didn't faze me. It was lack of credit.

I lived in Buffalo after graduating, and in the eight months I was there saw several corporations move, businesses close. Even the white snow made the place seem dark. It's declining fast, so I can agree with Mr. Stieglitz: Buffalo architects need any work they can get for a reasonable bid, and should not see work go to SUNY at Buffalo for a lower bid.

However, Mr. Stieglitz, we did good work, otherwise it wouldn't have been built.

*Kevin D. Nickels
Houston*

We found the April 1979 issue of ARCHITECTURAL RECORD quite entertaining, particularly the feature on Design for the Performing Arts (Building Types Study, pages 125-140). We are sure you will agree that the Paramount Arts Center here in Aurora is a beautiful piece of restoration work.

It is somewhat unfair that some very important people who helped make the Paramount a reality have been left out of your list of acknowledgments. Among these people is the prime renovation contractor, Conrad Schmitt Studio Inc. of New Berlin, Wisconsin, who was mainly responsible for the beautiful art work depicted on pages 132 and 133 of your magazine. It was the dedication of Conrad Schmitt Studios, together with fourteen other prime contractors, under the coordination and management of our firm, that made the Paramount what it is today.

d'Escoto Inc. is one of the few successful minority-owned construction management and consultant firms in the United States, and I am proud to be its president.

*Luis F. Era, President
d'Escoto Inc.
Chicago*

I was upset with the lead paragraph of your story in the March 1979 RECORD ["Office building in Cambridge at 1050 Massachusetts Avenue," pages 150-152], which inaccurately characterizes our neighborhood as run-down and deteriorating. Probably half of the executive board of our neighborhood association is composed of design professionals—but they know that your magazine, like most others, is a broad-brush attempt to keep people informed.

Although there are tacky buildings around, there are also landmark structures, the former mayor's house and, across the street at 1033 Massachusetts Avenue, the headquarters of Hugh Stubbins, FAIA. Stubbins's building was the first new building in the area and "renewed" a historically significant Victorian house. A 13-story luxury condominium, also across the street from 1050, took another house. 1050 blocks from view still another.

I suggest that you look at the July 1970 RECORD, page 119, for a more balanced view of this sort of development—it's your article on 1033 Mass Ave.

I do also want to take you to task on the words *deteriorating* and *run-down*. Part of the reason the area looks run-down, at a quick glance, is the parking lots that serve the new office buildings. Cambridge Seven's Victorian house at 1000 Mass Ave is now a parking lot for 955 Mass Ave, another Stubbins office building down the street. But houses in the area sell for over \$100,000, although it's very hard to find one.

This may be a neighborhood threatened by development. It is certainly not one that stands to be *rescued* by institutional buildings. I think you really are way off base.

*Hugh Adams Russell
Treasurer
Mid-Cambridge Neighborhood
Association
Cambridge, Massachusetts*

CORRECTIONS

In its story on the Mecklenburg County Courthouse in May 1979 (pages 109-112), RECORD failed to credit Henry F. Arnold, consulting landscape architect.

The "Igloo" refrigerated mini-bar shown in the NEOCON XI products section of RECORD's May 1979 issue (page 147) was erroneously credited. The U.S. distributor for the Italian design by Cattaneo is ICF, Inc., of New York City.

Calendar

AUGUST

Through September 14 "Open Spaces in New Towns," sponsored by the New York State Urban Development Corporation; on the Good Shepherd Plaza, Roosevelt Island, New York City.

Through September 30 "Capital Losses: A Cultural History of Washington's Destroyed Buildings," exhibition featured in the Octagon, the American Institute of Architects Foundation, 1735 New York Ave. N.W., Washington, D.C., 20006.

SEPTEMBER

10-11 Seminar, "Design Trends & Techniques for Contemporary Office Interiors," at the Water Tower Hyatt House, Chicago. Program will be repeated Oct. 8-9 in New York City. Contact: Charles E. Hamlin, ARCHITECTURAL RECORD SEMINARS, 1221 Avenue of the Americas, New York, N.Y. 10020 (212/997-3088).

12-13 Seminar, "Designing Contemporary Office Lighting," at the Water Tower Hyatt House, Chicago. Program will be repeated Oct. 10-11 in New York City. Contact: Charles E. Hamlin, ARCHITECTURAL RECORD SEMINARS, (see Sept. 10).

12-16 24th annual convention of the National Association of Women in Construction, at the Hyatt Regency Hotel in Houston. Contact: Betty Kornegay, National Executive Director, 2800 W. Lancaster Ave., Fort Worth, Texas 76107.

12-16 "Fall Antiques Show," sponsored by Smith-Mager Antique Fairs, Inc.; at the Seventh Regiment Armory, Park Ave. and 67th St., New York City. Contact: Janine Linden at 212/350-1815.

14 Seminar, "Marketing Nonresidential Interior Design Services," at the Water Tower Hyatt House, Chicago. Program will be repeated Oct. 12 in New York City. Contact: Charles E. Hamlin, ARCHITECTURAL RECORD SEMINARS, (see Sept. 10).

14-16 Second annual National Energy Expo, sponsored by the National Society for Energy Awareness; held at the new Baltimore Convention Center. Program will be repeated Oct. 5-8 in Washington, D.C. Contact: EMI, Inc., at 301/424-3660.

19-22 1979 Tennessee Society of Architects Convention, "The Joy of Architecture"; to be held in Chattanooga. Contact: TSA, 517 Union St., Nashville, Tenn. 37219.

24-28 "Plant Layout and Facilities Planning," sponsored by the University of Kansas and instructed by Richard Muther & Associates. Contact: The University of Kansas, Office of Conferences and Centers at 913/341-4554.

30 through October 4 *L'Union Internationale des Femmes Architectes* first congress, to be held in Seattle, Wash. Contact: Jean Young at 206/523-5414.

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER) (USPS 132-650)

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EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: 1221 Avenue of the Americas, New York, N.Y. 10020.

OFFICERS OF MCGRAW-HILL PUBLICATIONS COMPANY: president, Gordon L. Jones, group vice presidents: Gene W. Simpson, James E. Boddorf; senior vice presidents: Russell F. Anderson; Ralph R. Schulz, editorial; vice presidents: James E. Hackett, controller; Thomas H. King, manufacturing; Robert L. Leyburn, circulation; John W. Patten, sales; Edward E. Schirmer, international.

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ASSOCIATED SERVICES/McGraw-Hill Information Systems Co.: Sweet's Catalog Files (General Building, Engineering, Industrial Construction and Renovation, Light Residential Construction, Interiors), Dodge Building Cost Services, Dodge Reports and Bulletins, Dodge/SCAN Microfilm Systems, Dodge Management Control Service, Dodge Construction Statistics, Dodge regional construction newspapers (Chicago, Denver, Los Angeles, San Francisco).

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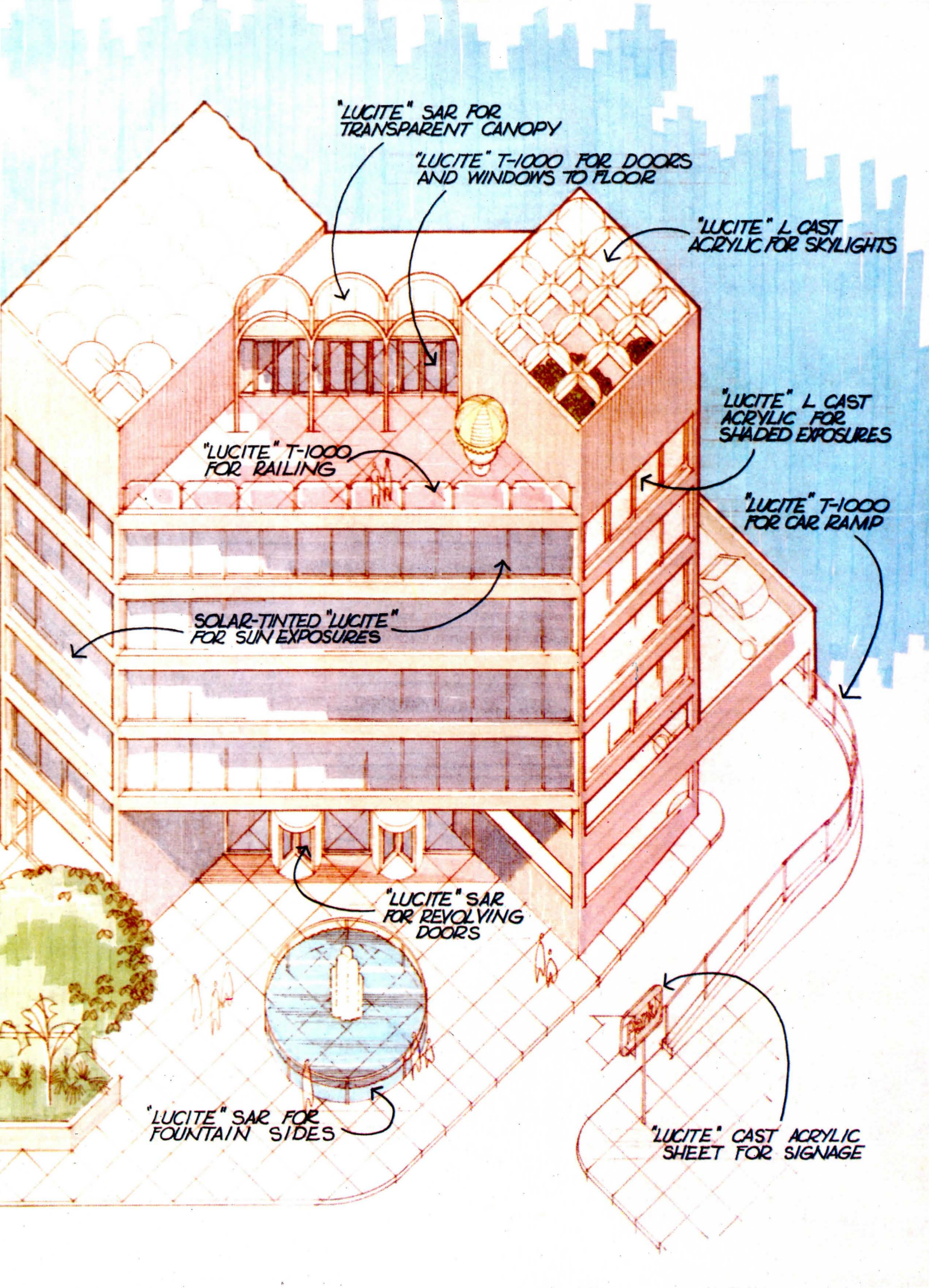
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PUBLICATION OFFICE: 1221 Avenue of the Americas, New York, New York, 10020. ARCHITECTURAL RECORD (USPS 132-650) published monthly except May, August and October when semi-monthly, by McGraw-Hill, Inc. Controlled circulation postage paid at Strasburg, VA.

POSTMASTER: PLEASE SEND FORM 3579 to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, NJ 08520.

THIS ISSUE is published in national and separate editions. Additional pages of separate editions numbered or allowed for as follows: Western Section 32-1 through 32-4.



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Architects' involvement in housing: Encouraging trends. Can we hope for more?

As faithful readers will know, I have often used this space to urge more architects to get involved in the housing market—to at a minimum help clients who come in or call and express interest in having a house (“if you’re not set up to do houses yourself, help them find another architect who is”). I’ve also suggested that more architects try to get involved in built-for-sale housing—at least begin by taking a builder out to lunch.

Well, our research department has just concluded some research that indicates that architect involvement in housing is greater than it has ever been—and that is very good news. The key numbers: within the past two years, almost 69 per cent of the architectural firm respondents had designed at least one single-family house for individual owners; 42 per cent had designed houses for builder-developer clients; 66 per cent had designed apartments for builder-developer clients. Sixteen per cent had acted as not just architect but also builder-developer for single-family houses; and 15 per cent had been architect-developer-builder of an apartment project. And that kind of involvement is the kind of involvement in the problems of site development and government approvals and cost and risk that most builders claim architects simply don’t handle well.

The results of such research, a good reporter is bound to report, must be taken with a grain of constraint. Such figures are not *necessarily* projectable—that is, it is not necessarily accurate to assume that if 69 per cent of survey respondents design single-family houses that 69 per cent of *all* architects do. The reason: people who do something are a bit more likely to reply to a questionnaire than those who do not. Nonetheless, the research was conducted most carefully, over a national cross-section of names from the 1978 market list for Sweet’s General Building File, with a 41.4 per cent return. The firms proved to have broad general practices—for example, 84.5 per cent had done office buildings in the past two years; 60.4 per cent, industrial or warehouse buildings; 57.7 per cent, public buildings; 55.3 per cent, shops and stores. . . . to 21.4 per cent who had done a hospital in the past two years. So let’s assume that the survey results are “at least fairly projectable,” and dig further:

The 240 architects (the 68.9 per cent of respondents) who had done single-family custom houses had done a total of 1,311 houses, at a total construction cost of

\$222,479,000, or an average of \$169,702. Seventy per cent of them expected to do “about the same” or more custom houses in 1979. The average construction value of the houses done by respondent architects for builder-developers was \$54,841. The 23 respondents who had designed and acted as developer-builder during 1978 built a total of 75 houses, of which the average construction value was \$72,400—a figure far closer to the built-for-sale average than the custom-house average, which seems reasonable since these houses were built-for-sale. It would be interesting to know someday (next research project) how the architect-developers chose to spend that extra \$18,000—on higher-quality materials and finishes, or nicer detailing, or architects’ favorites like skylights, or. . . ?

On apartments: The cost of the average unit designed for a client was \$25,401; but where the respondent acted as architect and developer-builder, the unit costs were \$28,427. Again, it would be fascinating to know where the \$3,000 was spent. As to future involvement by architects with builders: in each category—custom houses, houses or apartments for a builder client, houses or apartments for their own account as design-builders—the number of architects who indicated their volume of this work would “remain about the same” or “grow larger” outnumbered by an average ratio of 70-30 those who thought they would do “less next year.” Which adds up to good news as I see it.

But in my perfect world, there is no building type that better deserves or more needs the design skill of good architects (housing is, after all, where we live!). 97.9 per cent of the dollar volume of commercial buildings is designed by architect-engineers; 99.7 per cent of the dollar volume of manufacturing buildings is designed by architects-engineers; 99.9 per cent of educational and science buildings; 99.8 per cent of hospitals; 99.9 per cent of public buildings (I know, I know; the law requires that). But of all apartments of three or more units, according to F. W. Dodge’s incredibly accurate reporting, 88.7 per cent of projects (by number) and 96.9 per cent (by dollar volume) built in 1978 were designed by architects and engineers. And for houses, wouldn’t it be wonderful if *they* were nearly all designed by architects—not because they had to be, but because that’s what the market demanded?

—Walter F. Wagner, Jr.



The contract value of new construction in 1979 will total \$164 billion, a slight increase over 1978, reports the F.W. Dodge Division of McGraw-Hill Information Services Company. The second update of the *1979 Dodge/Sweet's Construction Outlook* explains that although this year's physical volume of construction will be about 5 per cent below the 1978 peak, inflation will push the dollar value of this work nearly 4 per cent above last year's level. Details on page 49.

The American Institute of Architects so-called "supplanting standard" has been ruled in violation of the Sherman Antitrust Act. The standard, which prohibits members from pursuing design jobs already held by another architect, was suspended in an emergency action by the AIA's Board of Directors. The Board acted after U.S. District Judge John J. Sirica ruled that the standard is "an unreasonable restraint on competition." Details on page 34.

The Carter Administration has offered a number of proposals encouraging greater use of solar and other renewable energy resources in American homes, buildings and industry. Although the proposals were made before President Carter's July 15 energy speech, they are in line with his newer ideas. Details on page 35.

The City Club of New York presented its prestigious Bard Awards in a June ceremony. The awards were established by Albert S. Bard to recognize "Excellence in Architecture and Urban Design" in New York City. Award winners were: the TWA Pedestrian Shelter and Traffic Control at Kennedy International Airport by Witthoefft & Rudolf; Turtle Bay Towers by Bernard Rothzeit & Partners; the U.N. Plaza Hotel by Kevin Roche, John Dinkeloo & Associates; Abraham Goodman House by Johansen & Bhavnani and 265 East 66th Street, by Gruzen & Partners. Special Citation Awards went to The Douglas Leigh Organization, for the exterior lighting of the Helmsley Building and, in a departure from tradition, awards went to Senator Franz Leichter, Assemblyman Edward Lehner, Mayor Edward Koch and Sanitation Commissioner Norman Steisel for New York City's Canine Waste Law.

Effective July 16, President Carter has ordered that temperatures in nonresidential air-conditioned buildings be kept at 78 F. Exempt from this energy-saving regulation are hospitals, museums, hotels, doctor's offices, private homes and apartments, and any place a certain temperature must be maintained. The same regulation also prohibits heating buildings to a temperature above 65 F.

A single nation, Japan, was the focus of this year's International Design Conference in Aspen. Titled "Japan in Aspen: A Synthesis of Contradictions," the conference provided an opportunity for leading members of diverse design disciplines from both Japan and the West to share their philosophies, insights and visions. Michael Franklin Ross, AIA, reports on the conference. Details on page 35.

A new ventilation system that will provide wholesome indoor air while cutting energy costs is being developed at the University of California's Lawrence Berkeley Laboratory. The new system, which is said to be especially appropriate for buildings in cold climates, relies on an indoor air sensor that responds to carbon dioxide buildup. When the carbon dioxide reaches a specified level, still well within the bounds of safety, the ventilation system is automatically activated to draw in outside air. The researchers estimate that energy cost savings from using the new system in oil-heated buildings of 50,000 square feet floor space could be as much as \$5,600 a year at 1978 oil prices.

How to set up a downtown improvement district is the subject of a new report, Downtown District Action Guide. Published by the Downtown Research and Development Center, the study details the process for getting downtown action started—and financed. The report describes all aspects of downtown districts—what they are, how they are established and how they are used to plan, finance and implement downtown improvements. The Downtown District Action Guide is available for \$14.00 from Downtown Research and Development Center, 270 Madison Avenue New York, New York 10016.

A recent change in the AIA's Code of Ethics gives professional employees some responsibility for their employer's misconduct. The Institute's Board of Directors voted to make this pertinent passage a part of the code: "Members employed by non-member-owned or controlled organizations which act contrary to this code in the normal course of business are themselves in violation of the code. Members employed by member-owned or -controlled organizations which act contrary to this code in the normal course of business are themselves in violation if the violation occurs in the employed member's area of responsibility for policy or practice or the employed member takes part in the violation."

A energy-standard review body has been formed by NIBS to study the issues surrounding proposed Building Energy Performance Standards changes currently being developed by the Department of Energy. The body, composed of engineers, architects and administrators, is chaired by Tom Casberg of the Department of Defense. Parties interested in participating should contact Joan Hesler, Consultative Council, National Institute of Building Sciences, 1730 Pennsylvania Ave., N.W., Suite 425, Washington, D.C. 20006.

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solar units in its first year of operation, according to the White House. At least 60 per cent of the bank's subsidy payments would have to be for residences. The maximum loan for

plaints center on tying the financial incentives to the windfall profits tax and that many of the incentives begin in fiscal year 1980 or later. —William Hickman, *World News, Washington.*

tween inside and outside.

Each day a series of panelists examined the similarities and differences between key design disciplines, including graphic design, industrial

the conferees, a level of understanding and mutual respect was achieved that extended far beyond the 9,000 mile distance from Aspen to Tokyo.

—Michael Franklin Ross

Judge rules AIA regulation violates antitrust law

The executive committee of the

Mardirosian's suit also includes three common law claims for damages to his business and reputation. These are separate issues and have

Escalating costs hinder Senate building completion

Escalating construction cost estimates of a partly completed office building tor would have 4,000 to 6,000 square feet of office space.

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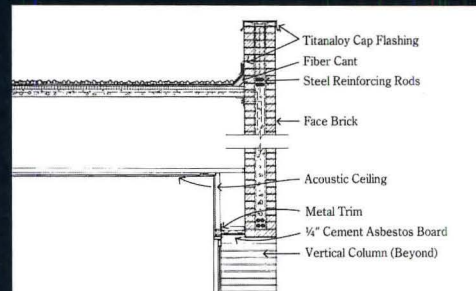
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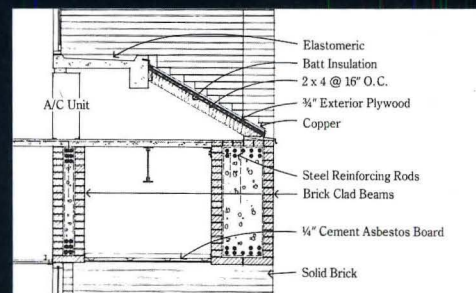
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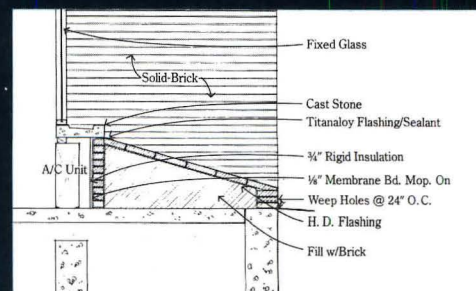
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Architect-Engineer: Wittenberg, Delony & Davidson, Little Rock, Arkansas;
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Office tower planned for Philadelphia's Market Street development

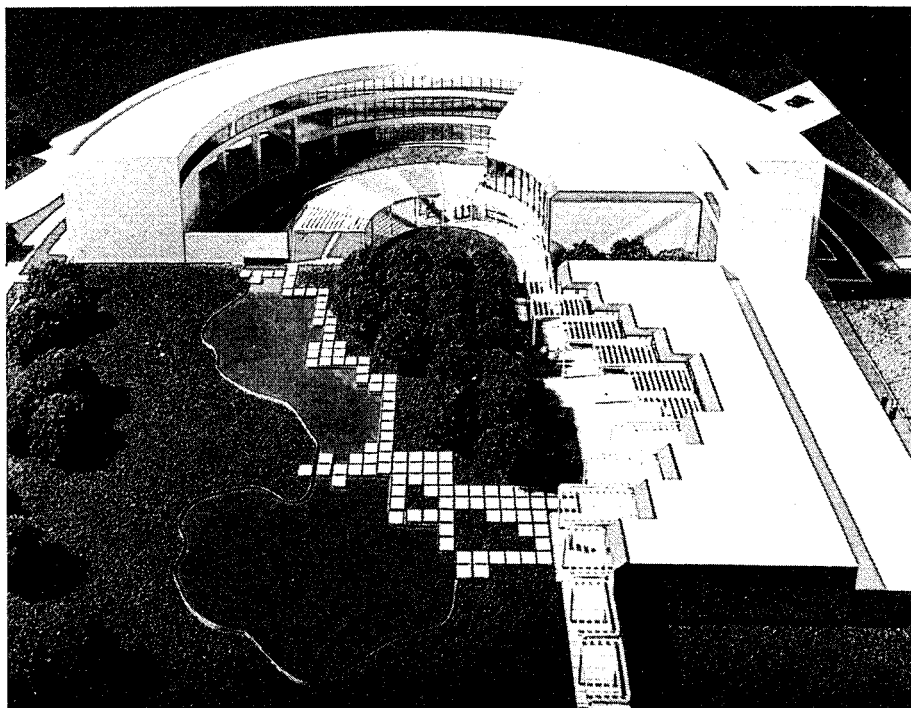
The last contiguous tract in Philadelphia's \$500-million Market Street West development will be occupied by a 27-story office tower constructed by the Radnor Corporation, a subsidiary of Sun Company, Inc. The marble-faced building, the first of two planned for the site, was designed by Skidmore, Owings & Merrill. It features a "tube" design that reduces interior column space and maximizes the ratio of useable

to rentable space. The structure will overlook a reflecting pond, sculpture garden and pedestrian esplanade and will house retail shops on the ground level. The anchor tenants, Sun Petroleum Products and its research and engineering division, Suntech, Inc., will occupy 180,000 square feet of the 630,000-square-foot tower. Located at the northwest corner of 18th and Market Streets, the building is scheduled for completion in 1981.

Pereira and Associates retain park-like setting in design of Union Oil research facility addition

For the \$20-million expansion of Union Oil Company of California's research center in Brea, California, William L. Pereira and Associates has developed a design intended to mirror the technical sophistication of the facility while maintaining a park-like environment in harmony with its surrounding rural/suburban location. The focal point of the science and technology research complex is a three-story administration building which arcs to

link with an employee cafeteria forming an outdoor garden space for employees and guests. The Pereira design echoes the existing facilities, materials, precast concrete and glass, and incorporates some energy-saving technology: there is a minimum of glass on portions of the building facing west, and an elaborate ice storage system that operates during the night will be used to cool the building during the day.





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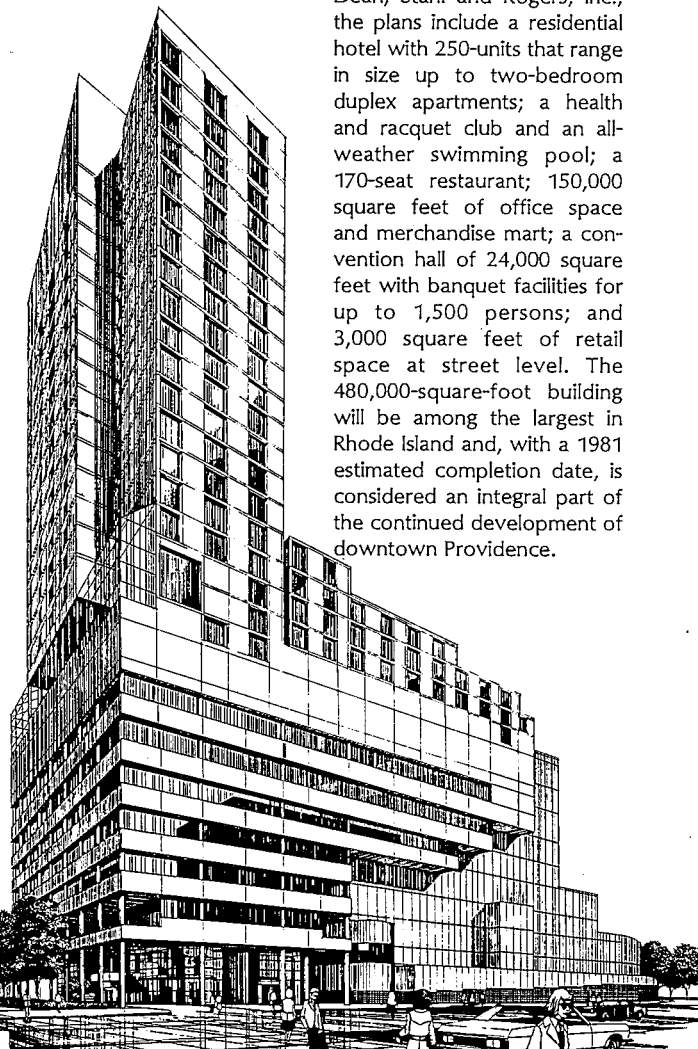
Montreal, Toronto

Circle 27 on inquiry card

Convention center planned for downtown Providence

Attempting to duplicate the success of their Place Bonaventure Complex in Montreal, the Concordia Management Company, Ltd. has purchased

land to build the proposed \$25-million La Salle Square Convention Center and Hotel in Providence, Rhode Island. The multi-level structure will range in height from two stories to 27, with more of the building at least ten stories high. Designed by Perry, Dean, Stahl and Rogers, Inc., the plans include a residential hotel with 250-units that range in size up to two-bedroom duplex apartments; a health and racquet club and an all-weather swimming pool; a 170-seat restaurant; 150,000 square feet of office space and merchandise mart; a convention hall of 24,000 square feet with banquet facilities for up to 1,500 persons; and 3,000 square feet of retail space at street level. The 480,000-square-foot building will be among the largest in Rhode Island and, with a 1981 estimated completion date, is considered an integral part of the continued development of downtown Providence.



Tampa City Center to house telephone company headquarters

Construction has begun on a 38-story office tower representing phase one of Tampa City Center, a four-block development in Tampa, Florida. The silver-gray reflective glass building is a square tower with a shallow chamfer articulating each bay. The plan calls for three tightly interlocked squares through the ninth floor, two interlocked squares from floors 10 through 17, and the 18th through 38th floors

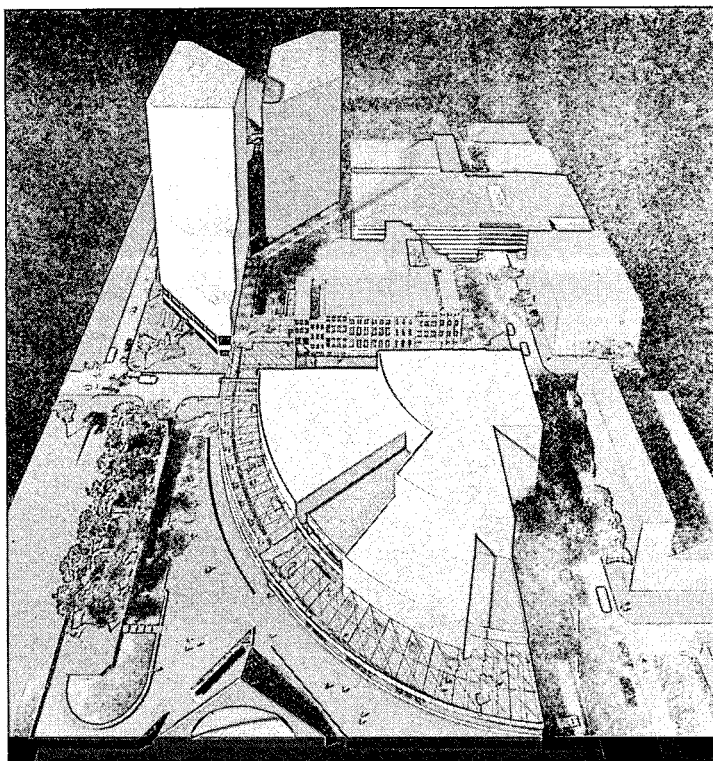
contained within a single square. The building will utilize double-glazed and insulated reflective glass windows to save on fuel for cooling the building. The mixed-use development, designed by Welton Becket Associates, includes a de luxe convention hotel and an exposition center. The main building will be used chiefly as corporate headquarters for General Telephone Company of Florida.



Kentucky cultural complex mixes commercial use with public arts facilities

The Kentucky Cultural Complex, designed to fulfill a mixed-use concept, provides for close integration of public arts facilities with private commercial development. The cultural arts complex, designed by Sasaki Associates for developer Gerald D. Hines Interests, will be located in a two-block area of downtown Louisville. The \$45-million public element includes a 2,100-seat multi-use hall, a 700-seat multi-purpose hall, facilities to accommodate the Louisville School of Art and Junior Art Gallery (including

gallery, offices and studios which will occupy about 200,000 gross square feet), 600 enclosed parking spaces and a public open-space infrastructure which comprises landscaped plazas, parks, band shell and arcade. Private development elements for the project are expected to include between 520,000 and 650,000 gross square feet of office and arcade-related retail space. Total development costs are expected to range from \$47.2 million to \$58.3 million.



New Dukane digital clocks tell time and make announcements

With the Dukane digital clock/loudspeaker combination shown here, the time can be seen and public announcements or background music can be heard simultaneously. It's one of several types of secondary clocks available with Dukane's new master time control systems. These attractive noise-free clocks have bright red, easy-to-read numerals. Can be seen in dark or bright areas. Solid-state design gives outstanding accuracy and reliability. And the master clock automatically synchronizes all secondary clocks every 24 hours and after power failures. Makes daylight-savings time changes quickly.

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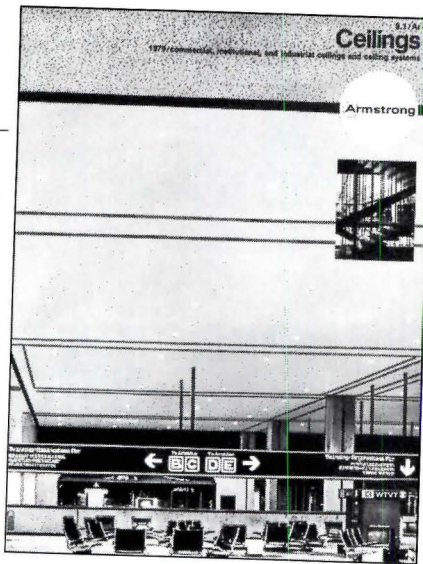


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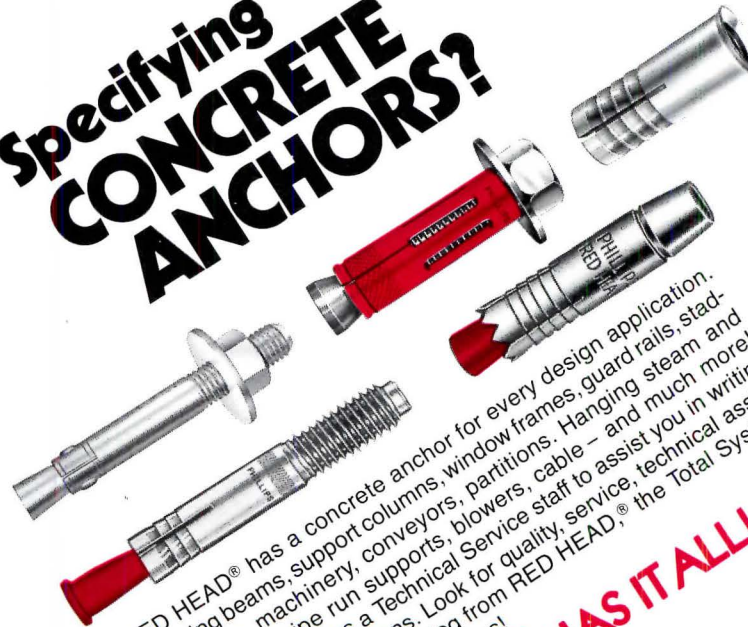


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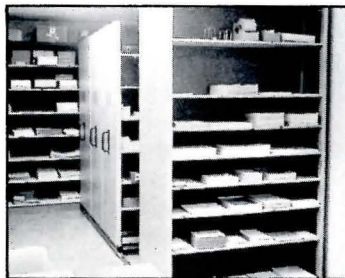
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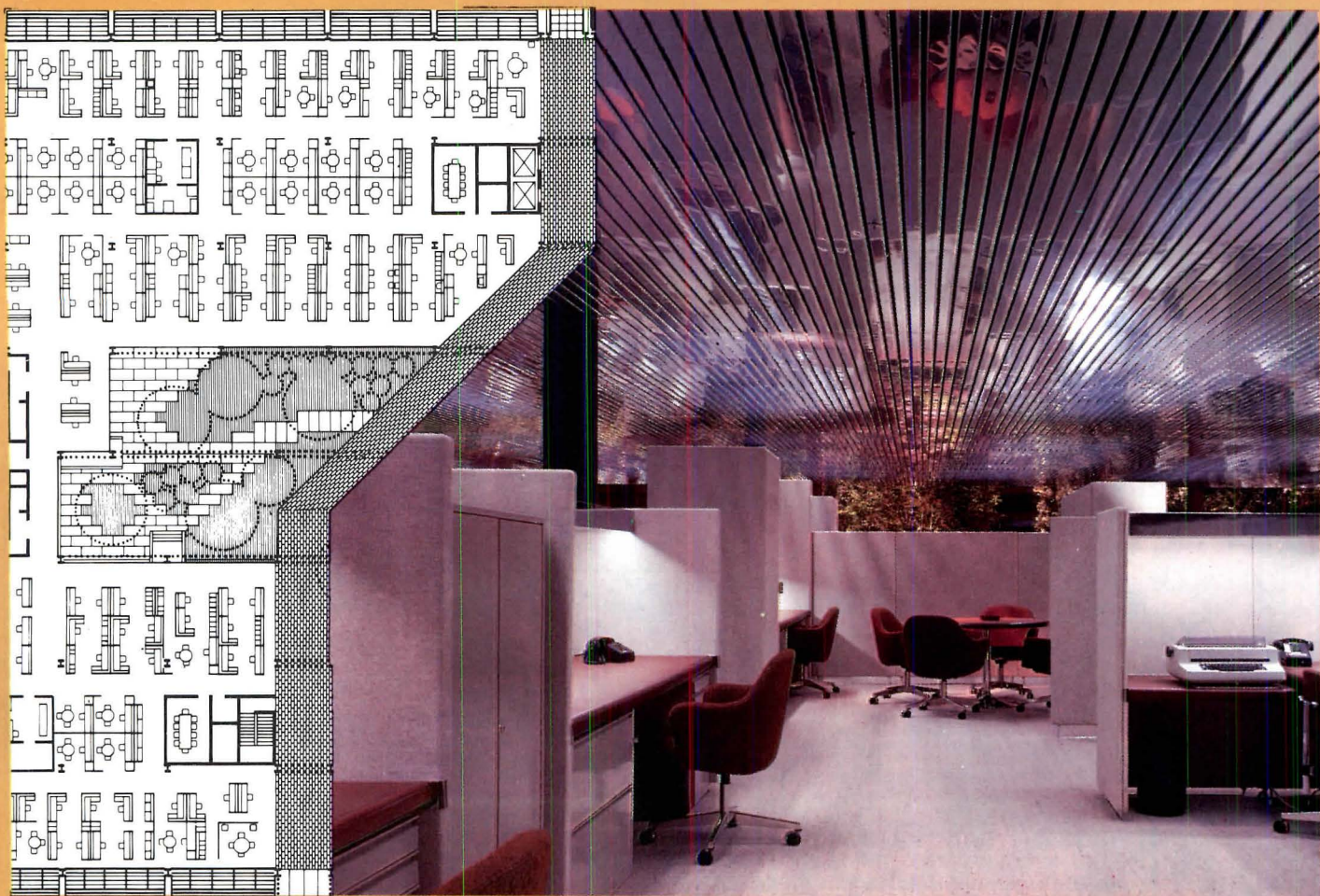
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Dodge/Sweet's construction outlook, 1979: second update

The course of construction activity in 1979, as emphasized in both the November 1978 and March 1979 issues is being shaped by two opposing forces: 1) anti-inflationary restraint on credit and public spending that has reversed the nearly four-year expansion of construction contracting; and 2) the underlying strength of demand and the absence of overbuilding that will limit the reversal to a brief and shallow decline. Although turning points are difficult to identify as they are happening, it's probably accurate to say that the rate of contracting for new construction reached its peak early in 1979. For a few months the flow of total new construction held steady at this high rate while gains in nonresidential building offset the decline in homebuilding. But by the second quarter the reversal which began with housing, as it usually does, was spreading to the nonresidential building markets.

Considering that monetary restraint has been the basis of the nation's anti-inflationary program during the past six months, these developments were predictable enough. And they were already built into the earlier estimates of 1979 construction activity. However, some other, less predictable developments that have come along since the beginning of the year must now be taken into account. Among them: the persistence of double digit inflation; the frustration of the oil scarcity; the shock of Three Mile Island; and the arrival of the "movable recession."

1979 National Estimates of Dodge Construction Potentials

Construction Contract Value (millions of dollars)		1978 Actual	1979 Forecast	Percent Change
Nonresidential Buildings	Office Buildings	\$ 9,085	\$ 10,900	+20
	Stores & Other Commercial	11,403	11,900	+ 4
	Manufacturing Buildings	8,703	7,900	- 9
	Total Commercial & Manufacturing	\$ 29,191	\$ 30,700	+ 5
	Educational	\$ 5,725	\$ 6,100	+ 7
	Hospital & Health	3,720	4,500	+21
	Other Nonresidential Buildings	5,737	7,300	+27
	Total Institutional & Other	\$ 15,182	\$ 17,900	+18
	Total Nonresidential Buildings	\$ 44,373	\$ 48,600	+10
	Residential Buildings	One-Family Houses	\$ 59,790	\$ 53,500
Multi-Family Housing		12,942	15,700	+21
Total Housekeeping		\$ 72,732	\$ 69,200	- 5
Total Nonhousekeeping		\$ 1,799	\$ 2,600	+45
Total Residential Buildings		\$ 74,531	\$ 71,800	- 4
Nonbuilding Construction	Highways & Bridges	\$ 11,078	\$ 13,800	+25
	Utilities	12,336	15,000	+22
	Sewer & Water	8,608	8,300	- 4
	Other Nonbuilding Construction	7,512	6,500	-13
	Total Nonbuilding Construction	\$ 39,534	\$ 43,600	+10
Total Construction	\$158,438	\$164,000	+ 4	
Dodge Index (1972 = 100)	174	180		
Floor Area of New Buildings (millions of square feet)				
Nonresidential Buildings	Office Buildings	207	230	+11
	Stores & Other Commercial	548	525	- 4
	Manufacturing Buildings	209	230	+10
	Total Commercial & Manufacturing	964	985	+ 2
	Educational	105	100	- 5
	Hospital & Health	52	57	+10
	Other Nonresidential Buildings	153	173	+13
	Total Institutional & Other	310	330	+ 6
	Total Nonresidential Buildings	1,274	1,315	+ 3
	Residential Buildings	One-Family Houses	2,246	1,845
Multi-Family Housing		512	570	+11
Total Housekeeping		2,758	2,415	-12
Total Nonhousekeeping		41	55	+34
Total Residential Buildings		2,799	2,470	-12
Total Buildings	4,073	3,785	- 7	
Number of Dwelling Units (thousands of units—F. W. Dodge basis)				
	One-Family Houses	1,439	1,150	-20
	Multi-Family Housing	523	575	+10
	Total Dwelling Units	1,962	1,725	-12

Housing decline limited to one-family homes; recovery in the fourth quarter

Compared with the distorted winter months, housing activity in the spring quarter (the time when it counts most) was looking a bit better. Even discounting some of the current 1.8 million rate of housing starts as being the "spillover effect" of a bad batch of winter statistics, the 1.7 million unit average for the entire first half of 1979 was respectably high in view of money market conditions. It could not have happened without the Money Market Certificates (MMC's), which were responsible for holding more than \$75 billion of deposits in the thrift institutions during the past year of potential disintermediation.

The recent (second quarter) slowing of savings inflows suggests that the MMC's may have reached the limit of their effectiveness. Even so, the current high level of commitments for future mortgage lending, which is based largely on those funds previously attracted by MMC's, constitutes a solid base of support for housing through the summer and fall.

By the fourth quarter, a combination of lower inflation, greater fiscal restraint via the FY1980 budget, and higher unemployment will give the Fed more than enough reasons for monetary relaxation. A recovery of one-family homebuilding can be expected to follow in short order.

In the meantime, multi-family housing, which is only now reaching its peak, will help to hold the rate of total residential building in the range of 1.6 to 1.7 million units through 1979's second half. And during this time the continuing pressure of an annual need for something more like two million site-built homes will be creating a backlog of deferred demand that could erupt in 1980 or 1981—or as soon as credit conditions permit.

The 1979 outlook: Dwelling units down 12 per cent (F. W. Dodge basis); contract



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value down 4 per cent; decline concentrated in one-family housing; recovery beginning as early as the fourth quarter.

In nonresidential building, office construction remains hottest market

After a strong first quarter burst of contracting for commercial and industrial projects, nonresidential building eased into a cyclical decline that is only likely to deepen in the mid-1979 environment of economic reversal and energy scarcity.

Within the cyclically sensitive category of commercial and industrial buildings, the demand for stores and shopping centers is derived mainly from residential construction. Contracting for retail buildings remained high through the early months of 1979 on the strength of 1978's two million unit rate of housing starts, but began to weaken in the spring quarter. It is expected that the 15 per cent drop already experienced in the rate of housing activity during the first half of this year will have its greatest impact on retail

building in the year's second half.

Business capital spending surveys pinpoint 1979 as the year when industry plans its biggest increase for plant and equipment outlays. Only a small further rise is indicated for 1980 when capacity utilization is expected to be lower than it is at present. Translating these spending plans into contracting for manufacturing buildings requires backing up at least six months, which is the typical time span between the start of a project and its maximum cost-expenditure impact. This puts the period of peak contracting for industrial construction between mid-1978 and mid-1979—mostly in the past. It means that manufacturing building contracting is due to lose some of its early 1979 lead (+20 per cent over 1978 square footage at midyear), but should finish the year with a solid 10 per cent increase.

(Note: a 10 per cent increase in 1979 square footage of manufacturing building is consistent with a decline in contract value, as shown in the table. This is due to the distort-

ing effect of chemical and petroleum processing plants which are typically outdoor, non-enclosed facilities and do not have "square feet of floor area" as conventional factory buildings do. Contracting for chemical and petroleum processing plants reached a record \$3.5 billion in 1978, but is down sharply this year.)

Office buildings continue to be the construction industry's hottest market. Despite last year's record 50 per cent gain in square footage of contracting, the supply of available office space is still short of demand. Although the current backlog of demand—swollen by several years of exceptionally rapid growth of the white collar labor force—could support another large increase in building this year, high interest rates and slowing economic activity will limit 1979's contracting for offices to about 230 million square feet (+11 per cent).

In a "no-grow" institutional market, hospitals are a prime retrofit opportunity

Contracting for institutional buildings (schools, hospitals, public administration buildings, etc.) is showing a deceptive gain this year. The source of the current increase (square footage up 7 per cent through midyear) goes all the way back to 1977 when the \$6 billion Local Public Works Act temporarily overstimulated this otherwise dormant market. The spurt in 1977 was followed by a setback in 1978, indicating that LPWA funds merely advanced the contracting of some 1978 projects into 1977. By now, all is normal (i.e., dormant) once again in the "no-grow" institutional building market. However, because 1978's square footage of contracting was artificially low, "normal" in 1979 looks better than it really is.

Opportunities continue to exist even in this generally sluggish building market even though adverse demographic trends and excess capacity preclude a potential for growth. Hospitals, in particular, have become one of the construction industry's prime retrofit markets. And while educational building may be declining nationally, it remains a viable building market in the South where in-migration continues to generate demand.

The 1979 outlook: Total nonresidential building square footage up 3 per cent in 1979; contract value up 10 per cent. A lower rate of contracting in 1979's second half as economic stress and mounting excess capacity retard commercial and industrial building.

In total, 1979 construction contract value will keep pace with 1978

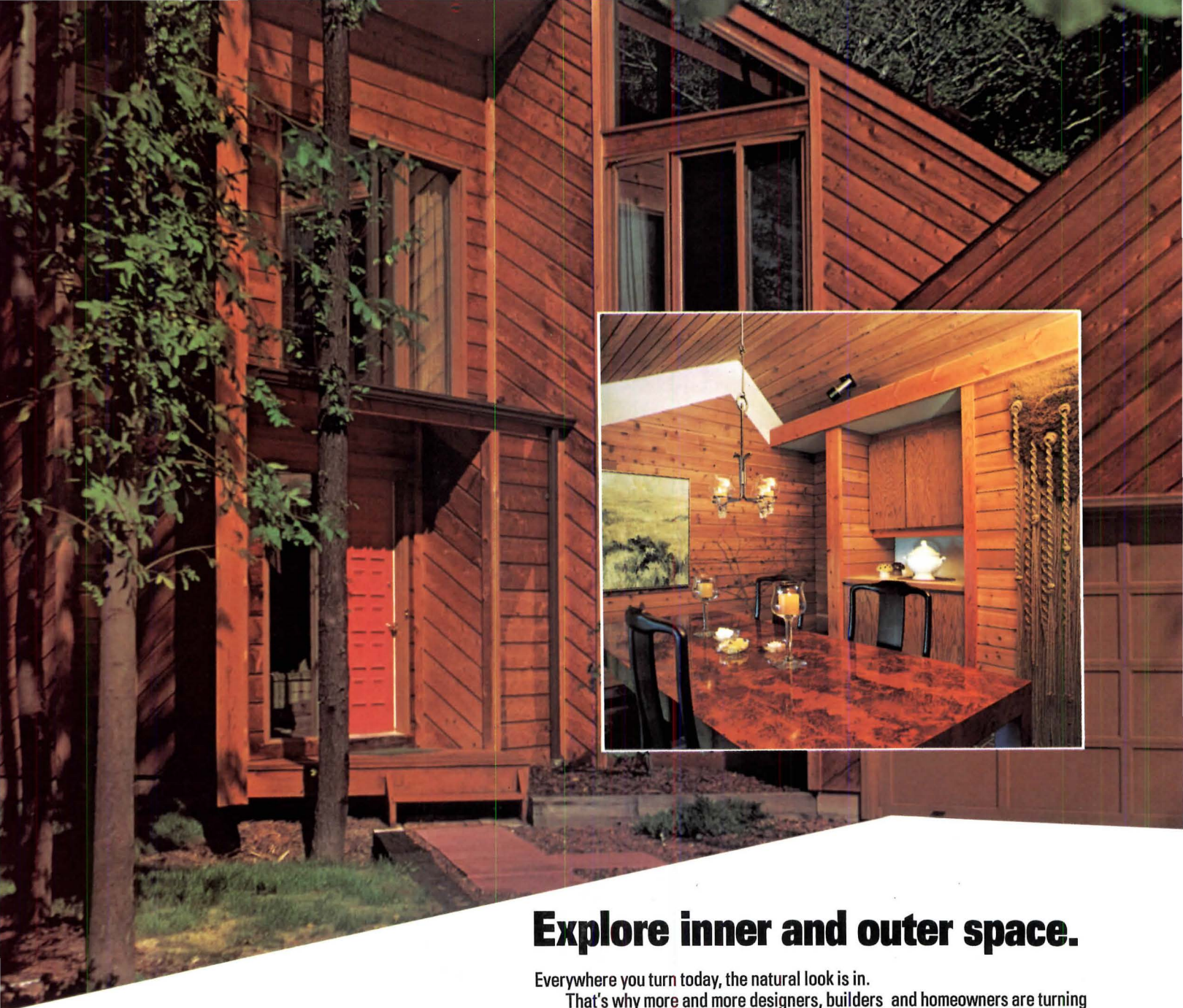
With the construction cycle reversing its direction in 1979, the year's outstanding features are: 1) Less housing, and more nonresidential construction than in 1978; 2) a diminishing rate of contracting with each successive quarter; 3) physical volume 5-10 per cent below 1978's peak; and 4) total construction contract value as high or slightly higher than in 1978.

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

1979 Regional Estimates of Dodge Construction Potentials

Construction Contract Value (millions of dollars)	Northeast Conn., D.C., Del., Mass., Md., Maine, N.H., N.J., N.Y., Eastern Pa., R.I., Va., Vt.			Midwest Northern Ill., Ind., Iowa, Ky., Mich., Minn., N. Dak., Ohio, Western Pa., S. Dak., Wis., W. Va.		
	1978 Actual	1979 Forecast	Percent Change	1978 Actual	1979 Forecast	Percent Change
	Nonresidential Buildings					
Commercial & Manufacturing	\$ 4,527	\$ 4,875	+ 8	\$ 6,878	\$ 7,550	+10
Institutional & Other	3,114	3,725	+20	3,995	4,675	+17
Total	\$ 7,641	\$ 8,600	+13	\$10,873	\$12,225	+12
Residential Buildings						
One-Family Houses	\$ 7,556	\$ 6,675	-12	\$13,565	\$12,075	-11
Multi-Family Housing	2,208	2,300	+ 4	2,973	3,600	+21
Nonhousekeeping	461	900	+95	371	625	+68
Total	\$10,225	\$ 9,875	- 3	\$16,909	\$16,300	- 4
Nonbuilding Construction						
Highways & Bridges	\$ 2,160	\$ 2,550	+18	\$ 2,997	\$ 3,875	+29
Utilities	2,830	1,400	-51	5,676	3,200	-44
Other Nonbuilding Construction	4,206	3,450	-18	4,346	3,700	-15
Total	\$ 9,196	\$ 7,400	-20	\$13,019	\$10,775	-17
Total Construction	\$27,062	\$25,875	- 4	\$40,801	\$39,300	- 4

Construction Contract Value (millions of dollars)	South Ala., Ark., Fla., Ga., Southern Ill., Kans., La., Miss., Mo., N.C., Nebr., Okla., S.C., Tenn., Tex.			West Alaska, Ariz., Calif., Colo., Hawaii, Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash., Wyo.		
	1978 Actual	1979 Forecast	Percent Change	1978 Actual	Forecast 1979	Percent Change
	Nonresidential Buildings					
Commercial & Manufacturing	\$11,280	\$10,875	- 4	\$ 6,506	\$ 7,400	+14
Institutional & Other	4,961	5,925	+ 19	3,112	3,575	+15
Total	\$16,241	\$16,800	+ 3	\$ 9,618	\$10,975	+14
Residential Buildings						
One-Family Houses	\$23,513	\$20,750	- 12	\$15,156	\$14,000	- 8
Multi-Family Housing	3,846	5,000	+ 30	3,915	4,800	+23
Nonhousekeeping	581	675	+ 16	386	400	+ 4
Total	\$27,940	\$26,425	- 5	\$19,457	\$19,200	- 1
Nonbuilding Construction						
Highways & Bridges	\$ 3,973	\$ 5,025	+ 26	\$ 1,948	\$ 2,350	+21
Utilities	3,098	9,000	+191	732	1,400	+91
Other Nonbuilding Construction	4,396	4,575	+ 4	3,172	3,075	- 3
Total	\$11,467	\$18,600	+ 62	\$ 5,852	\$ 6,825	+17
Total Construction	\$55,648	\$61,825	+ 11	\$34,927	\$37,000	+ 6



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An architect's checklist to planning building security

Security control is usually developed as an architectural concept. Many controls are so commonplace we hardly notice them: the turnstiles and controlled checkout in the supermarket, large drug store or discount house; the turnstile into the football stadium; the automatic gate for a parking garage. Even the keys that open the front door of your house, or start your car are devices for control. To pursue the concept of security control one step further, consider the interior patio common in Southern Europe and the Middle East, and contrast this to the back yard of many American homes. Some architects tell you that the patio provided shade and protection from the sun's heat before air conditioning was invented. This could well have been a factor, but in the eyes of the security consultant, the interior patio represents a secure place for the family. What considerations must you, the architect, give to security to provide overall design that will serve the client?

by Walton N. Hershfield, P.E.

To begin, you should consider:

1. The environment in which the building will be placed.
2. Perimeter or open areas around the building.
3. The building envelope, which addresses the problems of access by force or stealth.
4. Building plan, which addresses the problem of how people move within the building and segregation of areas of high security risk.
5. Security personnel.
6. Security systems required.
7. Testing of the final security design on an adversary basis.

Determine the nature of the project's environment

Neighborhood: Analysis of the neighborhood should consider the following questions: a) Is there high criminal activity? b) Are there rowdy establishments? c) What are the possibilities of civil disorders? d) Are there high-risk neighbors: jewelers, banks, etc.? e) Is there undesirable transient traffic? Is it near a railroad switching yard or a major freeway? f) Does a master plan exist for the area? g) What is the quality and age of adjacent real estate and buildings? h) Are real estate values rising or declining?

When these questions are answered, the architect should develop a "feel" for the neighborhood. If large plate glass windows would make a tempting and vulnerable target for a brick, then perhaps some other concept should be considered, or an impact-resistant glass specified.

Traffic: a) What are the hours of greatest vehicular and pedestrian traffic? b) Are "No

Parking" zones provided? c) Are loading zones provided? d) What is the nature of the traffic—auto or truck? e) What is the relative "prosperity" of the pedestrian? f) Does the local situation encourage loitering, begging or solicitation? These questions can give you additional security-planning insight.

Access: a) What is the ease of access for police? b) What is the ease of access for the fire department? c) Are driveways provided? d) Are one-way streets available? e) What is the ease of access for employees in private vehicles, on foot, or by public transportation? f) Are underground access routes available?

In answering these questions, you begin to develop an understanding of the convenience with which your client and his associates may enter the property, and conversely you will begin to think of some method for control of undesirable access by vehicle or foot.

Area illumination: Are streets, passageways, alleys and delivery areas, public access, and employee access adequately lighted?

Water supply: This is just one of the utility questions that must be answered. a) Is water supply adequate for human need and life safety? b) Are fire hydrants properly located? c) Will water reserve be provided? d) What will water requirements be in the event of an emergency?

Underground areas: It is convenient to place many services underground and out of sight; hence, you must consider the following: a) Are tunnels, sewers, subways, manholes, and basements possible routes for unauthorized access? b) What is the routing of natural gas and electric utilities? c) What is the routing of water mains? d) Are there special utility vaults? e) Where earthquakes are a possibility, what are the seismic hazards? In many cities over a hundred years old, it is also important to make an historical

study of the site to determine previous use.

Adjacent buildings: Neighboring buildings not only relate to access but also define the external hazards to the proposed building envelope. Therefore, a) What is the access from adjacent buildings at lower level, ground floor or upper level? b) Is window-to-window access possible? c) Is unauthorized traffic possible between other buildings? d) What is the fire hazard from adjacent buildings? e) What is the use and occupancy of adjacent buildings? When these questions are answered, you will know your neighbors and how to react to them.

Employee safety: a) What are the potential hazards to employees in arrival or departure during normal working hours? b) What are the after-hours hazards concerning parking lots, public transportation, cab service, personal pickup? c) Are parking facilities associated with the building? d) What are the potential hazards in the parking area? e) Is guard service provided for any of these areas? f) What is the level of after-hour police service? g) Are surveillance systems provided in these areas, i.e. closed circuit television? h) Is secure area loading and unloading provided?

Here again, as we answer these questions we not only develop a concept of safety, but will also learn some suggested methods whereby architectural design may enhance safety.

Police protection: There are many levels of police security; therefore, any survey of a local police force should ask: a) What is the distance to the nearest police station? b) What is the response time to police calls during heavy traffic periods, normal traffic periods and after-hours traffic periods? c) What is the quality of the nearest police facility; what is its size and diversification? d) What is the level of patrol activity during working hours, after hours and on holidays? e) What is the method of patrol (on foot or motorized)? f) Are patrols conducted singly or by teams? g) What back-up communications are provided when the patrolman leaves his car? h) Are emergency communication facilities provided on streets? i) Is direct alarm or emergency-call to police station permitted?

After you have completed this survey, then contact your client's casualty insurance underwriters and discuss the insurance agent's evaluation of the police protection.

Fire protection: In this case, too, you

Mr. Hershfield is a consulting engineer in Corte Madera, California, specializing in building security programs.

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should also discuss the quality of fire protection with your client's insurance underwriters. In addition, the following should be considered: a) What is the distance to the nearest fire station? b) What are the facilities and equipment provided there? c) How large is the fire station staff? d) What is maximum response time to calls during peak traffic periods, normal traffic periods and after-hours traffic period? e) What backup or support fire protection is provided from other stations or other districts? f) What type of communications are provided—station to truck, truck to truck, on-site, or on foot? g) Are pedestal-mounted alarm boxes provided for manual alarm only or telephone? h) Are any special high-fire-risk conditions existing in the proposed building or nearby buildings?

When these questions are answered, you may discover that a fire alarm and extinguishing system that complies with the local building code may still be inadequate.

Developing an historical perspective of the community can benefit security

Neighborhood evolution: Is a preliminary environmental impact study contemplated that will provide an historical perspective of the neighborhood and a projection of its future with reference to growth, use and city services?

City government evaluation: a) Is the government liberal or conservative? b) Is there any evidence of corruption? c) Are services and favors equally distributed? d) Is the county government responsive? e) If the area is unincorporated, how responsive is the government? And f) last, but indeed not the least, will this new structure be welcomed in the community or is the construction permit obtained over opposition?

Utilities access: One of the major problems often encountered is the provision of proper utilities for the new building, and of some concern is the vulnerability of these utilities: If riot or insurrection did occur, would a bomb dropped in a manhole or into a utility vault cause a shutdown of the building? If your client's business is classified as high risk, utility access and security become of course more important.

Building codes: a) Are these codes strongly enforced? b) Are the restrictions favorable to the quality of structure that you plan to design? c) Will variances be required to provided the desired level of security?

The local building codes and zoning can help more than any other factor in defining the environment in which the building will sit 20 years from now.

What type of perimeter protection will the project require?

The modern commercial, industrial or residential structure is often located within substantial open space, with a lawn, garden, walks, or parking lots occupying the space between the building envelope and the perimeter of the property.

To the architect this is an opportunity to add a dimension of beauty to the project design, but the perimeter of the property also represents the first line of security. Consideration should be given to:

Fencing: When we think of cost-effective fencing we usually think chain link. However, if a person wanted to climb a chain link fence he could always see who is on the other side. If the fence were solid, he could not. For the intruder this immediately adds another dimension of risk. If we are to fence the perimeter of the property we must define the purpose of the fence.

Gates: A perimeter fence's integrity is violated only where people or vehicles enter. During normal working hours, if the gate is unlocked and the driveways are accessible at will, then the fence serves little purpose. If it is locked at night, then we have effectively created an additional barrier over which the intruder must climb. But, if the area is not under some type of surveillance we must then remember that once the intruder is within the privacy of the perimeter fence, he has gained an advantage of being shielded from accidental observation by persons outside the premises.

A second consideration is the ability of people to see through gates. For example, at the football or baseball stadium, you might go through a simple maze before entering or viewing the playing field. The same principle applies to drive-in movies. Therefore, if you plan to provide complete inner security from the curious, you should incorporate a similar scheme into your design.

Perimeter protection: If planned, what type of system will be used? a) Video surveillance? b) Audio surveillance? c) Passive infrared detection? d) Supersonic Doppler system? e) UHF Doppler system? e) Taut wire? g) Capacitive alarm? h) Photoelectric cell? i) Seismic or vibration alarm?

What security problems exist with the building envelope?

The envelope of the building leads to this series of questions: a) Are building walls easy to climb? b) Are windows operable or easily "jimmied" open? c) May window access be gained by collusion? d) Are windows easily

accessible from the ground, with a ladder, from above or from adjacent buildings? e) Are accessible windows barred? f) Is special material used in windows? g) Are windows secure in the event of riot or civil insurrection? h) Is the building accessible through air vents or other openings? i) Is the building accessible from public utility vaults? j) What protection is provided for access via the roof? k) Do roof openings provide a means of building access? l) Would the roof top (if high security or very valuable materials are involved) be accessible to a helicopter? m) What is access to the upper walls and windows? n) Will outside lighting be provided to discourage entry by stealth? o) What type of security is planned for locked exit doors; normal access and egress; emergency exits; garage or roll-up doors? When these questions are answered, you will then be in a position to define the level of envelope security to offer the client.

Security can depend on internal design and construction features

On the interior of the building, the following construction factors must be considered:

General risk considerations: To define "risk" some general questions must be answered: a) Is compartmentalization possible for divided risk? b) Are high-risk areas segregated? c) Are high-security functions assigned to the lower basement levels? d) Are high-risk functions combined into one area? e) Are entrances to high-risk areas held to a minimum? f) Are security and non-security personnel segregated? g) Is there a separate entrance for security personnel? h) Have the tenant risks been classified or defined?

Obviously there is a difference in risk. A bank cash vault represents an entirely different security problem from the storage warehouse for a feed and seed company. But all differences are not so obvious. While providing security services to a large seed company, I learned that a small carton of lettuce seeds was worth thousands of dollars and represented a highly negotiable product. The same applies to expensive elements such as gold, silver and platinum used in the manufacture of transistors or integrated circuits.

Elevators: Automatic elevators can mean total loss of control as far as vertical movement is concerned, leading to these basic questions: a) How are elevators grouped? b) Are certain elevators designated for specific security tasks or express functions? c) Are special remote control schemes possible from the security center; from the lobby; from the



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building management center or mechanical equipment control center; from the fireman's control room? d) Are interiors of elevators subject to special surveillance? e) Are any special automatic elevator capture schemes required for fire alarm or security mode? f) Is an elevator priority use plan proposed for key executives or for access to special floors? g) Is special security planned for service elevators? h) Will control be different for after-hours or holiday operation? i) Will an escort plan (host and guest) be used for all visitors?

The last question is quite vital and often overlooked in planning. If a building is owner-occupied for business or an apartment, it is not unreasonable to require the host to be responsible for the conduct of guests or visitors. Obviously in many cases this is extreme, but in many businesses it is often required because once a person is aboard a free-running elevator, there is no longer any security unless secondary provision is provided for the guest for the entire period of his visit.

Stairways and evacuation routes: Our first question is the most important: a) Does conflict exist between the egress requirements of the fire department and the client's desired level of security? If so, has a compromise program been developed and accepted? b) Will emergency doorways be secured with failsafe deadbolt locks activated only under emergency conditions? c) Will emergency stairways be used for vertical traffic? d) Is access to emergency stairways planned with no re-admittance? e) Will a door surveillance system be required, i.e., alarm if door is opened? f) Will remote controlled door strikes be provided in any areas? g) Will ground level exits require special security equipment such as door switch, door strike, intrusion alarm, intercom, closed circuit television? h) Will entrance be possible from the ground level?

To achieve the greatest security for the client, we must carefully study the code requirements, and if necessary, develop and justify a request for a variance if ease of egress violates the basic security requirements.

Outside entrances: a) What are the classifications of entrances planned: public, employee, delivery, security, special classifications, employee parking, executive parking, public parking? b) Are any two-level man traps contemplated at entrances? If so, will control be local or remotely controlled using CCTV and intercom? c) Are special, controlled single level accesses planned? If so will

control be local or remotely controlled using CCTV & intercom? Will key or card access be permitted? d) Will deliveries be accepted at the building? If so, what scheme has been developed?

Restrooms: a) Are public restrooms with unlimited access planned? b) Are employee or executive restrooms planned? If so, what is plan for controlled access? c) Are locker rooms planned? If so, what plan has been developed for security of property stored in the lockers? d) Are paper towels and throw-away bins planned for use in restrooms? e) Are plumbing and mechanical access doors and ports secured or alarmed?

Building service rooms: a) What scheme of controlled access is planned for HVAC fan rooms, electric closets, plumbing chase, elevator machine room, mechanical rooms, transformer vaults, etc?

Public package storage areas: a) If planned, what controls are contemplated?

What are the security personnel space requirements?

When we think of security personnel related to the construction of new buildings, we immediately think of guards at the entrance to the building. If the facility is large, we think of the guard being supported by an elaborate array of electronic equipment; video monitors, annunciators, intercom and other paraphernalia neatly arranged in a desk type console. But if we begin our analysis of the security requirements with this concept, we are usually off on the wrong foot.

Level of security: If the premises are of substantial size—i.e. a high-rise building or a factory—remember that a staff of two is just about minimum: one guard in a fixed location or security center, and a roving guard responsive to emergencies as they arise.

Contract guards or employees: If the client cannot afford a full-time, experienced security director, it is usually cost-effective to use a contract guard service. The expense is then fixed, and personnel turnover is the problem of the guard service and not the owners or operators of the building. However when we begin to deal with the large industrial or commercial property, it may be better for the owner to build his own security team.

Security personnel facilities: Include such areas as a security center, executive offices, administration offices, photo ID facilities, squad room and lockers, training rooms and gym, classrooms and target ranges. Obviously, if all of these facilities are required, security-associated offices and squad room should

be located close to the security center so that all security personnel constitute a trained support staff in time of emergency.

Security center access: This important consideration is often overlooked. The operator of the security center should be secure within that center so that he may continue to function in time of emergency.

Lobby guard security: Placement of guards in a lobby points up the problem of guard security. Forceful takeover is easy unless some type of backup program is planned. It may be something as simple as a silent alarm or TV monitor located in the building engineer's or the building manager's office. If a hazard does exist, then it may be better to put the guards in a room adjacent to the lobby with window access.

Lobby guard environment: If you do plan to provide a security center adjacent to the lobby: a) Are guards serving public or access areas posted in a secure environment? If so, define the type of enclosure contemplated. b) If controlled access to guard post is planned, define method.

Windows: Define the windows and select bulletproof glass and support with steel shutters, if required.

Gun port: If required, a gun port should be carefully selected to provide maximum interior security for the guard personnel.

Throughout this article we have addressed a number of systems; however a return to basics is always the best point from which to define our requirements. Man's abilities to see and hear are limited to where he is at the time. Closed circuit television represents an extension of the visual sense. Similarly, intercom or radio represent a bilateral extension of our aural senses. We use the word bilateral because we converse in two directions. CCTV and a public address system are unilateral because they work only one way. For this reason we must view the security systems as an extension of the guards' senses.

However man is a creature of finite intellect. If we overwhelm that intellect with a proliferation of information, the security center becomes ineffective and useless. Hence organization is extremely important. For example, a vertical graphic annunciator depicting a cross section of floor to floor relation in a high-rise building is a great aid if we wish to *annunciate* door security; fire alarm or sprinkler functions. This brings us to the most important consideration for the architect:

A security system is only as effective as the man-machine interface achieved.

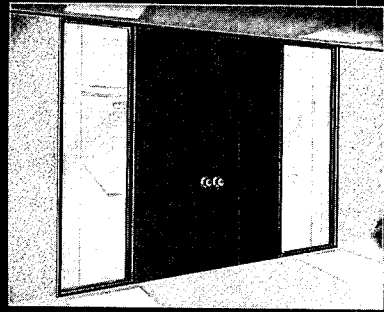


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Howmet takes the door frame out of the stone age.

Dramatic materials price increases grow from energy short-fall

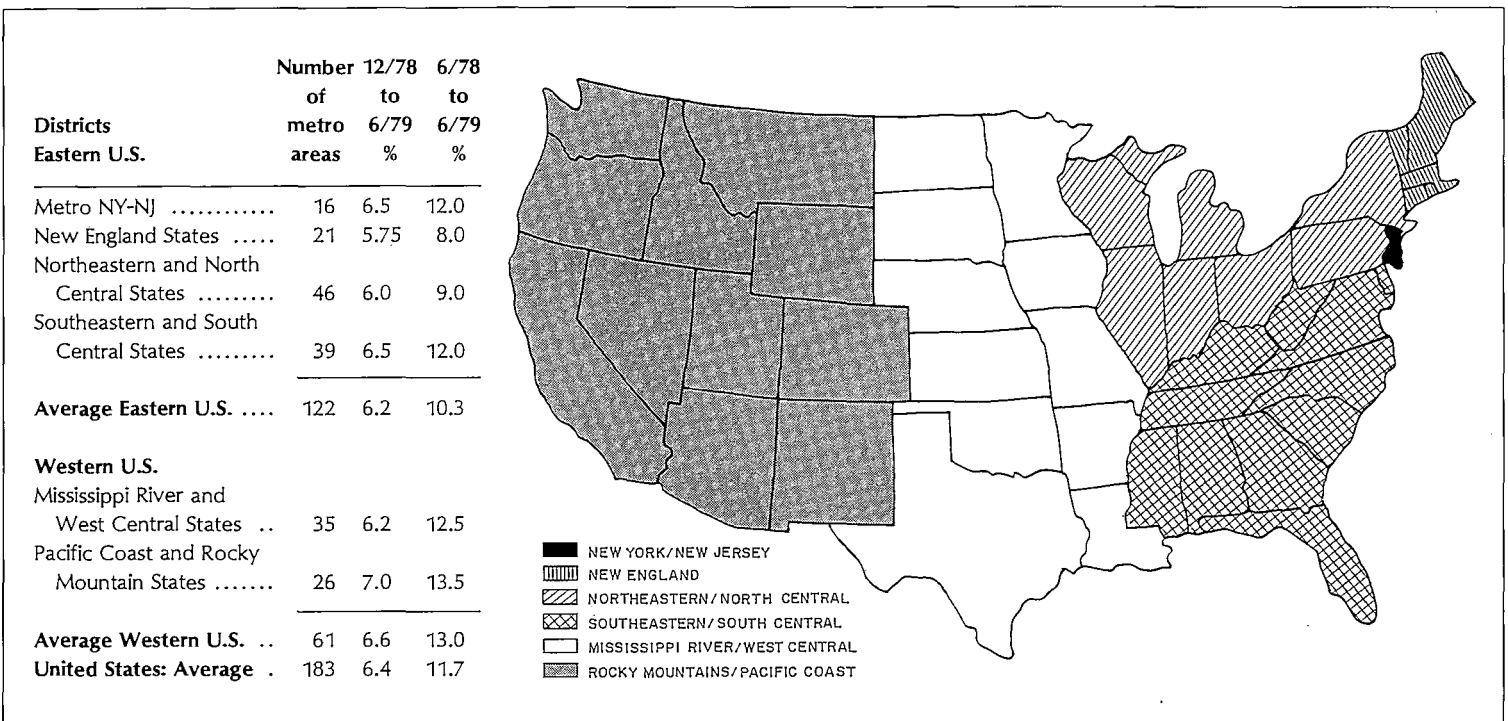
The nationwide energy shortage is beginning to be felt throughout the construction industry, impacting both demand for, and cost of, many materials. Based on a recent survey by McGraw-Hill's Cost Information Systems Division, insulation prices have increased 40 per cent in the past year, due to increased demand. Petroleum-based products— asphalt, asbestos, plastics and paints—have also shown dramatic price increases.

Spotty shortages throughout the country

of steel, sheet rock, concrete, cement, lumber and gypsum board have begun to impact the construction industry over-all. According to the McGraw-Hill report, the price of steel rose 12 per cent in the twelve-month period ending June 1979, while cement soared 16 per cent and gypsum board 17 per cent. Prices for lumber have increased 14 per cent above a year ago, and are expected to rise another 10 to 12 per cent in the next three months.

Construction labor negotiations are also beginning to reflect the frantic pace of construction. Although hourly wage rates of building trade craftsmen have not yet been determined, increases are expected to range between 6 and 9 per cent.

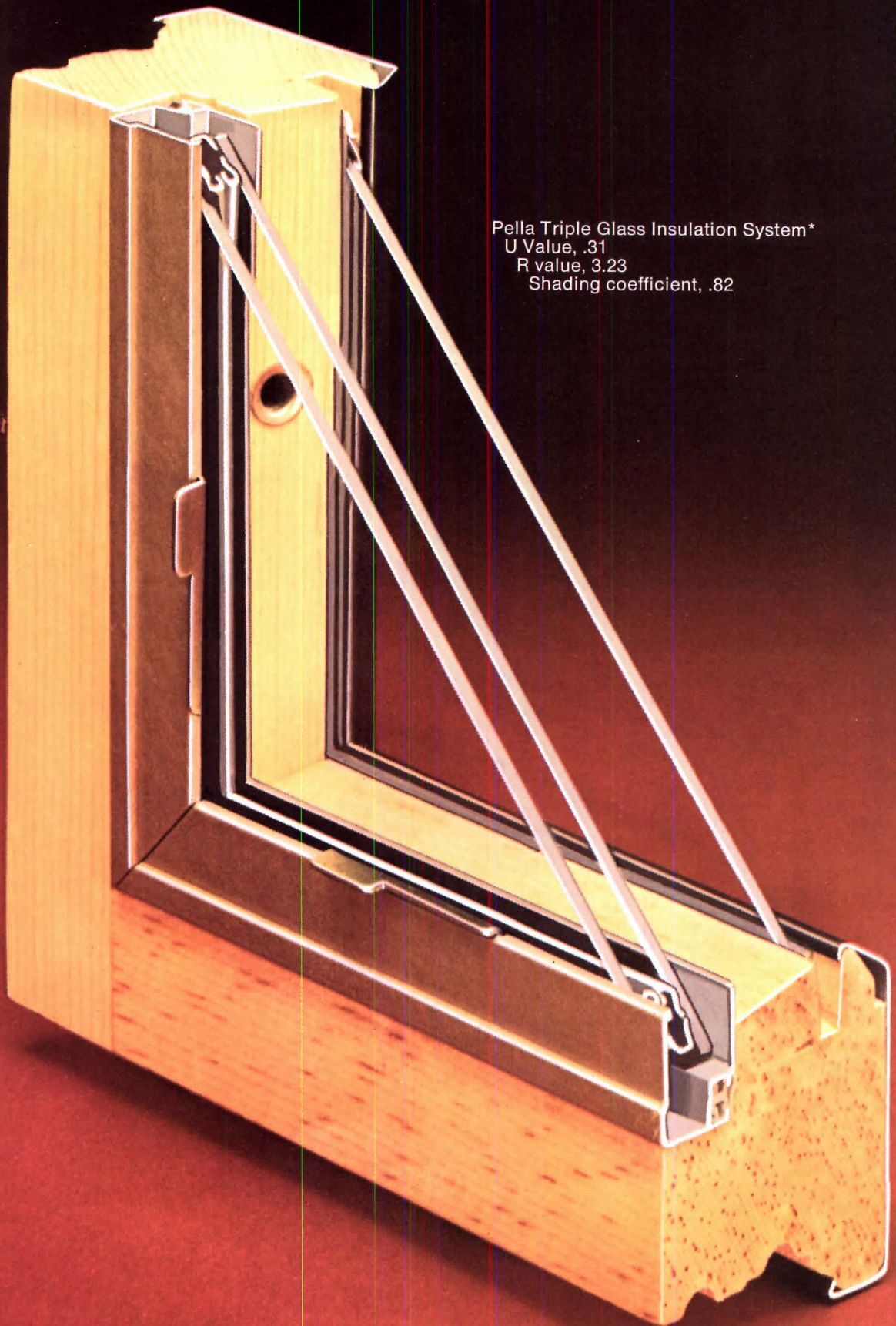
In developing this series, data are weighted to reflect the impact of basic cost components on the over-all cost of a "typical" building. This broad approach is intended to indicate trends only.



HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES 1941 average for each city = 100.00

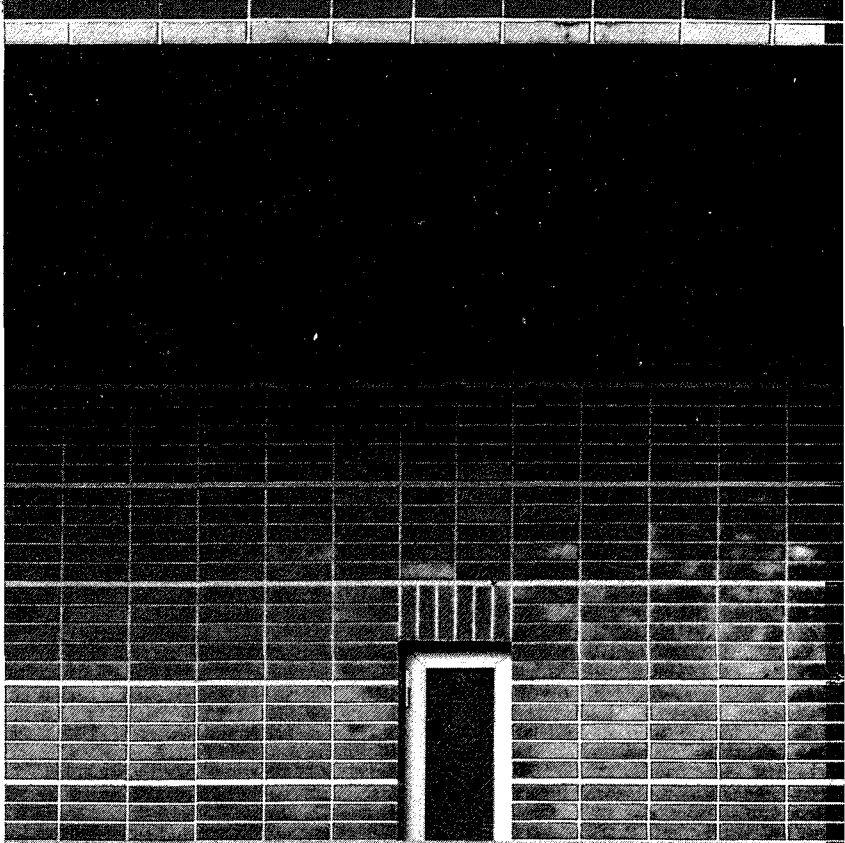
Metropolitan area	1969	1970	1971	1972	1973	1974	1975	1976	1977	1st	2nd	1978 3rd	4th	1st	2nd	1979 3rd	4th
Atlanta	384.0	422.4	459.2	497.7	544.8	575.0	598.7	657.1	714.2	724.0	746.8	769.6	783.1	819.6	836.0		
Baltimore	322.8	348.8	381.7	420.4	475.5	534.3	581.1	585.0	635.6	643.2	656.0	668.9	680.6	729.6	744.2		
Birmingham	303.4	309.3	331.6	358.3	402.1	421.2	448.9	551.9	585.4	594.8	603.4	613.9	624.6	704.1	718.2		
Boston	295.0	328.6	362.0	394.4	437.8	462.5	513.2	555.9	587.7	594.1	605.4	616.7	627.5	691.9	705.7		
Chicago	356.1	386.1	418.8	444.3	508.6	529.6	560.1	635.2	689.9	696.4	711.0	725.6	738.3	805.4	821.5		
Cincinnati	325.8	348.5	386.1	410.7	462.4	500.1	550.6	609.8	656.6	662.4	673.6	684.9	696.9	750.7	765.7		
Cleveland	358.3	380.1	415.6	429.3	462.2	509.5	531.0	632.9	625.2	635.4	655.6	655.7	667.2	794.7	810.6		
Dallas	308.6	327.1	357.9	386.6	436.4	477.9	499.6	538.5	615.2	618.9	631.6	644.3	655.6	739.0	753.8		
Denver	339.0	368.1	392.9	415.4	461.0	510.0	553.6	616.0	703.8	715.9	723.0	730.2	753.0	803.2	819.3		
Detroit	352.9	377.4	409.7	433.1	501.0	538.7	597.5	617.2	664.2	679.0	738.3	797.6	811.6	840.6	857.4		
Kansas City	295.5	315.3	344.7	367.0	405.8	444.9	509.1	547.3	603.0	614.0	626.0	637.9	649.1	657.7	670.8		
Los Angeles	344.1	361.9	400.9	424.5	504.2	531.8	594.1	673.1	756.8	765.4	777.6	789.9	803.7	886.3	904.0		
Miami	392.3	353.2	384.7	406.4	447.2	485.5	558.9	592.5	628.4	640.1	644.9	649.7	661.1	686.1	699.8		
Minneapolis	331.2	361.1	417.1	412.9	456.1	488.6	538.0	564.1	629.4	640.8	646.9	653.0	664.4	793.4	809.3		
New Orleans	297.5	318.9	341.8	369.7	420.5	442.1	494.7	534.8	614.7	620.2	631.0	641.9	653.1	697.7	711.6		
New York	344.5	366.0	395.6	423.1	485.3	515.3	533.5	580.8	619.8	632.0	641.2	650.3	661.7	666.6	679.9		
Philadelphia	321.0	346.5	374.9	419.5	485.1	518.5	567.5	579.2	658.8	661.7	673.6	685.5	697.5	778.0	793.5		
Pittsburgh	311.0	327.2	362.1	380.3	424.4	465.6	509.5	526.3	589.6	599.4	608.7	618.0	628.8	692.2	706.0		
St. Louis	324.7	344.4	375.5	402.5	444.2	476.7	528.9	537.1	617.1	622.3	632.2	642.0	653.2	752.0	767.0		
San Francisco	441.1	465.1	512.3	561.0	632.3	672.5	753.3	820.8	963.2	972.3	983.0	993.7	1,011.1	1,239.0	1,263.8		
Seattle	317.8	341.8	358.4	371.5	424.4	450.2	515.1	570.5	629.6	638.6	656.5	674.4	706.6	700.7	714.7		

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.



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KISHO KUROKAWA: A STUDY IN CULTURAL CONNECTIONS



In 1960, Kisho Kurokawa, with three other young architects and an architecture critic, launched a movement called Metabolism at the edge of Tokyo Bay.

It was the perfect place to do so, because Kenzo Tange, for whom Kurokawa, then 26, had been working, had just launched his Plan for Tokyo—a dreamy megastructural dry dock over the Bay itself, replete with a fleet of supertanker-size multi-purpose “communication spaces” topped with swooping roofs.

The Metabolists, also getting charged up for one of those World Design Conferences held that year in Tokyo, wanted to explore the implications of, and some variations on, the Tange tack.

Very soon, Kurokawa had designed his Helix City, a water-straddling, cloud-scraping cluster of megastructures which, from several thousand feet up, would have looked like a contingent of chrysanthemums, but which, experienced more routinely, would have looked like a pathologist’s cross-section diagram of the pulmonary region. It twisted, twisted in the wind.

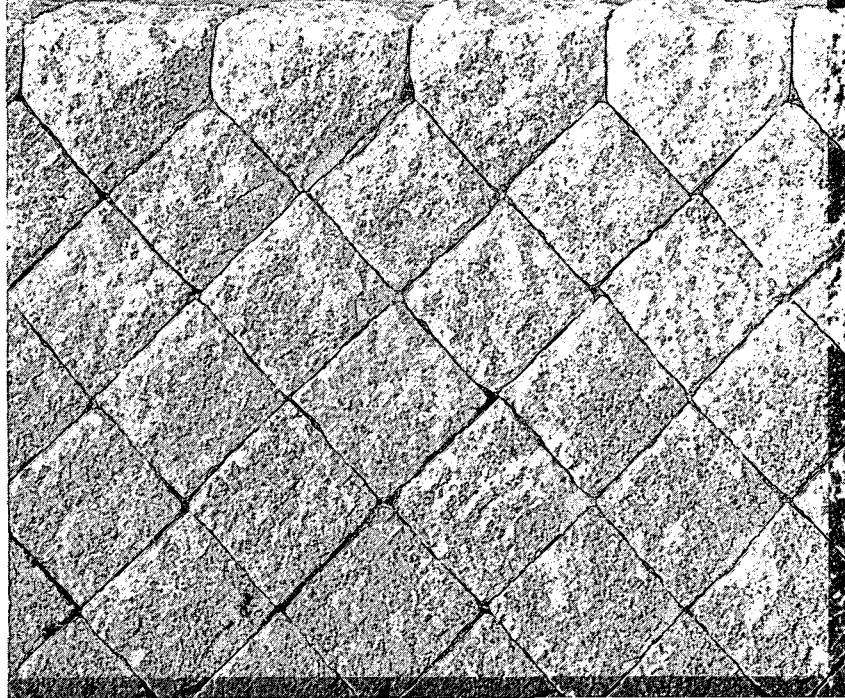
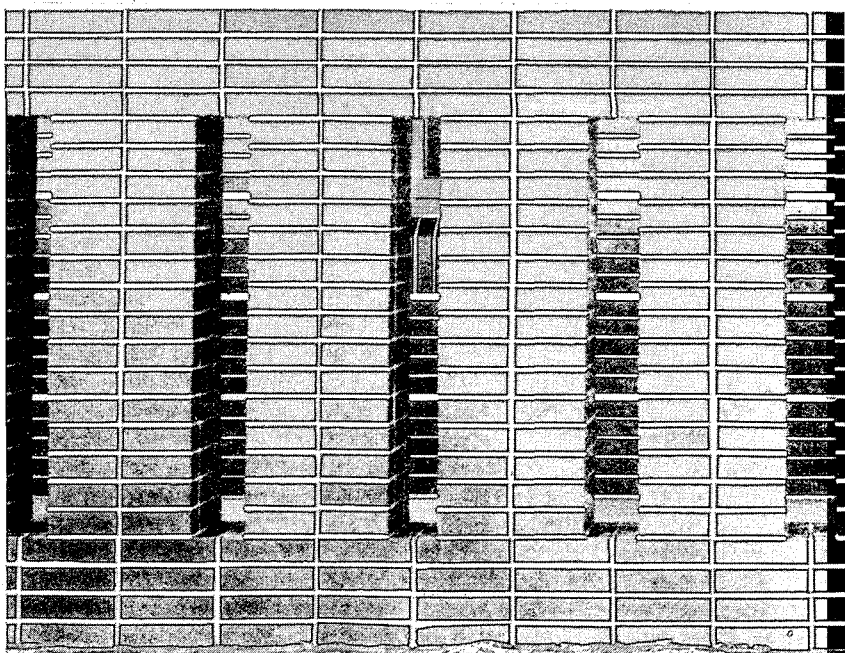
Very soon, too, another Metabolist, Kiyonori Kikutake, had designed his Ocean City, a collection of freestanding shafts, looking like giant plastic hair rollers, into which capsules, of assorted functional persuasions, could be readily plugged.

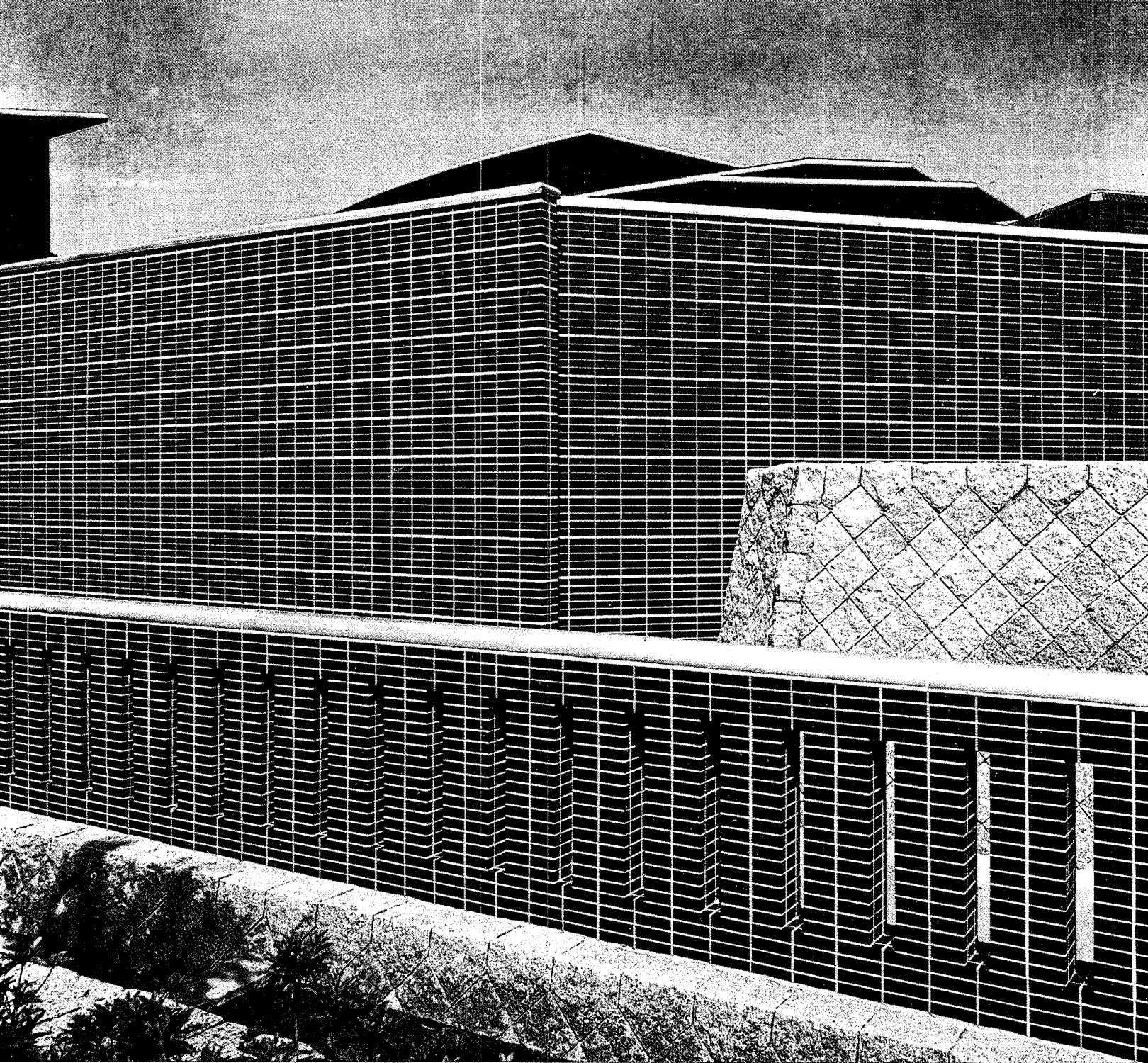
The movement multiplied. Arata Isozaki, not a formal member of it, contributed his City in the Sky, a huge community of tree houses held up there on sturdy trunks throbbing with cybernetic sap. A scaled-down version of Sky would be built by none other than Tange himself in 1966—the Yamanashi Communications Center.

Metabolism went the technological “truths” of Western architectural thinking one better, or worse. It asserted, without so much as a smile, that the inexorable processes of biology are an appropriately logical, aptly scientific framework for developing the architectural and urban forms of the future, wherever that is, or was.

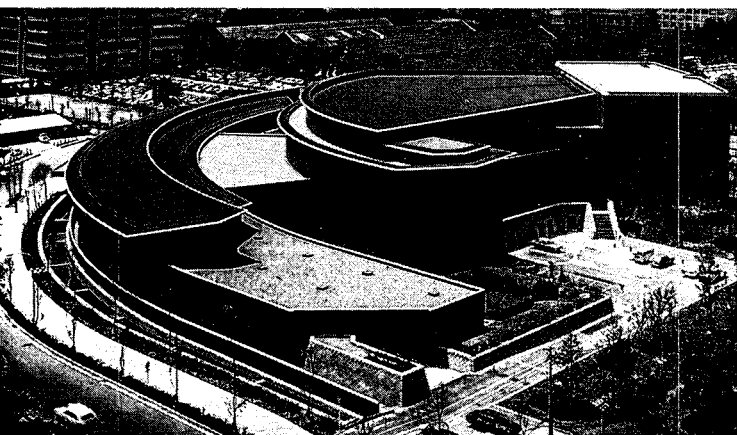
Accordingly, the cycle of birth, growth, maturity, decay, death, and rebirth became the symbol of the movement’s sleekly complacent assumption that the long-lived elements of the urban organism—the basic structural skeleton, the street network, transit lines and nodes, major public gathering spots—should be built for millennial performance. That way, of course, such short-lived elements as housing units could be readily replaced, what with the infinite flexibility of the Big Frame.

text continued on page 72



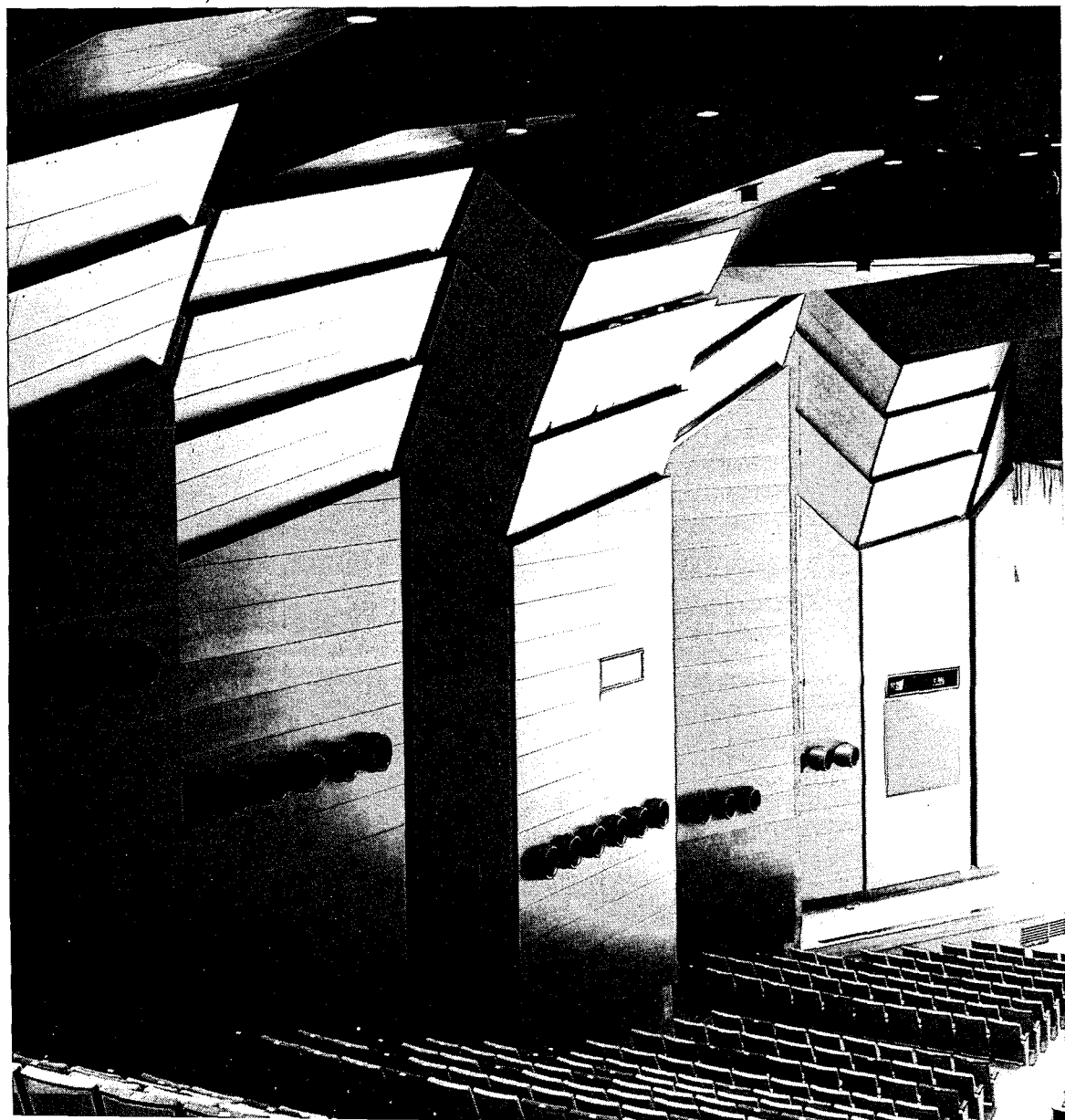
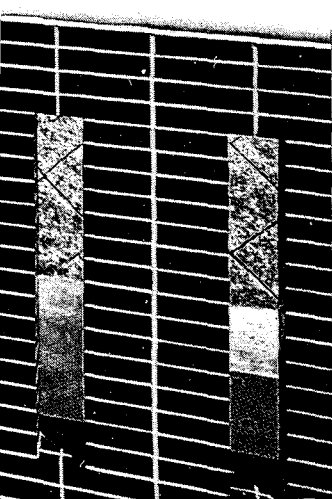
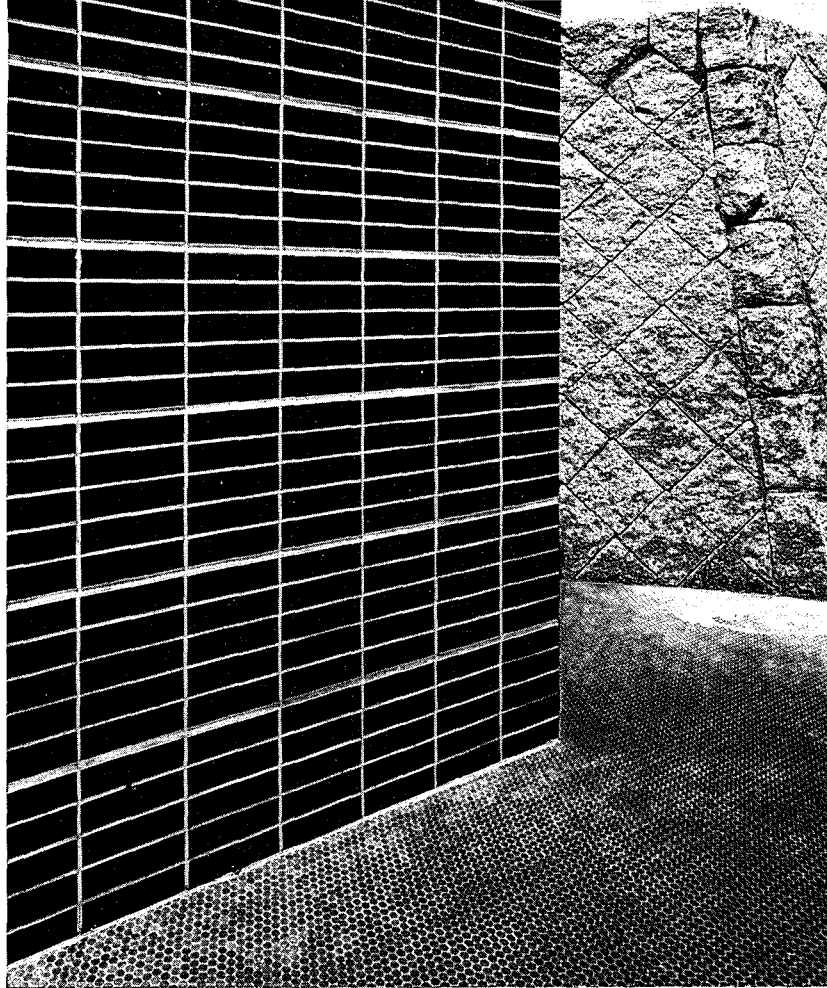
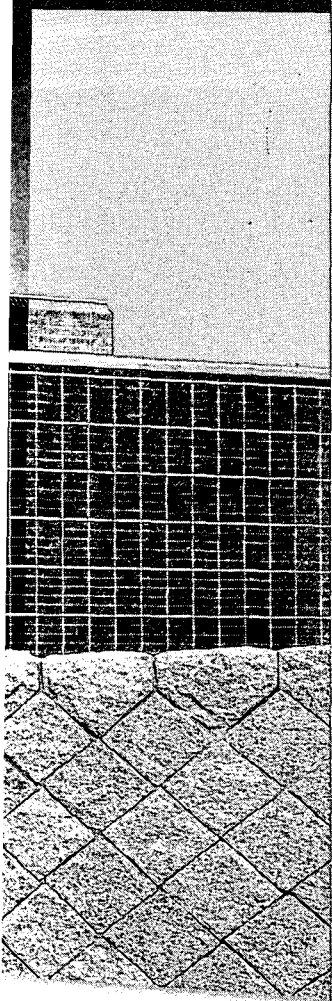


The Ishikawa Cultural Center enfolds its site in a tile-and-granite kimono of textures, layers, and tantalizingly subtle vistas that handsomely evokes the history and architecture of the region



Kisho Kurokawa's design for the Ishikawa Cultural Center derives from the quarter-round site—it was previously used as a baseball field—and from the requirements of a program that by Western standards seem unusually heterogenous. The complex contains not only a fully equipped 1,750-seat auditorium, but also a small hotel (24 guestrooms), a space designed expressly for wedding ceremonies, banquet and conference rooms, and a range of ancillary spaces. All are carefully related in a series of low superimposed arcs centered on the stage house of the auditorium. The low elements, facing the street, bring the composition into scale with the surroundings. While the layout focuses in on itself to a large degree, it is the relationship to the street that has been worked out with extraordinary care: edging the sidewalk is a moat; next to it, a sequence of low walls, the outermost

made semi-transparent by vertical slits. Most forceful is Kurokawa's skillful patterning. Using ceramic tile, and granite blocks laid up in a diamond design, he enfolds the complex in a kimono of textures (see essay, page 65), and this texturing is continued inside in the lobbies, a glass-walled restaurant, and in the main auditorium (opposite, below). Like the other buildings in this article, the Ishikawa Cultural Center is executed in a subtle and appealing range of gray hues, matched and contrasted with an obvious delight in the cultural, artistic, and symbolic associations that are set in motion. The layering of zones, each of which must be gradually penetrated and experienced as a matter of entering and embracing the building, recalls the traditional Japanese tactic of relating town-house facades to the streets so that while a firm line is drawn between them it is a line with many inner dimensions.

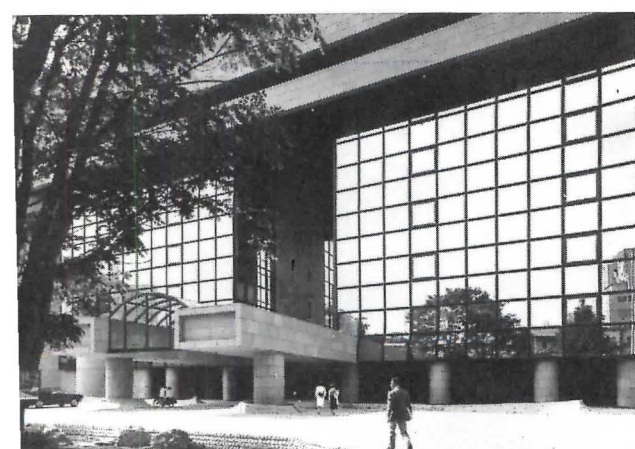


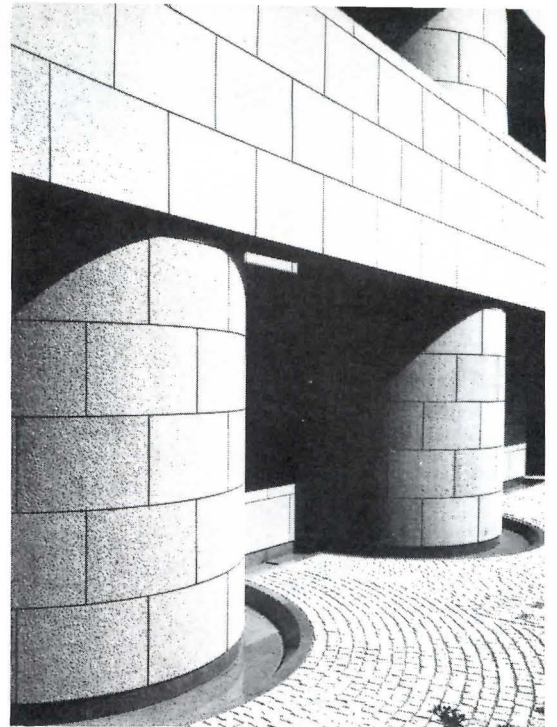
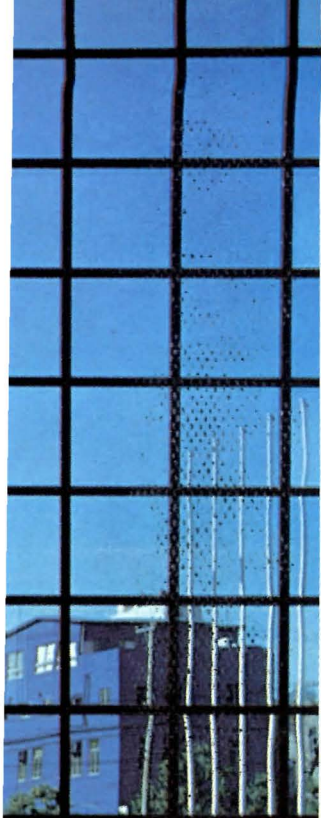


The Japan Red Cross, from its cobblestoned approachways, to the cladding of its round columns, to the capstone-style enclosure of its topmost floor, is a study in monumentality, and intimacy

The new headquarters for the Japan Red Cross replaces a dignified old building, of the same function, that had gradually become a landmark to the people of this heavily industrialized district of Tokyo. To preserve an important measure of continuity, a number of small but cherished architectural elements—moldings, chandeliers, screens, and mantelpieces—were transferred from the ceremonial lounge of the old building to the new structure where they were carefully incorporated in a special conference room on the seventh (and top) floor. The building's interior functions are simply organized. Because only half the volume is occupied by the Japan Red Cross (the other half is rental space), the architect divided the building with a dramatic vertical void. The two halves, each with its own elevator core, are not joined again until the stone-clad enclosure of the top floor, which extends the full

length of the building and firmly caps it. The design of the porte-cochere at the main entry (above), with its unifying and graceful glass vault, reflects this functional quality while also extending the vault inside, over the entrance hall and lounge, which are filled with natural light. The two levels below grade are allotted to parking and mechanical equipment. Much of the design's visual delight, of course, derives from the exquisite play of light grays and beiges, and from the extraordinary development of textures built up from subtle, carefully crafted, beautifully modulated stone patterns. These elements—along with the values that underlie them—comprise an enchanting, instructive exercise in monumentality of an intimate, tactile persuasion. The tall "exterior" void brings the inside outside while the vault over the lobby and lounge lets light, views, and space suffuse the "interior."



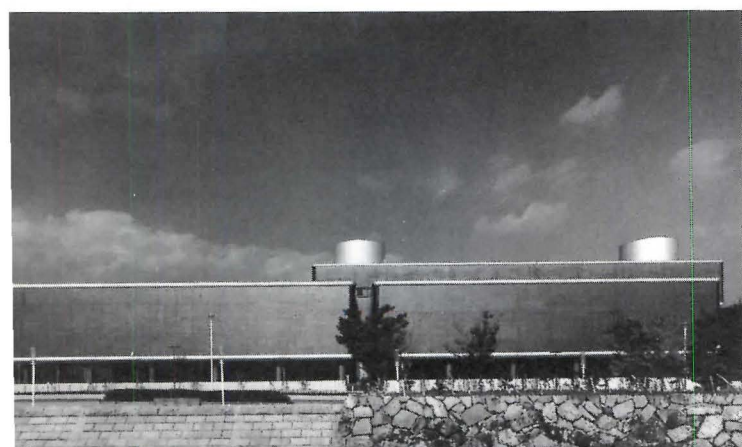


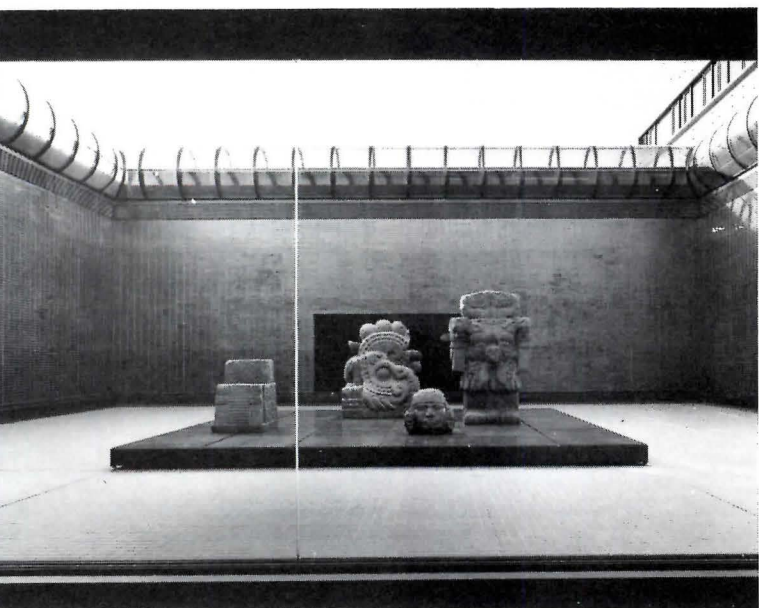
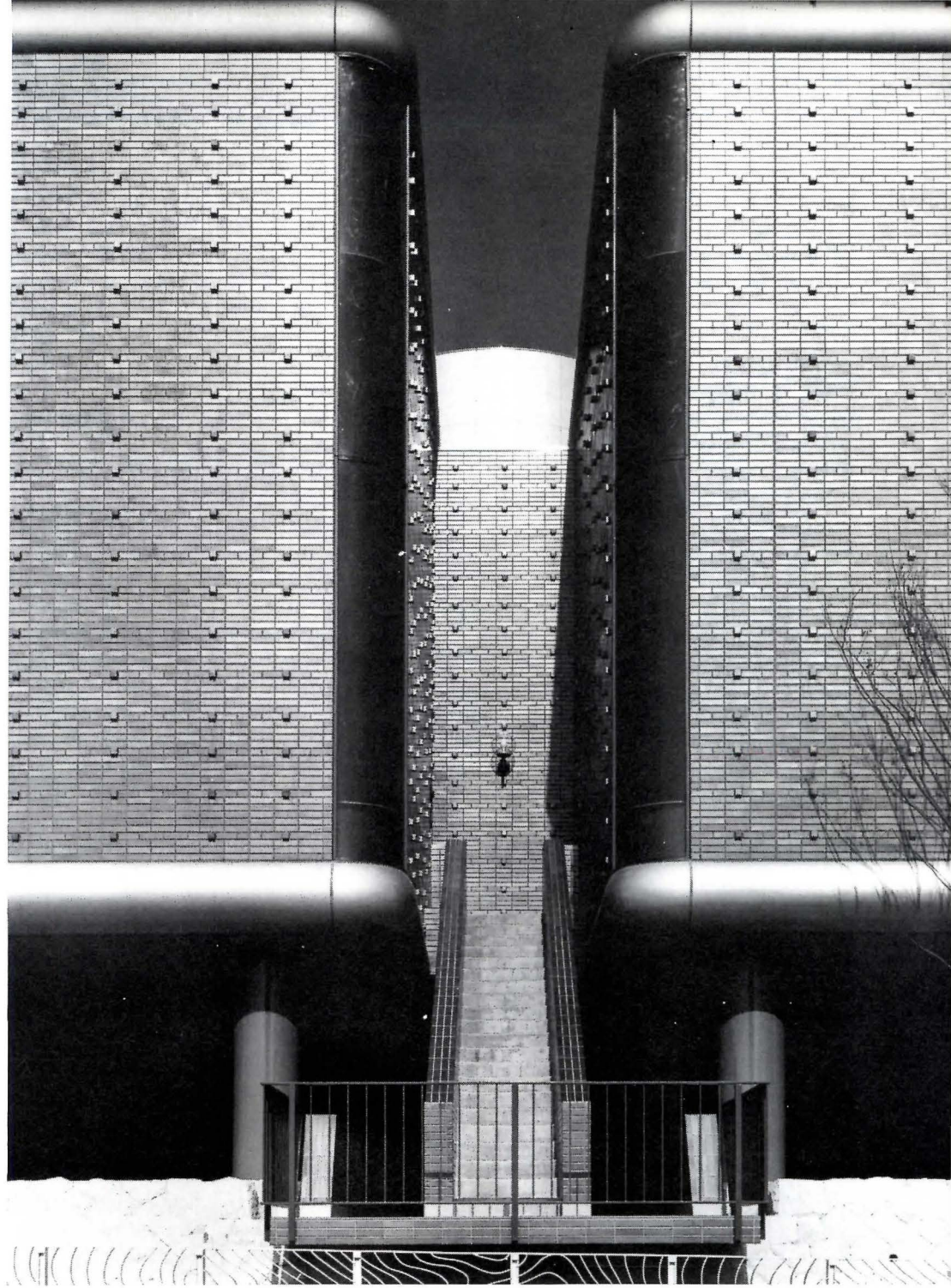
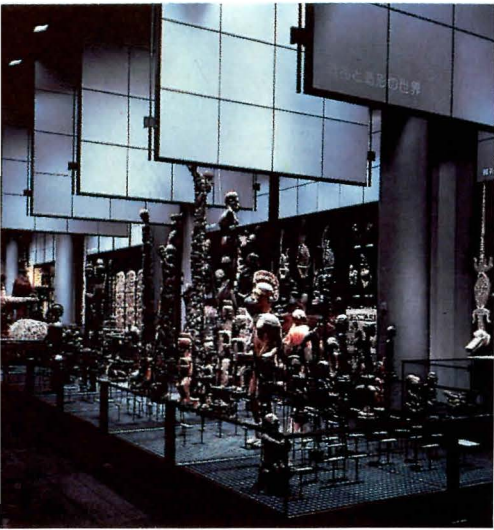


The National Ethnological Museum displays, among many other things, the Japanese tradition of surrounding exterior spaces with interior spaces, thus lending dimension and meaning to both

Occupying the sites of five EXPO '70 pavillions in Osaka, phase one of the National Ethnological Museum has now taken shape. A rigid steel-reinforced-concrete frame modified by bearing walls at certain locations, it consists of a four-story central block flanked on all sides by two-story extensions. The first floor is given over mostly to museum storage; the second floor, reached by a grand staircase, contains the main exhibition areas; the third houses a library and a computer bank; and the fourth is designed for study and specialized research. Kurokawa describes the exhibit spaces as "exterior spaces surrounded by major spaces plus exhibition blocks surrounding other outdoor spaces"—catching in his description certain of the spatial ambiguities he has striven to provide. These are splendid spaces—some active, others passive—all beautifully designed to elevate and dramatize

display materials. Mechanically operated sliding screens open views to enclosed courts (opposite, upper right), and a system of capsules called "videothèques" thrust outward into the central courtyard space to provide visitors with introductory information about displays. On the exterior walls, gray bricks are stacked in a non-structural bond except that every fourth, fifth or sixth course is laid in a structural pattern with headers projecting to give the wall an irregularly studded texture. Cast aluminum moldings of a circular section act as borders for these walls at top and bottom, thus emphasizing the horizontality of the design. In color the Museum is carefully built up of grays and silvers that embody a range of subtle meanings and traditional values. Gray, in Japanese tradition, is a cosmic color, one containing and subtly confiding many other colors, nuances, and dimensions of substance and spirit.





Thus Japan, and much of the architectural world, was to stand in awe before a plethora of plug-in propositions, stupendous spans, the miracle of urban organisms walking on water, the implied perfection of the economic, social, ecological, and psychological order, and the bursts of protoplasmic polemicism accompanying this technophilic mumbo-jumbo.

For Metabolism was the old adoration of technology come again, although another member of the group, Fumihiko Maki, remained openly, adamantly skeptical of embracing technology on the cosmic scale being courted by Kurokawa and Kikutake (Maki presciently preferred his Metabolism in small concentrated doses of "contextual" scale). But in contrast to Maki's quieter approach, which respected the physical and cultural context in which, or out of which, new growth comes, the movement's more ardent proponents behaved as though they had hit on something as revolutionary and revelatory as the structure and coding of DNA.

Quite frankly, their attitude back then toward human emotions, cultural traditions, social customs, and toward the contours, rhythms, and spirit of nature was imperiously tolerant—*daimyos* putting on the dog while touring the fiefs. Certain of the Metabolists gave the impression of wanting to relate positively to the great storehouse of art, philosophy, and religion of Japan, and Kurokawa for his part has consistently related his thinking to Taoism, Buddhism, and Zen. But such analogies (or attempts at justification) seemed quite forced when one was obliged to reconcile the subtle, contemplative, endlessly rich layering of sensations, experiences, and symbols of traditional Japan with the pharmaceutical dispensing of column-clinging capsules proposed by the Kurokawa clique.

This culminated with his Nagakin Tower of 1972, consisting of 140 units measuring eight by twelve feet, manufactured of steel like the shipping containers on which they were modeled, and containing a "personalized" complement of features: a tiny but complete bathroom, a tiny but adequate kitchen, miniaturized *everything* and a double bed. What with 140 bachelor pads

about to help Kurokawa declare his millenium, and considering the origins of the movement, the tower has since been called "The Last Tange in Nagakin," although there is no doubt that Kurokawa believed it would have gone over just as well in Paris.

Which brings up another important point about the Metabolist proposition: It assumed an authority, an inevitability, and a universality hitherto equaled only by the propagandists of the International Style. More than technological determinism, it had the trappings of biological determinism as well—a naively benign attitude toward what would have been architecture's rendition of genetic tinkering. Certainly "perfect men" could not have been far behind the fulfillment of such a vision.

For in common with the technocrats of Western architecture, the Metabolist mentality relished the impulse to clear (if not destroy) the deck, to operate from the cleanest possible slate, to transcend all the diverse, overlapping, unpredictable characteristics of life as it exists and communities as they exist, and to hope fervently that the world (redeemed by the new architecture, naturally) will at last be shorn of its bothersome spontaneity.

Kisho Kurokawa today is by no means the Kisho Kurokawa of ten

and 20 years ago, though he is hardly less evangelical, entrepreneurial, and charismatic. He has built several dozen buildings; he is building several new towns; his television commentaries, interviews, and debates have made him a superstar and something of a folk hero; he oversees a sizeable staff, the round-the-clock devotion of which is of military precision; he runs a group called the Institute for Social Engineering; he has in his office a group to assist him in the molding of his torrential concepts; he is sought after to grace, and inform, the councils and forums of the country's most firmly established political, corporate, and intellectual figures; he is a cult; he is almost not for real; but he is not, contrary to reports, a bionic samurai.

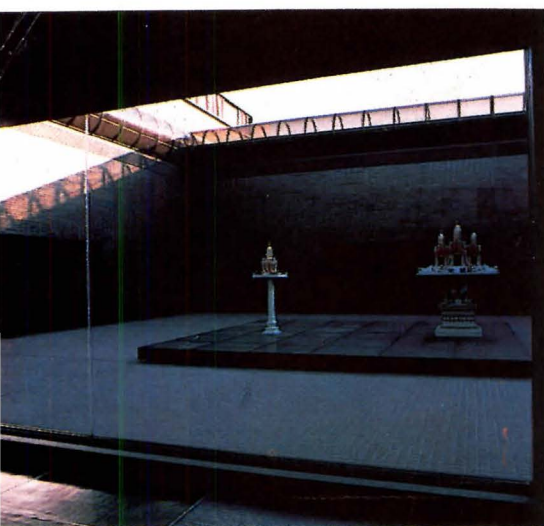
What he has become is a cross between the old and the new Japan—a personification of the struggle to reconcile and smooth the seam between the past and present. Much in the symbolic sense that the direct descendent of the last Tokugawa *shogun* happens to captain a 747 for Japan Air Lines, Kurokawa is half *shogun* and half 747 captain—or half *samisen* and half transistor radio, or half Tokaido Road and half the "Bullet" train that now follows the Tokaido Road.

As the three buildings shown on these pages demonstrate, and dramatically, he has apparently probed the premises of early Metabolism, which he once defended with such devotion, and found them in dire need of deeper humanistic and cultural values. The term Metabolism crops up at every turn in his writings (he writes constantly, or one feels he may dictate into a loquacious computer that considerably edits him). But whereas in earlier days he would cite traditional values, ferreting out analogies to clarify his capsule approach, now his *buildings* cite them, and with an evocative, textured richness.

For the Ishikawa Cultural Center, the Japan Red Cross Headquarters, and the National Ethnological Museum, while retaining certain high-tech remnants, are remarkably radical in their *conservativism*. Centuries-old precedents are cited by the architect in explaining their characteristics, their spatial disposition, their sensory and symbolic interest, the handling of patterns, textures, light, and color.

Ishikawa, for example, enfolds its site like a magnificent many-layered *kimono*. The robes of the *Noh* theater come to mind. But here the garment is of ceramic tile and wonderful granite blocks with a moat edging the street and ramparts rising to announce the stepped-back enclosures. The Red Cross project interprets the ancient precept of intermediate space—the zones of use, and indeed of contemplation, dividing the private and public realms. One thinks of the inside-outsideness of the verandas of the villa at Katsura, and one understands with pleasure Kurokawa's inside-outsideness of the entranceways, foyer, and the circular lounge of the Red Cross. At the National Ethnological Museum, the building surrounds and claims outdoor "rooms," thus borrowing a sense of the outside, of the symbolic universe, to liberate the inside. Quite analytically (there is a feeling that Kurokawa does not or cannot arrive at solutions through mere intuition) the architect is making a case for this current phase of his development by singling out and emboldening ancient cultural clues and ancient architectural conventions. He has arrived at a point where intuition, had it had a more important role in his psyche earlier, would have brought him long ago. In a way, then, Kurokawa, at 45, is finally enjoying his youth as he freshly reacquaints himself (and the rest of us) with the underpinnings of his culture—a renewal that Japan as a whole is experiencing.

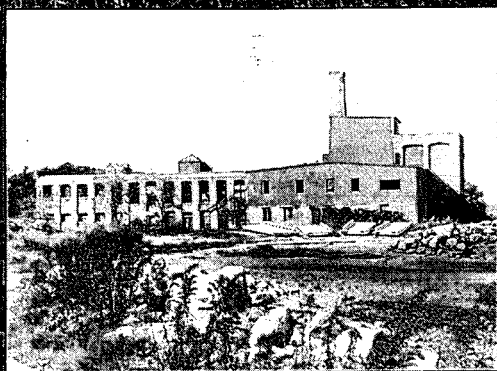
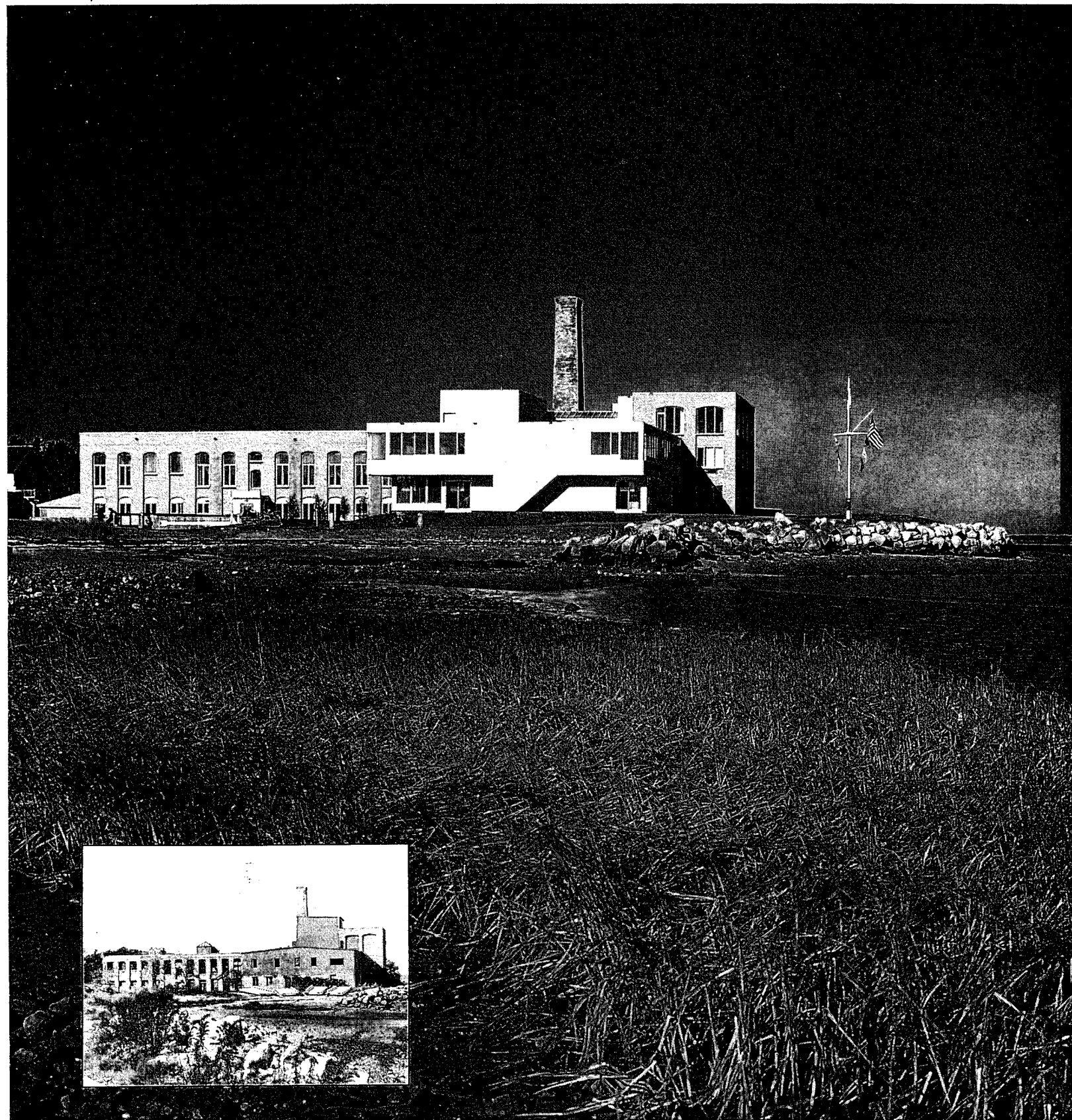
Thus Metabolism has dissolved as a movement, living more vividly now as a phase architecture went through. And as intense as it ever was, the work of Kisho Kurokawa is paradoxically tranquil today, more forthcoming with human appeal, more astir with tethers to the natural environment, the physical setting, and cultural context. Like the old Zen master Rikyu, for whom he feels an almost familial fondness these days, he has arrived at "...the art of concealing beauty that you may discover it, of suggesting what you dare not reveal, and the noble secret of laughing at yourself, calmly yet thoroughly—the smile of philosophy." One can only contemplate such "imperfection" with joy. —William Marlin



RENOVATION-ADDITION TO HISTORIC, WATERFRONT SITE

Ocean Spray Cranberries, Incorporated is a long-established and successful fruit growers' cooperative. Their search for new headquarters space in the Northeast led them to architect Allen Moore Jr. and to a derelict and utterly forlorn clam "factory" that stared balefully out from its waterfront site towards that historic rock where the first Pilgrims had struggled ashore.

©Steve Rosenthal photos





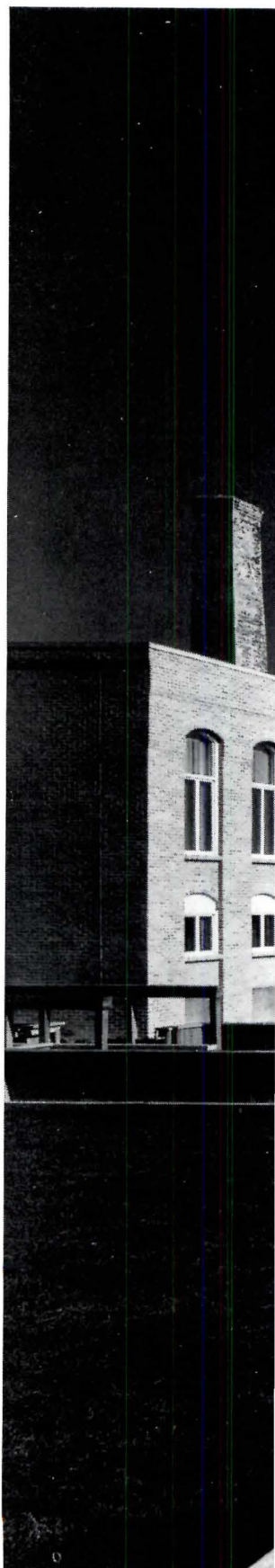
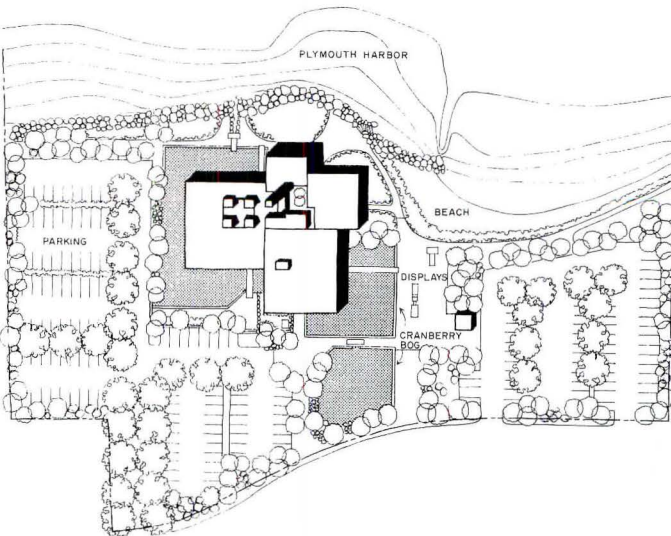
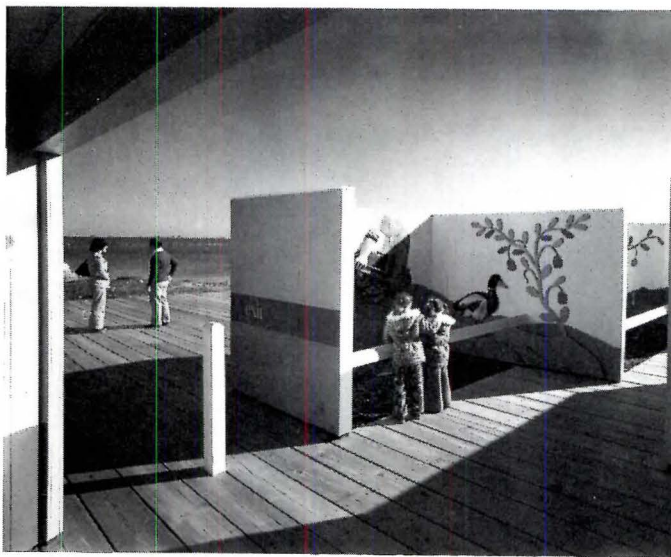
All bog planting was accomplished by members of the Cooperative who transplanted working vines for the first time ever in order to shorten the time—usually three years—to maturity. These bogs are worked as part of the educational displays.

Every summer, visitors by the hundreds of thousands stream into Plymouth, often as part of a three-day tour of Cape Cod and the historic districts of eastern Massachusetts. They visit the Rock itself, the landmark houses and museums, and most stroll the deck of the Mayflower II which is tied up at quayside. Now there is a new attraction—an attraction open to all, but perhaps especially welcome to parents of youngsters with parched throats and attention spans that are beginning to fail. It is the renovated headquarters of Ocean Spray Cranberries, Incorporated. It occupies what had been a processing building for the local clamming industry and it sits, not surprisingly, in a sea of transplanted cranberry bogs. Allen Moore Jr., of Moore-Heder, Architects, managed the renovation/addition that includes exhibit spaces both inside and out. The exterior exhibits, spaced apart on a broad visitors deck at bogside, mix refreshment with history and cranberry lore. They are interesting and informative. Other more fragile exhibits with similar themes continue inside.

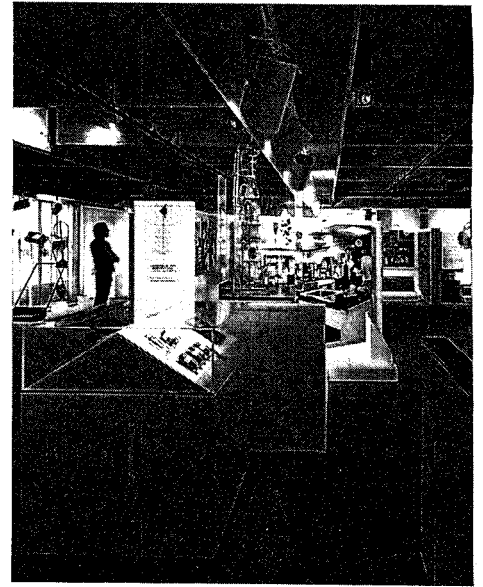
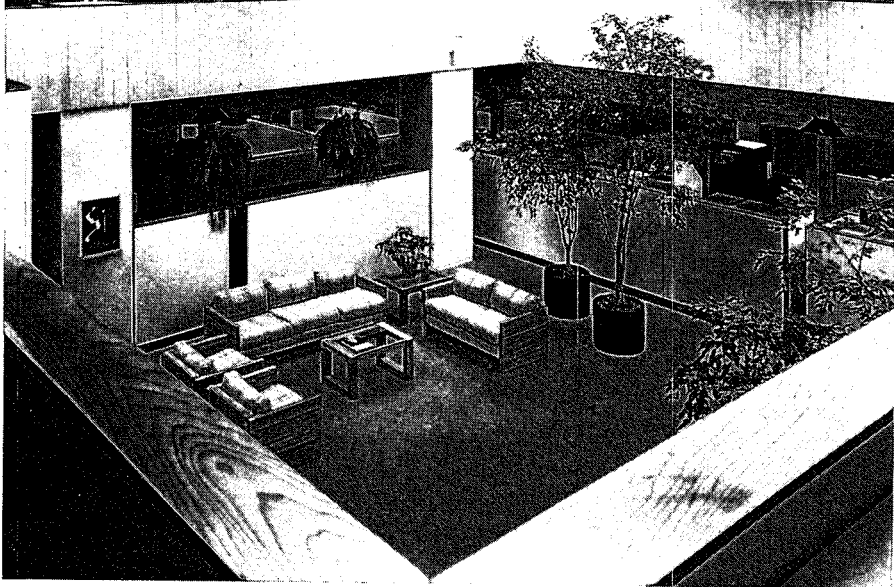
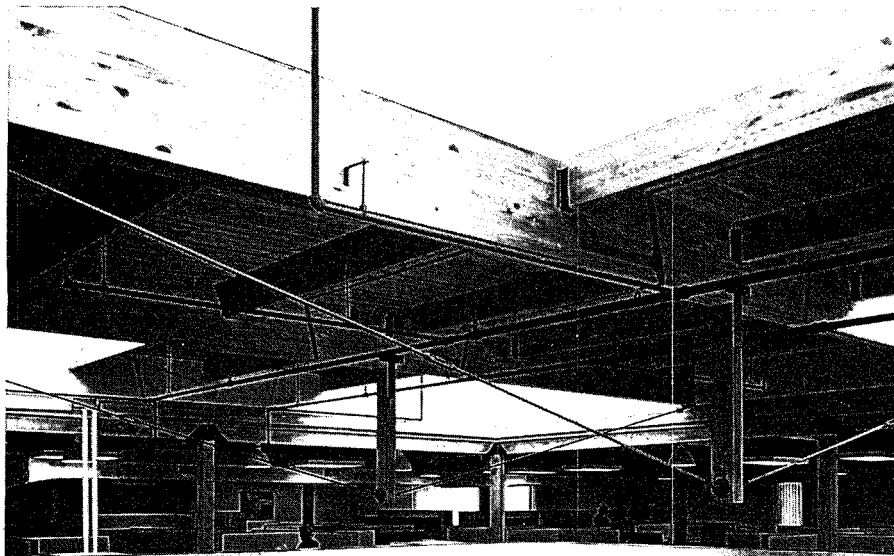
Beyond these gracious public spaces, which are of course designed to have significant public relations value, are the office spaces that form the Cooperative's administrative core. These are grouped in the existing, refaced structure and the new 26,000-square-foot addition. The offices are arranged in an open plan with a system of half-height partitions designed by the architect. Task lighting in the form of 2- by 4-foot suspended panels is augmented by general illumination from pendant fixtures that have been modified to fluorescent and, in the new wing, by daylighting from a double-height atrium space. Old wall finishes were replaced with sheet rock, the timber roof structure exposed, reinforced, and fitted with new roof decking. Both renovated and new exterior construction, including glazing, was insulated carefully and the project is protected by a new sprinkler system.

The renovation derives much of its success from its simplicity and from the sympathetic handling of wood and brick. The new is grafted to the old directly and without any apparent fussiness of detail, and both are unified by the handsome outdoor spaces.

OCEAN SPRAY CRANBERRIES, INC., Plymouth, Massachusetts. Architects: *Moore-Heder*, Cambridge. Developer: *Julius Tofias & Company, Inc.* Engineers: *Engineer's Design Group* (structural); *Wayne Peterson Associates* (mechanical); *Verne Norman Associates* (electrical). Interior consultants: *Gardiner Associates*. Contractor: *Peabody Construction Company, Inc.*

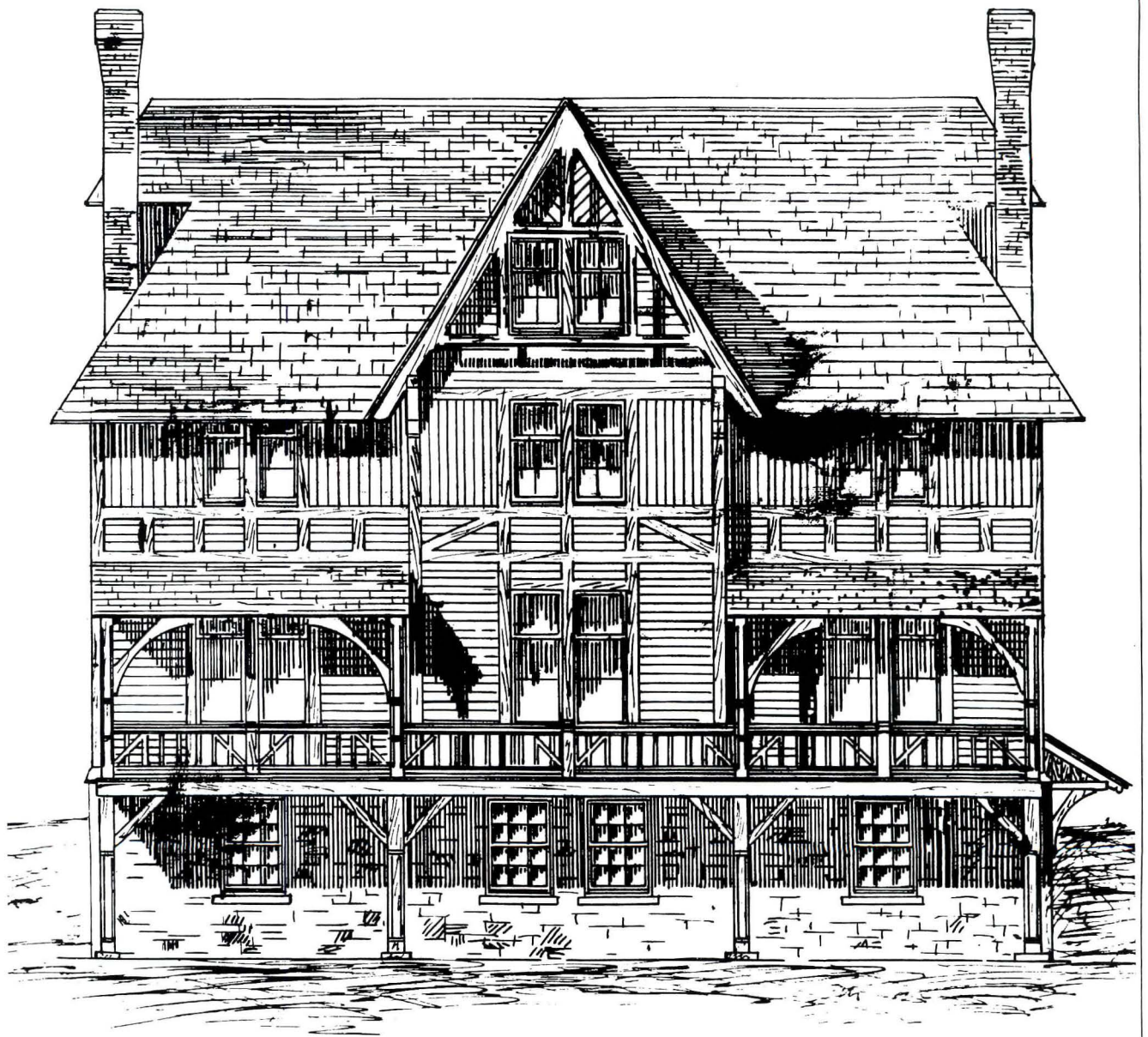






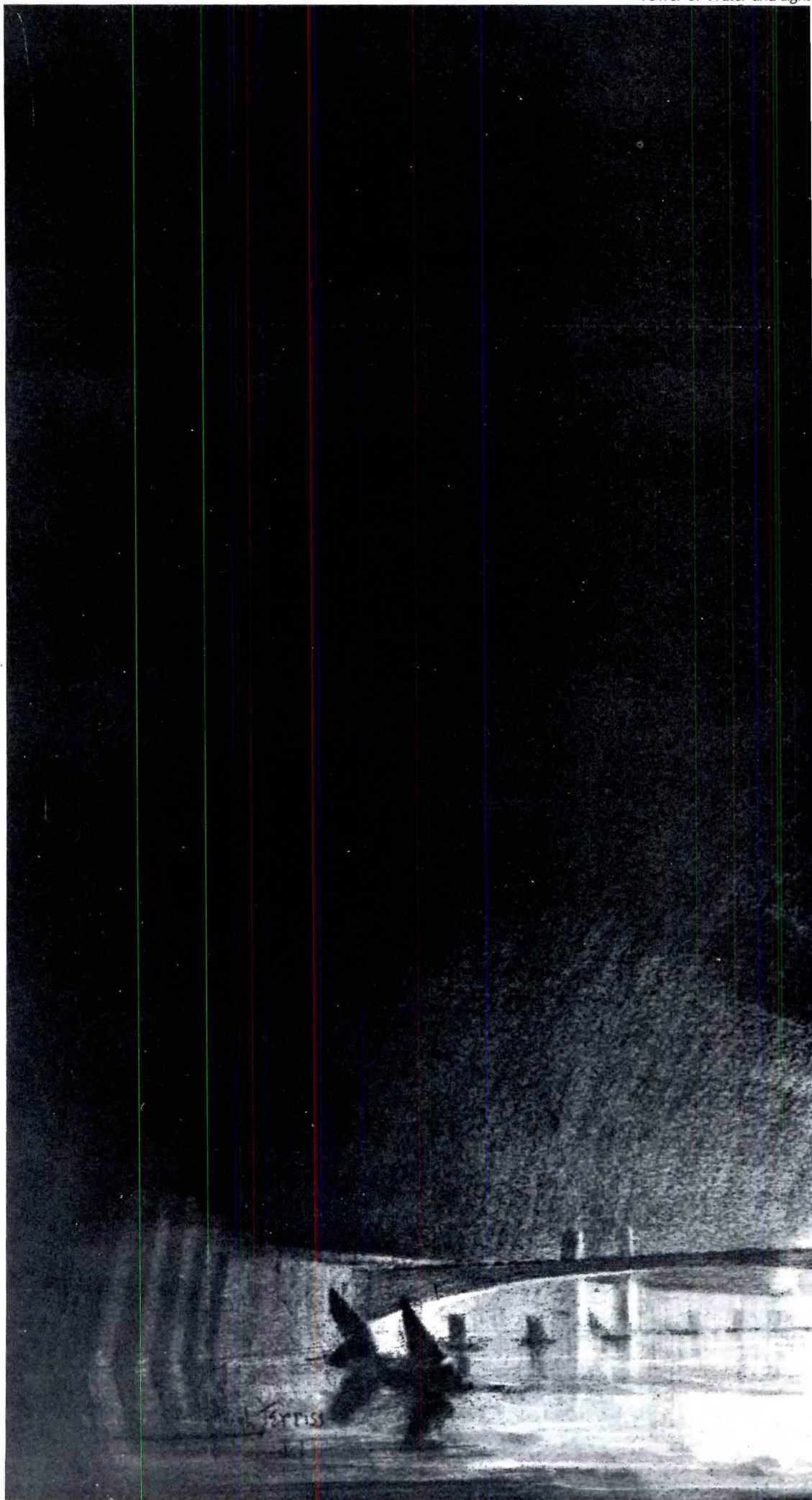
The interior partitioning system, designed by the architects, was competitive with conventional systems to build and install, and furthermore reflects the wood trim and wall finishes of the balance of the building. Electrical and telephone cables are carried "piggyback" in wood saddles over the duct distribution system. Metal fins are used as required as static barriers in the saddles to separate power and telephone lines.

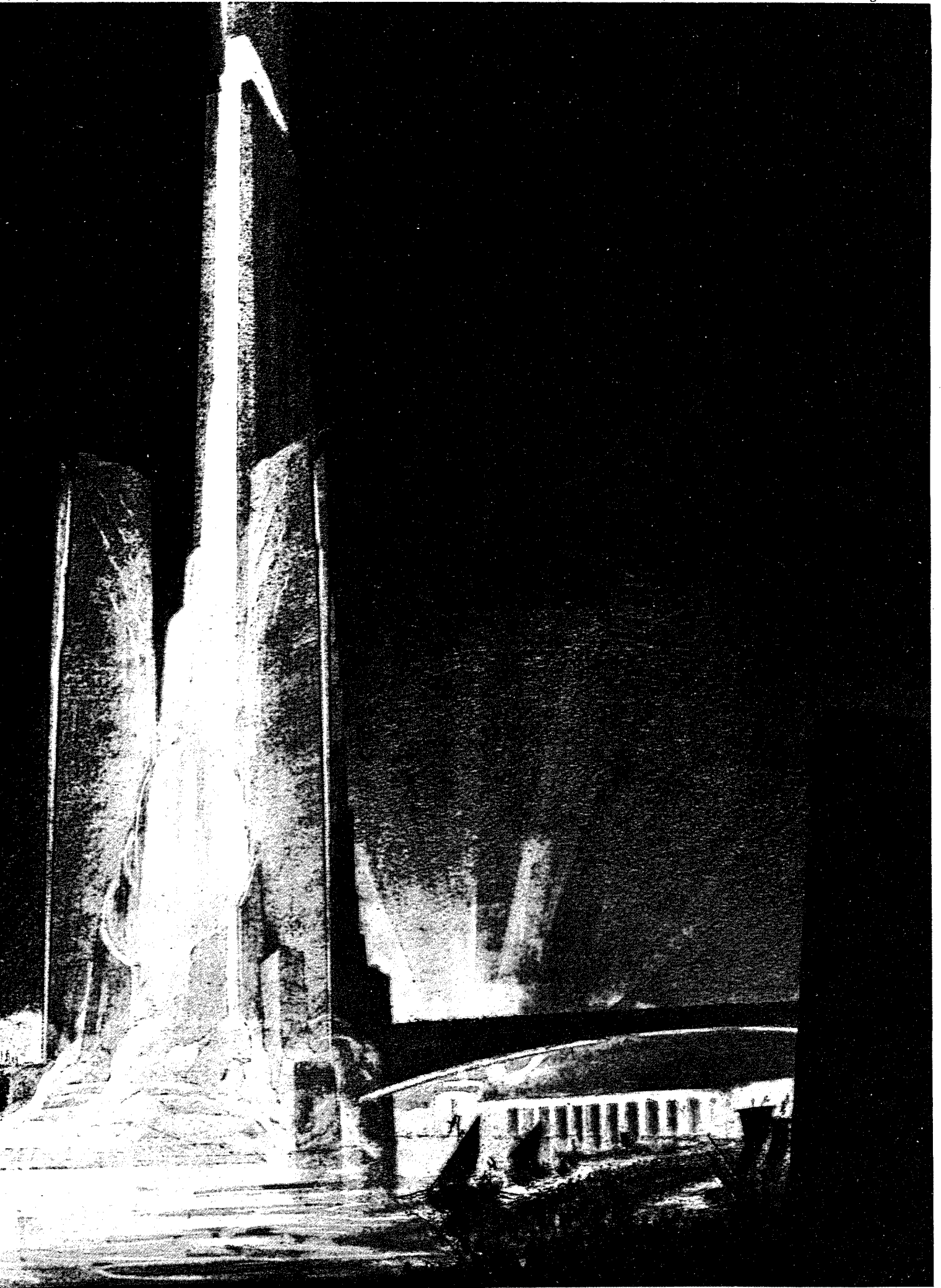
The Committee for the Preservation of Architectural Records moves on



The Committee for the Preservation of Architectural Records assisted in the transfer of drawings by Edwin H. Fetterolf to the Philadelphia Athenaeum, and in the process the drawing above—by the early Philadelphia architect Addison Hutton (1834-1916)—was discovered among them; it is dated 1879.

A built building, everyone would agree, has a big variety and a broad range of significances, moving from the altogether practical (Does it work?) to the altogether sublime (What is its message?). But unfortunately fewer people in the past have been able to agree that the answers to both these questions and to all of the other ones in-between depend at least to some extent on knowing what a building was intended to do in the first place, and how it was presumed it would do it. These useful-to-know intentions are documented in the records of design and construction, and in general they are of two sorts. The first—sketches, renderings, and the like—portray largely the esthetic goals. The second sort—working drawings, specifications, plumbers' bills, change orders, and so on—depict on the whole the physical process of putting a building together. In other words, architectural records are, according to the Committee for the Preservation of Architectural Records, the graphic and written records of the built environment, and they are useful alike to scholars and renovation contractors, to estheticians and inhabitants. But their existence is often perilous. When, for instance, a storeroom in Rockefeller Center in New York was at one point cleared out for a new tenant, all of the early drawings for the project were thrown away; and the papers of Raymond Hood were waterlogged in a flood in the house in which his widow had been storing them. Similarly, most of the contents of the office of Carrère and Hastings were pitched out, and the papers of Frederick Ackerman, a distinguished designer in the fields of low-cost housing and planning, were carted off because no one knew where to send them for preservation. Almost as bad as all this, but not quite, is the fact that many other valuable documents lie not destroyed but unnoticed and therefore inaccessible. In its brief existence so far, the Committee for the Preservation of Architectural Records has tried to remedy these situations, and its successes are described on the following page.



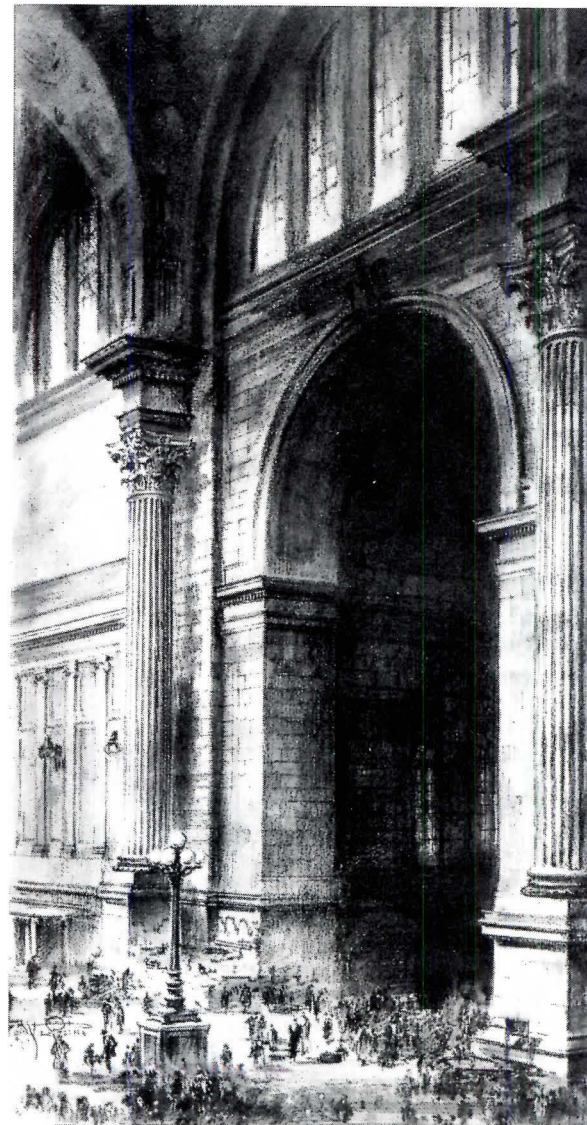


The Committee for the Preservation of Architectural Records (see RECORD, April 1975, pages 91-94) was founded just over five years ago in New York. Modestly, the Committee seeks no collection of its own and instead merely assists those who wish to locate specific documents, those who may wish to dispose of them, and institutions who wish to acquire them. Its executive director, Catha Grace Rambusch, notes that these goals are pursued in a number of different ways. The first is by the establishment of a network of communication between interested parties, and the Committee now has contacts in all fifty states. The second is by developing formats in which information can be expressed, resulting ultimately, it is hoped, in a uniform cataloging system. The third is by specific how-to examples. One manifestation of this is a two-volume publication *Architectural Research Materials in New York City: A Guide to Resources in All Five Boroughs*, which is valuable not only for the information it contains but also for providing a model for similar guides to other cities. A great deal of the Committee staff's work, nonetheless, involves day-to-day problem solving—finding homes for errant documents that people have forgotten about, or have been lost. A telephone call from Maine reports that a building is being demolished and beautiful drawings are floating out a window (the drawings are now in the Maine State Capitol); another call reports a trove of drawings in the back of a closet in Manhattan (now in the New York Historical Society, and some of them are shown on this and the next two pages). Recently—and as a mark of esteem for the Committee's diligence and value—the Library of Congress agreed to adopt it as one branch of its archival arm, and to assist it in achieving its long-range goals. But, for the moment, the Committee will remain in New York, and it welcomes all inquiries.

THE COMMITTEE FOR THE PRESERVATION OF ARCHITECTURAL RECORDS, The National Arts Club, 15 Gramercy Park South, New York, New York 10003. (212) 533-0711.

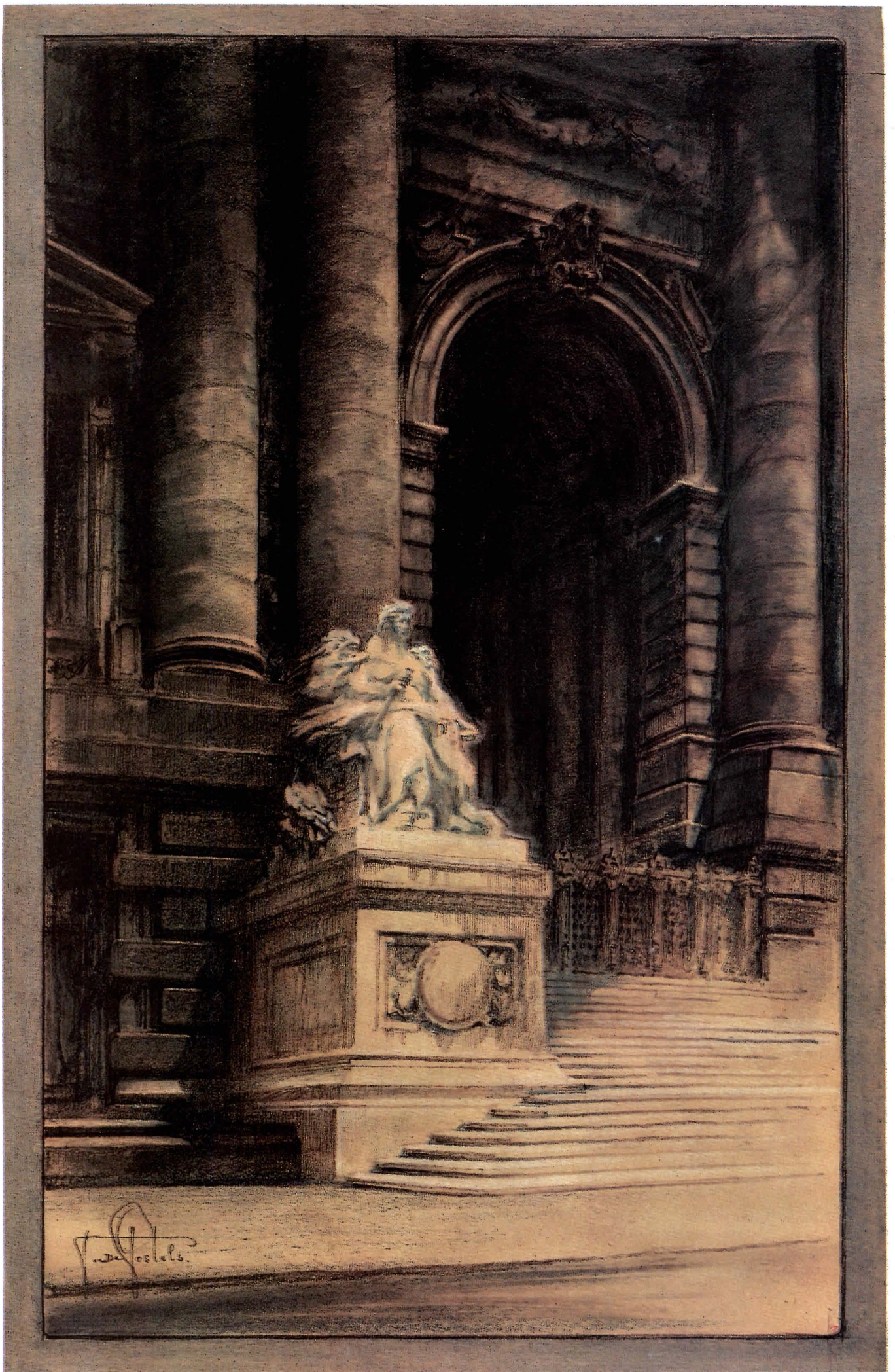


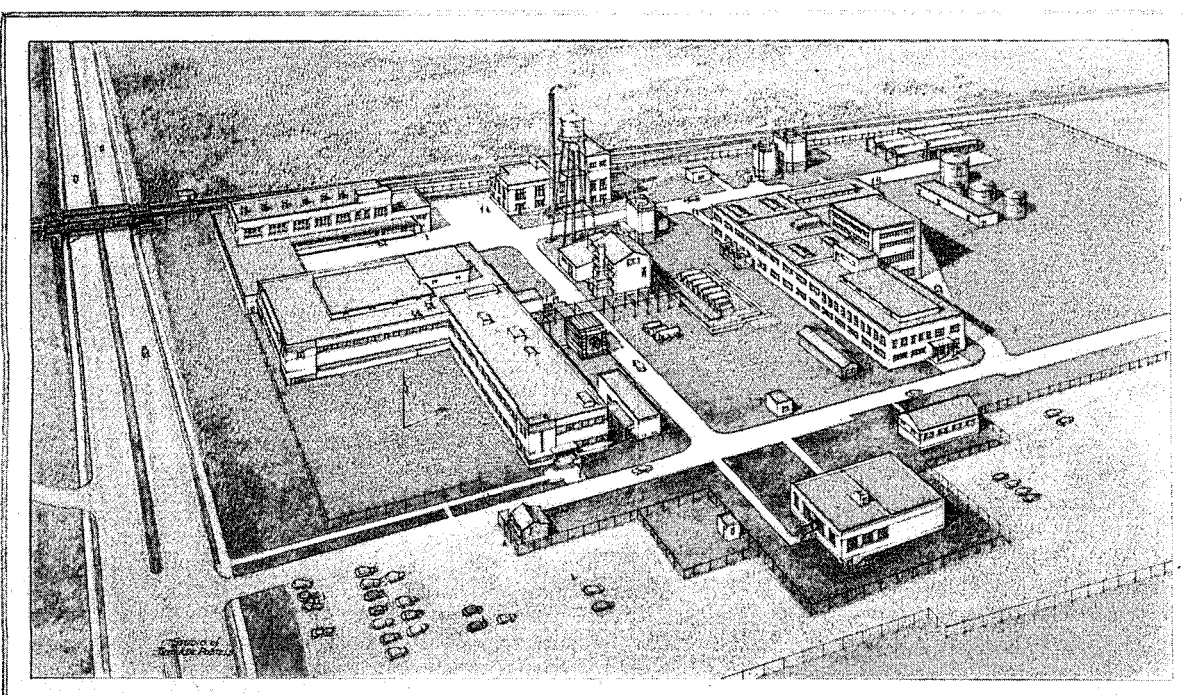
A detail of the colonnade in front of McKim, Mead & White's Municipal Building in New York, drawn by the Russian-born delineator Theodore A. Postels.



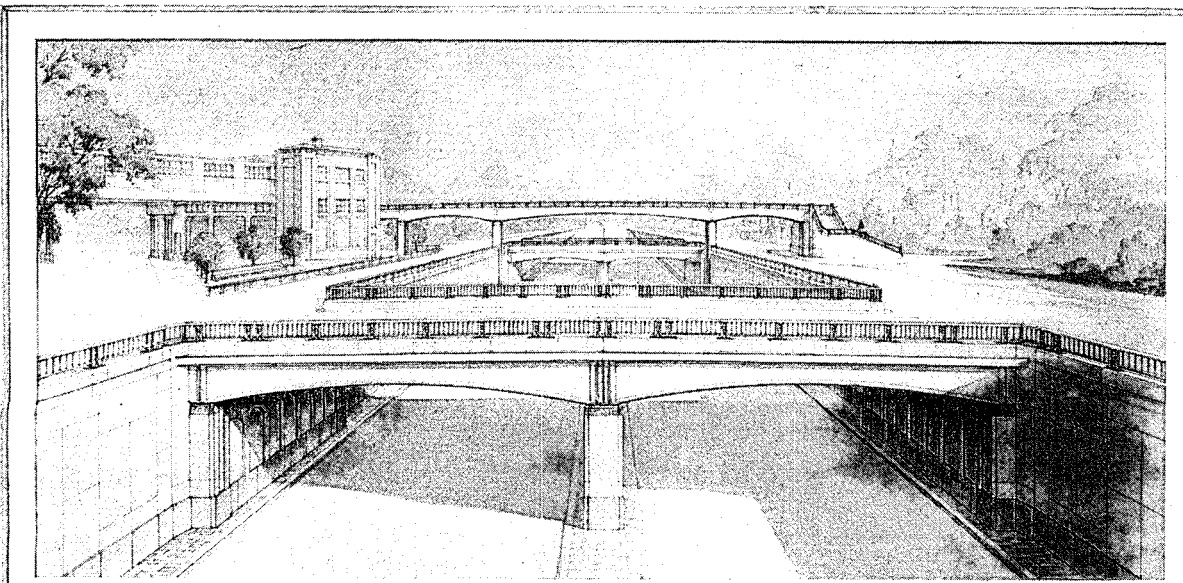
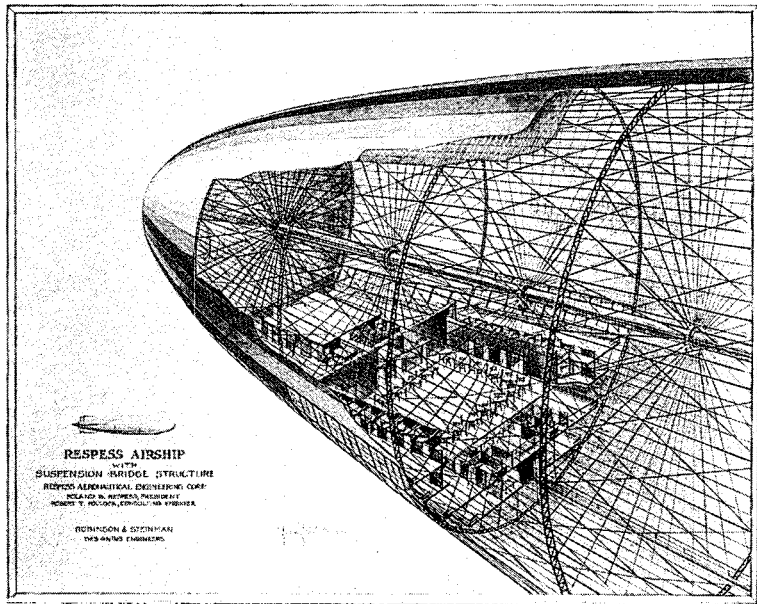
A view of the interior of McKim, Mead & White's Pennsylvania Station in New York by De Postels. These and other drawings by the artist were discovered recently in a closet in Manhattan and placed in a permanent collection with the help of the Committee for the Preservation of Architectural Records.

One of
Manuel Chester French's
sculptural groups
at the entrance
to the Custom House
in Lower Manhattan,
designed by
Carrère and Hastings.
Drawing by
Theodore A. De Postels.





Three drawings in a more Modern vein by the Russian-born renderer Theodore De Postels, whose works have been placed in the New York Historical Society with the assistance of the Committee for the Preservation of Architectural Records.

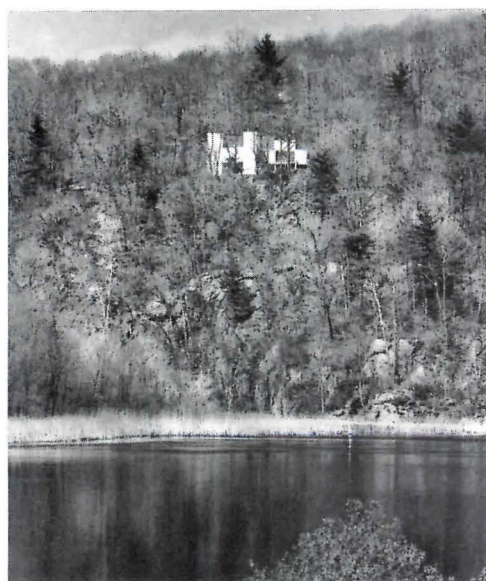


VIEW OF GRADE SEPARATIONS
 ON
 BRUCKNER (EASTERN) BOULEVARD
 AT WESTCHESTER AVENUE
 CITY OF NEW YORK—PRESIDENT BOROUGHS OF THE BRONX

PROJECT EX-53-5

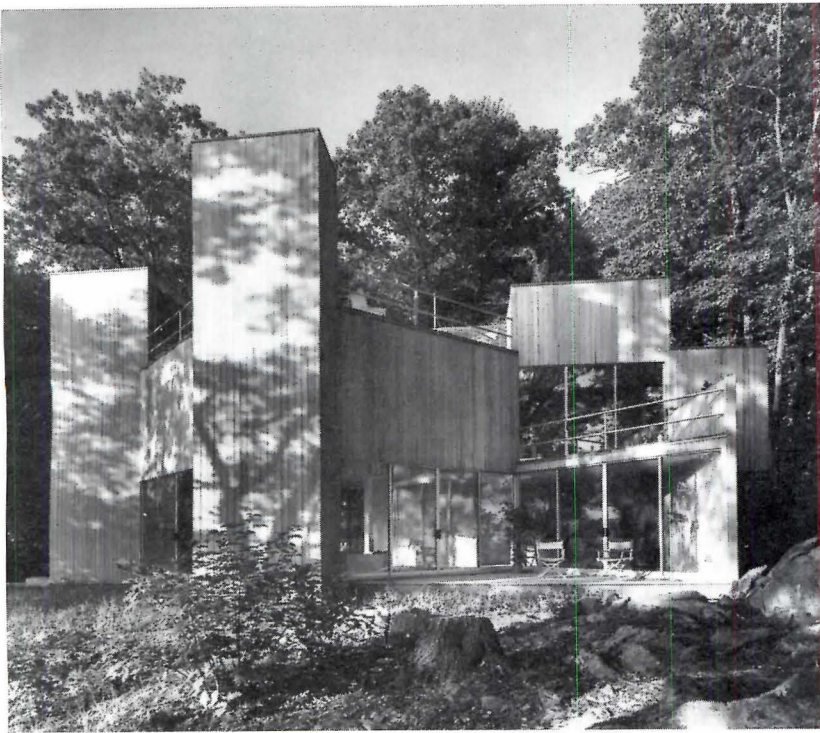


Norman McGrath photos



The McGrath house: lively forms and eloquent spaces designed by architect Myron Goldfinger

Taking triumphant possession of this Westchester hillside, at least in winter, the McGrath house commands splendid views of woodland and water. In summer these views close considerably, drawing a curtain of greenery around the house, giving the owners a welcome sense of seclusion and privacy. The interiors, like the exteriors, are sculpturally evocative—just such spaces as an inventive architect might be expected to provide for a noted architectural photographer and his family.



Reached by a penthouse over the stair tower, the roof deck (photos left) is an inviting and particularly successful space. The projecting bubble is the skylight over the bridge. Photo at right is from seating area toward dining room across the triangular deck.

In the early stages of programming, the owners made clear their requirements for an open plan, recessed pit seating and an "overflow" area for multiple family uses. They also expressed a wish for a roof deck and massing that included some rounded elements. They got all these things and a good deal more. The giant sawtooth of the ground floor plan opens views over the lake in several directions while producing simultaneously a triangular deck sequestered from the wind. The opposite elevation includes a guest room and a kitchen-bath complex enclosed in somewhat *unexpected manner by quarter-round and half-round forms*. Each of these elements

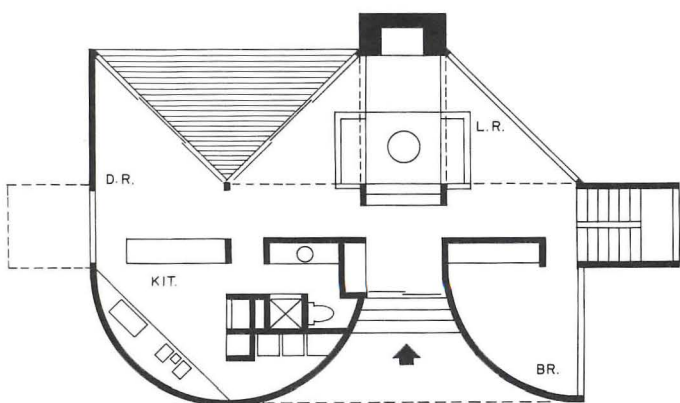
is spatially keyed to the entrance foyer and to the formal seating area.

Upstairs, a long circulation spine serves the master bedroom and two children's rooms that are spaced apart by a skylit bath. But instead of providing only access, the spine has a perpendicular extension that spans the living room below and is developed informally as the overflow activity space that the McGrath's wanted from the start. Off the master bedroom is a cantilevered study and a small elevated deck. The design culminates in an expansive roof deck with fine views of the site through 180 degrees.

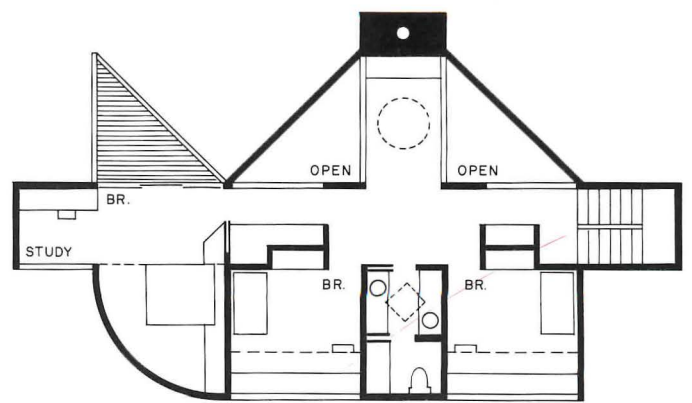
The strength of the house derives from

the skill with which its several geometries are reconciled. Rectilinear, triangular and circular forms are fused together into a unified composition with hints of symmetry and with a clear, rather forthright, internal logic. There is formality mixed with informality, assertiveness with reticence and subtlety; yet the design, even at its most exuberant moments, retains an orderly sense of function.

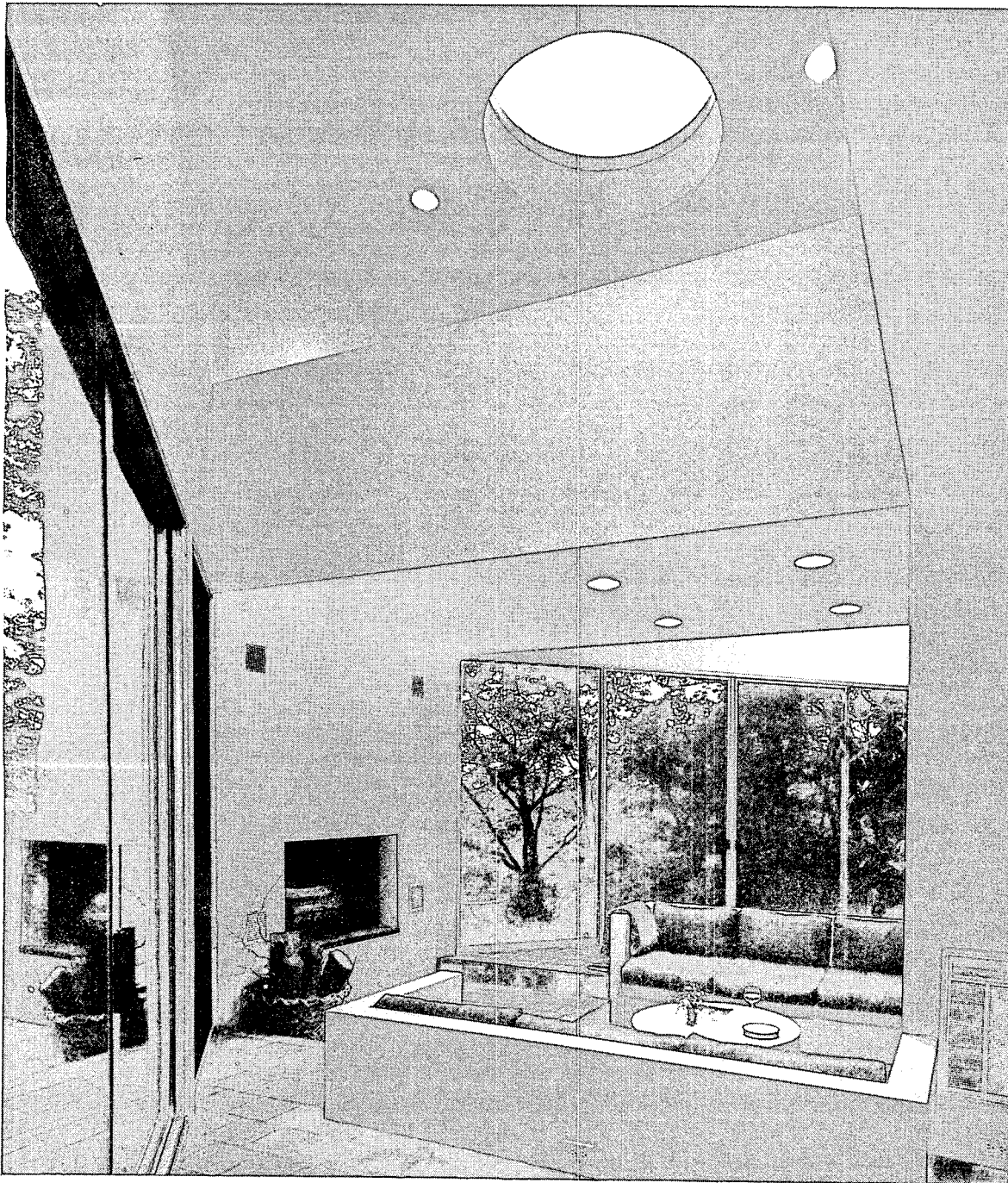
McGRATH RESIDENCE, New York. Architect: *Myron Goldfinger*. Owners: Mr. and Mrs. *Norman McGrath*. Engineers: *Richard Balse* (structural); *George Casper* (mechanical/electrical). Contractor: *Andron Construction*.



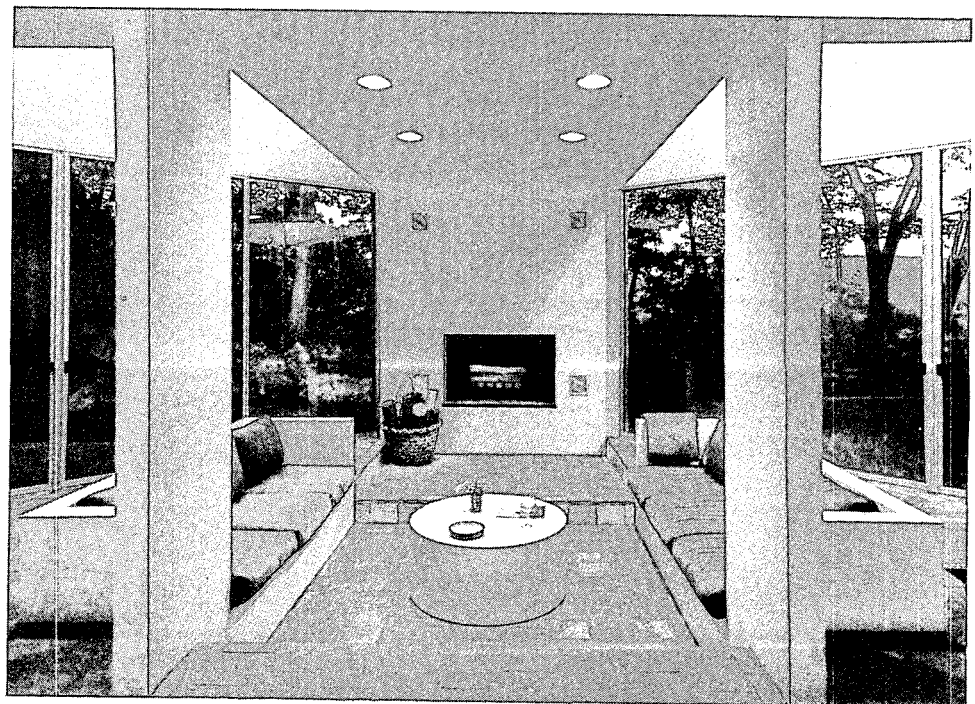
FIRST FLOOR



SECOND FLOOR



The main seating area (photos above and right) is a carefully composed "island" isolated from its surroundings and visually thrust out into the site. The space above is modulated by the activity bridge which is carpeted and which reflects daylight on to the planes of ceiling and upper walls, tinging these white surfaces with color and warmth.



HOUSING IN ISLAM



Vernacular housing in Ismailia.

Tomasz Sudra, the Aga Khan Award for Architecture

Housing the poor in those countries of the Third World which are Islamic or have large Muslim populations is as difficult as housing them in Catholic Latin America and the Philippines. The developing countries, whatever the religions of their people, are unable to provide adequate shelter and community life for most of them. The Aga Khan Award for Architecture (March 1979, pages 117-124) held a conference recently in Jakarta, Indonesia to consider the housing of poor Muslims, but the formulation of the problems turned out to be applicable to the housing needs of all peoples. If mosques are rotting, so are cathedrals. If Muslims are crowding into urban squatter settlements, so are Christians. The Jakarta conference was a remarkable event because for once all the acts—political, financial and technical—which create housing and communities were perceived as either damaging or sustaining to a live religious culture. The other religious faiths in the world should take notice. —Mildred F. Schmertz

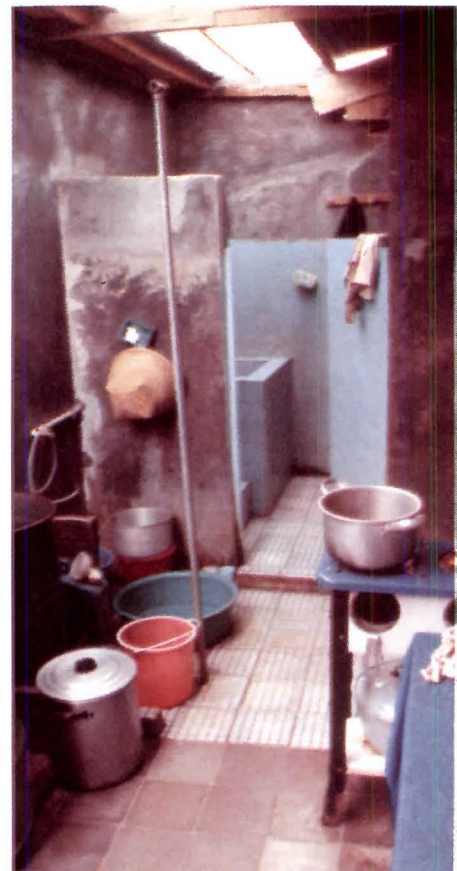
"There is a point at which the architect should relinquish his power over

The Jakarta conference was brilliantly conceived. Its title "Housing, Process and Physical Form" did not reveal in advance what its planners had in mind, but once the speakers were heard from the intended oppositions became clear. Among the 44 persons attending the seminar were the Aga Khan, the Begum Aga Khan, Crown Prince Hassan of the Hashemite Kingdom of Jordan, this reporter and a small core of experts selected as representing each of three distinct points of view.

Arguing in behalf of the first premise—that the poor should take care of planning and constructing their own houses and communities—were the British planner and author, John F.C. Turner, whose most recent consulting work has been in India, East Africa and the Middle East; Tomasz Sudra, an architect and planner from Poland now living in the U.S.A. and a colleague of Turner's; Alfred P. Van Huyck, the U.S. urban and regional planner and president of Planning and Development Collaborative International with projects in Pakistan, Korea, Tunisia, Thailand and Indonesia and consulting work on urbanization and housing in Kenya, Uganda, Turkey and Tanzania; Professor N. John Habraken, the Dutch architect, who is head of the Department of Architecture at MIT, and who has developed a housing infrastructure which enables the tenants to have a say in the arrangement and finish of their dwellings; and Charles Correa, architect from Bombay and a member of the Award Steering Committee. **Correa reminded the seminar that for thousands of years the poor have been building marvelous shelter:** "If we look at all the major concerns of humanists and environmentalists today: balanced eco-systems, recycling of waste products, people's participation, appropriate life styles, indigenous technology, etc. we find that the people of the Third World already have it all. This is true from the Polynesian Islands to the Mediterranean villages to the jungles of Bangladesh. What there is a shortage of is a new urban context in which these solutions are viable. The poor aren't coming to the cities for houses; they are coming for work. Thus to ask *how* to build is also to ask *where* to build. Sites and service schemes are part of the answer, but in themselves they are not a



Low-income core housing (right and bottom) in a kampong near Jakarta. In the warm climate much time is spent outdoors in courtyards (top) and markets (above).



Hasan-Uddin Khan, the Aga Khan Award for Architecture

panacea. To be viable they will have to plug into key points in the city infrastructure. On the scale of the demand this is going to mean a major restructuring of our cities. It is the first responsibility of the Third World architect to conceptualize—and help catalyze—such restructuring at the city scale. He should also participate at the scale of the site, always remembering that he and the users are on the same side of the table. If he has done these two tasks effectively, then when it comes to the houses, all he really has to do is get out of the way."

Habraken believes that to build is to exercise power. His basic position is that the dweller should be recognized and understood as a power and that the architect/planner should know when to relinquish some of his: "We professionals are the problem. We think we can reorganize the world. We have this dream that by the use of science and technology and the powers of organization we can build a better society. But the architect, we should remember, is a new phenomenon. He didn't begin as a professional until the Renaissance. Back then he didn't think he could redesign the world—he made works of art.

"Today some of us now believe that there is a point at which the architect should relinquish his power over the environment to its users, the community. Our training, however, which we believe equips us to control the design of everything from cities to furniture and all in between, militates against this. Other deterrents to a modest, deferential and timely withdrawal are our belief in self-expression and our desire to carry design as far as we can.

"Those of us who say that this kind of control is no longer important get into an entirely different game. How do we play it? What are the premises which have to be met in order to be able to control a project just enough, but not too much? This kind of working and thinking has been tried in various projects around the world.

"It begins with the concept of community which we define in three ways: by identifying its individuals, noting its shared territory and physical and material elements, and perceiving the structure or hierarchy within the group itself. What is there in Islamic culture which helps tell us about these three

things? The mosque and the communal spaces, the segregation of men and women (the Iranian women don't want to be segregated yet this doesn't make them less Muslim), and other social and religious practices. Such a community, once recognized, decides what is important enough to them to remain in their control. They can manipulate space and form, distribute resources and determine uses. The housing they produce is today's vernacular.

"The forms of high architecture with which we have been traditionally concerned are reinterpretations of vernacular architecture. The styles come from the bottom up. Unless we teach ourselves the vernacular again, we cannot create the high art. In the past the vernacular was the soil out of which the individual creation of the architect grew. We have turned it around thinking we can create the vernacular forms and we have failed. We make apartment blocks look like office buildings because we know how to do office buildings. The issue is not one of form. The gardener must learn design—he must have a concept, understand how the flowers grow, but he cannot make the seed or make the plant. The seed knows what the tree will be. We can only watch it."

Van Huyck believes that our priorities are wrong and that is why we have a housing problem: "We need not search for solutions—solutions are known. They can't be implemented, however, until governments are ready to change the rules of the land game. The people who own this capital asset must take a loss. No study is needed to make this decision.

"We know what needs to be done about interest rates. When they are set at unrealistically low levels, no housing program can succeed. Housing agencies need to set up the proper financial mechanisms. Too many come on with public equity and in a few years go out of business through poor financial management. Government subsidies should serve the low-income community in general—they should be used for community facilities and shared spaces, not houses. It has been demonstrated that development programs without housing subsidies produce a larger number of units across the years. I think the money available for housing should

go directly to the communities. This will change the language and the prospects. Most people would prefer a cash subsidy to living in a government-subsidized house.

"Spontaneous housing should be the starting point—governments should re-examine this process. It is logical to move into new urbanization to stop uncontrolled settlement, but to replace housing with better housing is a misuse of resources.

"I advocate a pulling-back of control. Most Islamic countries are used to colonial control and exploitation. They started to run their own show at the time of the population explosion. Because the basic city structure is now obsolete owing to rural in-migration and technological change, it is naive to be thinking of control in the old-fashioned way. We must think of decentralization as a strategy. Centralized governments control Islamic cities now, but such systems cannot bring about effective change largely since an intrinsic system of exploitation is built into these governments. The Islamic cities work very well for the rich, after all. Wealthy people can control their own water supply and sanitation. Only when they venture into road traffic do urban problems impinge upon them.

"What is the feasible level of control? What control do we "elite" have over the future urban environment? We start with the premise that we *can* control—we are trying to keep it intact, but we are being overwhelmed by the process. The machinery can no longer be tinkered with, it must be recast. We may be talking about doing the things we already do better, but we should be talking about doing things very differently. There should be new directions.

"Furthermore, I think there is too much consulting. To prepare documentation for a World Bank grant is rigorous and complicated. There are stacks of reports, three feet high. Studies done by the locals are better—much less paper and complication. It is useful of course to bring world experience to a project, and a consultant can be an effective catalyst. But a consultant should not do a policy statement for a country in isolation. Unfortunately, countries use consultants because they don't have much local talent. They have let their local talent get away.

"Government control can be positive

"Should we not be considering form at this conference? Can we achieve

through public investment in infrastructure, for example, or negative through regulations which destroy communities. Organizations with major economic power vested in the private sector have a large capacity to damage the environment. Such groups should be regulated. They will survive it. Communities with little economic power cannot damage the environment much. If too many regulations are laid upon them, they cannot survive. To ban camel transport harms the level of society dependent upon camels. The housing problem is rooted in the constraints governments are placing upon the efforts of people trying to house themselves.

"Muslim law, unfortunately, has no codes which deal with the sultan. It helps A deal with B when B tries to exploit him, but not A with the state when the state exploits him. A good Muslim community, therefore, is not founded in Islamic laws. A good Muslim community is one which works well for its people. Whether or not its architectural character is traditionally Islamic has nothing to do with it either."

Tomasz Sudra argued from his experience as a housing consultant in Ismailia, Egypt in 1975 and in 1977-78: "The question is not how the people can best participate in the architects' and planners' housing projects but the reverse—how architects and planners can best participate in the peoples' housing process. The local and personal activity of housing must be controlled by local and personal decisions. Only then can the needed variety and volume of housing be generated to meet the rapidly growing and immensely diverse demand. Professionals must stop planning and designing housing projects. They must learn to work in support of the decentralized local traditional housing process that today is facing numerous obstacles which impede its productivity and performance. Assuring the availability of properly subdivided land, finance and technology as well as materials, components and appropriate specialized skills and providing necessary urban services, supportive urban development planning and legal framework, are much broader and more difficult responsibilities. To meet them, professionals first need personal commitment. They also need many new skills and especially an understanding of

the technical socio-cultural, economic, political and physical dynamics of the housing process in the particular place and time of their intervention."

Turner told the seminar that it should be thinking about what housing is doing to people, as distinct from what it is—not what it looks like but what it does: "It is assumed that housing policies have to do with the production of houses—it may have to do with other things as well—sometimes a shack in the right place is better than a good house in the wrong place. The word "resources" is not just a synonym for money—resources are land, tools, materials and people who are free to do what they are able to do. Money is an institution, not a resource. There is also the issue of authority—the common assumption is that authority is invested in government or the market, but the real authority lies in what people can in fact do against all the obstacles put in their way.

"Cities always have been the consequence of what people do, but now we are building cities and pouring people into them without regard for what they do. Government imposed artificial housing projects are time bombs—they explode financially, socially, politically—they even fall down physically. Give the power to the people to build. We must devise means of supporting people in their own efforts. The infrastructure has to be planned of course, but it is not the business of organizations or architects to design the housing. We need to collect precedents and contexts because we are ignorant of what we know and what precedents are around us. We need to accumulate a dossier in order to be able to respond to reasonable requests for help. The important thing is that we are not only talking about self-help building—we are talking about a broader concept that subsumes self help. We are really talking about the poor having a say, some control.

"As architects we must interpret and refine the aspirations of people, help them make better use of their resources, and share our knowledge. There is too much mystification with regard to professional decisions. We can serve as a mediating structure. As professionals we have much greater access to what is needed—people, agencies. We speak more languages and the responsibility

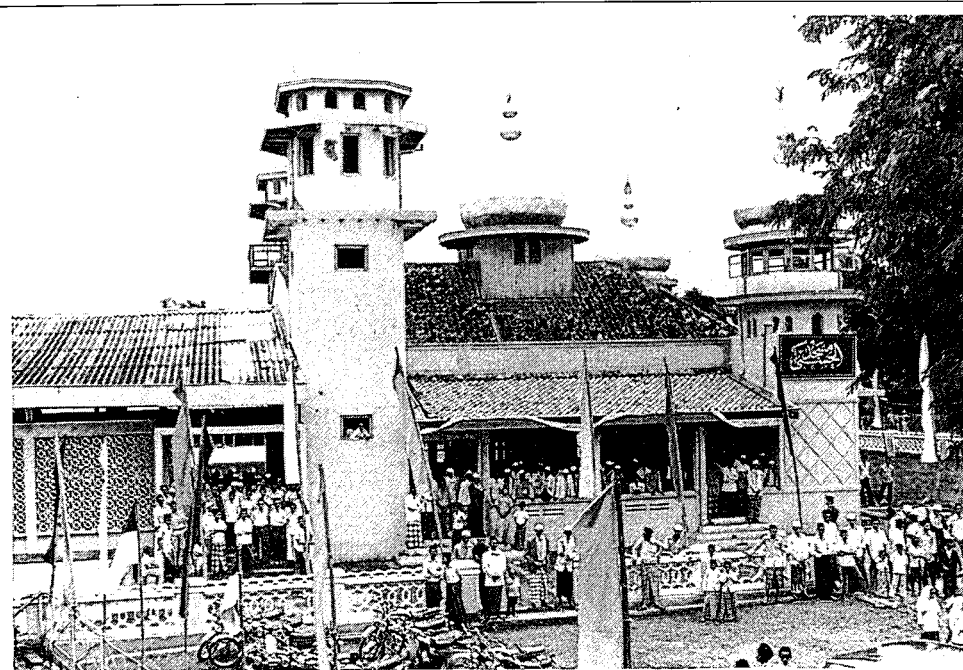
to communicate is paramount. There is a world-wide scarcity of documentation of real experience. In the industrialized countries there is a flood of information that piles up unread. It is second- or third-hand analysis. We should be selecting, recording and exchanging first-hand knowledge. We are having difficulty citing precedents although we know they are there."

Others upheld the second and contradictory premise that the withdrawal of the architect from housing and community design in favor of the user himself is unthinkable and leading straightaway to esthetic chaos. Iranian architects Nadar Ardalan, who is a member of the Award Steering Committee, and Kamran Diba, both of whom now are living in the United States, were visibly stunned by the arguments of the Turner faction and took every opportunity to instruct the seminar on the meaning and beauty of Islamic forms and the continuing vitality of the Muslim housing vernacular and its variations within the many cultures and climates of Islam. Said Ardalan: "We must consider form at this conference. I believe that today we cannot achieve anything but mediocrity if we leave the form making to the user. The Islamic house is a spiritual place. It cannot be a haphazard growth." Said Diba: "Architects should be the true representatives of the user. Society should be aware of the inherent power of the architect/planner and of his role in the formation of our environment. In societies where a lack of cultural awareness prevails, planners and designers should be subsidized by the government to channel precious resources in a direction that creates environments which are sympathetic to culture, tradition and humanity."

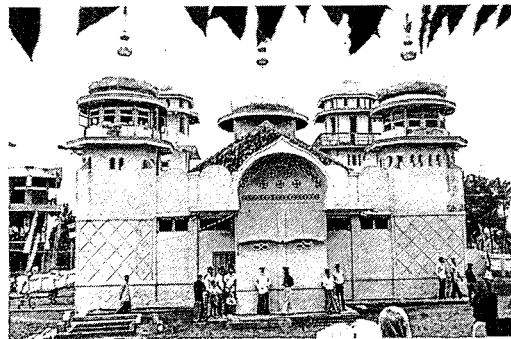
The third group of seminar participants examined the premise that today's Muslim housing will be shaped by the culture and religion of Islam, but not in the ways of the past. For them the historic eclecticism of Ardalan and Diba appeared to be beside the point. More than one speaker observed that the poor themselves are heedless of the beauty of the rural vernacular as they abandon it for sidewalks near jobs in the city. Today's lovers of traditional Muslim art and architecture are esthetes and scholars from the West, not fellahin.

thing but mediocrity if we leave the form making to the user?"

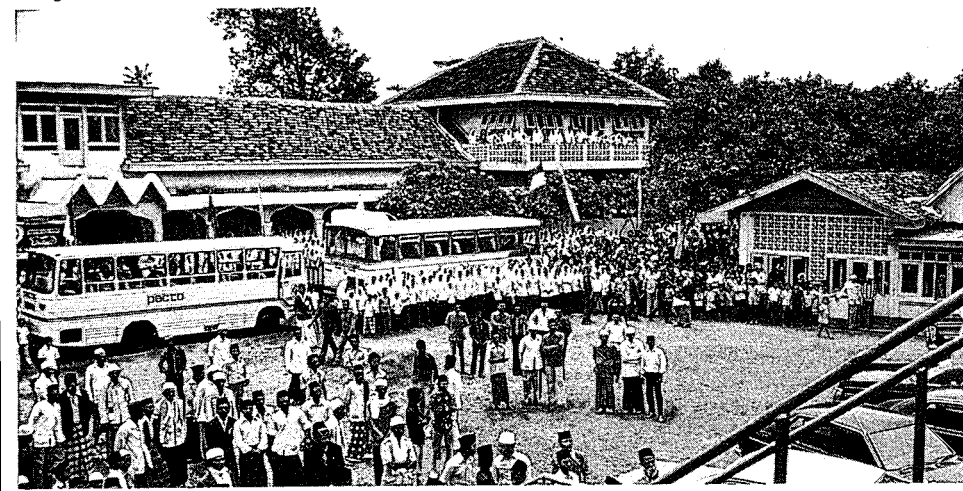
—Nadar Ardalan



The "Azzidiah" Madrasah (school) and mosque is at the center of a kampong undergoing improvement near Jakarta. It was the scene of a huge reception for the conference participants. The mosque, built in this century, is an unusually spirited adaptation of basic Islamic forms by rural Indonesian Muslims.



The Aga Khan Award for Architecture



Professor Dogan Kuban, architect and historian from Istanbul Technical University and a member of the Award Steering Committee put it well: "The continued existence of different cultural traditions is important to the world, but what happens when some American who drinks whiskey wants to save the mosque while the mullah wants to tear it down? An Islamic culture will continue to preserve or create Islamic culture only if it feels strong enough, if the culture itself is still viable. Only the culture itself can assess this."

Professor William Porter, architect, urban planner, dean of the School of Architecture and Planning at MIT and member of the Award Steering Committee asked: "Why have the ways of traditional building worked so well in the past? Is it the techniques and materials or the fact of local control or both? Today, whose ideas should control? Ours? Do we not see vernacular architecture as a nostalgic extension of ourselves? Do the poor still want to live in traditional villages? What do the poor want?"

The same questions were asked in a different form by Professor Oleg Grabar, architectural historian, chairman of the Department of Fine Arts, Harvard University and member of the Award Steering Committee: "What are the aspirations of the Muslim cultures and sub-cultures? What are their dreams? We must know more than the characteristics of a culture—we must know the degree to which it meets aspirations. We can say the culture had this, this and this, but does it adapt to today's world? Does it meet today's problems of poverty, of transportation, of jobs?

"Are we after an unattainable ideal that can only be held by complete isolation from the outside world? What happens when this ideal moves to places where Muslims are not the unique members of society—or where modernization has occurred? Muslims can be good Muslims in New York without a Muslim setting. Can there be two kinds of Muslim communities—the first not industrialized, almost totally Muslim, ethnically homogenous and thereby possessing an harmonious pre-industrial physical form in the Islamic vernacular; the second the opposite of all this and therefore without cohesive physical form?

"When we architects imitate the vernacular, we are making paper flowers." — Charles Correa

"The development of the future is not inherent in our wishes. But one hundred years ago, we could not predict the future, but now we can and therefore we are accountable to the future. Will the criteria we are proposing be meaningful fifteen years from now? We must look to the future and think what it will be and while considering ideals created in the past, not focus upon what the past has been. To consider the future is to be very Muslim.

"Unfortunately, we veer from despair to cuckoo land. We are against dirt, no progress, no education—all cultures are against these bad things. We want cuckoo land—a beautiful setting where the good life is possible. We know what should be done—lovely houses, lively streets, no more big, evil, ugly apartment blocks. Out comes the expert and tells people what to do. There are funds and will to build and the building is needed. The experts identify the people who need housing and give them plots so that everyone will build the environment needed by the person with the plot. But cuckoo land doesn't work. Mankind won't be good. Among the self-helpers, some will sell, some will make a mess of it and some will do a sweet little house. Back to despair and scapegoats—the World Bank, or the people expressing their own lousy nature."

A few panelists were interested in whether or not the values of the Islamic faith itself could offer specific guidance to those in search of ways to strengthen Muslim culture through housing and community design. Both Charles Correa and Dr. Riaz Hassan, a sociologist from Flinders University in Australia, pointed out that the most fundamental, yet the most neglected Islamic social value is equality. Said Correa: "The rich get space, clubs, marvelous hotels at the end of town where they want to be. The rich man should not have a courtyard twenty times as large as the poor man's but he does. The people with the power to change the city can afford to live and work where they want. The political will for change does not arise from them. The haves continue to have the city."

Dr. Hassan does not believe that the Islamic faith isolates Muslims from the rest of the world: "There is no dichotomy between the Islamic and the secular world. All commu-

nities are moral in the symbolic sense, with their own standards of right and wrong, good and evil. To think that to be Islamic necessarily means not to go socialist is wrong. All communities are integrated. Some are integrated around an Islamic code. This does not make them more integrated than others, or morally better. But one thing is certain—you don't create an integrated Islamic community by creating an Islamic architecture."

Nor do you create an Islamic house. Said Mohan Buch, vice chairman of the Delhi Development Authority: "Islam permeates every aspect of a man's life, but what is an Islamic house? A house is a house is a house. It keeps rain and wind out. It is what a man and his family can afford. If the man is a good man it is an Islamic house—if he is a bad man it is not an Islamic house. If you are looking

for an Islamic house, look for the man who is in it."

It is true as Hassan and Buch assert that architectural form can express Islamic religious and social values, but cannot generate them. The eclectic desire of Ardan and Diba to sustain and revive traditional Islamic forms, while important to consider in the design of prominent structures or places, has little pertinence to housing the Muslim poor except in special locations where the vernacular remains appropriate. Turner, et al are right that housing and community form should be created by the users, but models and images have yet to emerge from their approach.

To what then can the Aga Khan Award for Architecture give its housing prize? The principal purpose of the Jakarta conference was to develop criteria for the award of \$100,000 in 1980 to persons responsible for one or several housing designs for the poor which have been conceived in the spirit of Islam. (It is to be one of up to five awards of \$100,000 each to be distributed in four areas of concern—housing, public buildings and spaces, community form and restoration and reuse).

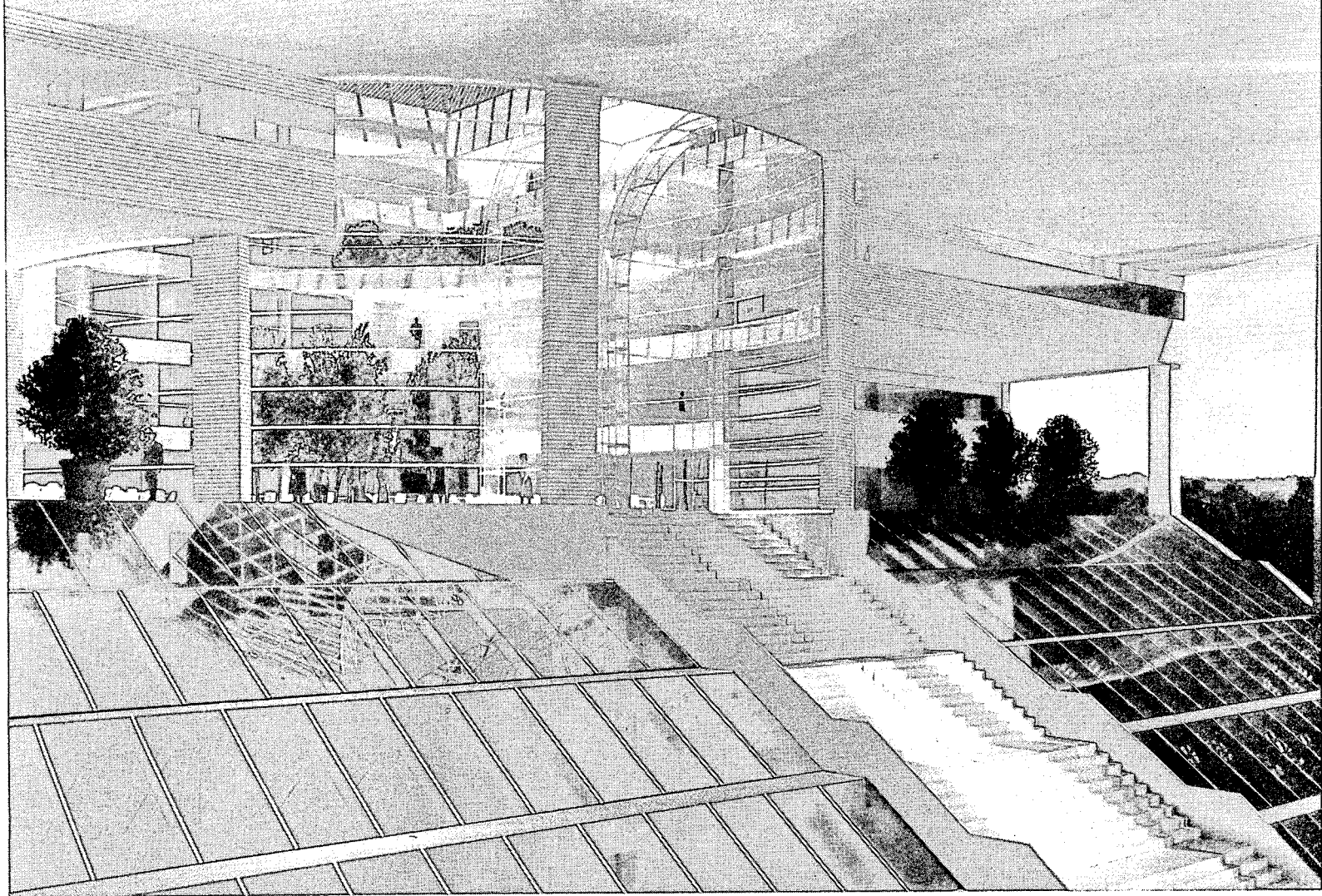
It now appears that in the field of housing, the Aga Khan Award jury must award process, not images, because the images lie in the future. If communities of housing are as Habraken said, like gardens which grow over time, the garden planners who help develop the means for the poor to make them should share in the award. The prize money should be used by its winners for documentation and wide communication of their work. It is not enough that they just do it, although it appears to be enough for them. (This reporter longed for a good slide show. Why don't Turner and Van Huyck display a few snapshots of the seed planting at least and the flower in due course? Are there Nikons in their briefcases? Do they ever use them?) Apart from Tomasz Sudra's slides of growth and change in Ismailia, and a chrome or two from Turner there was little effective visual evidence presented at the seminar that the ideas of those who wish to relinquish housing control to the people are actually being tested and implemented anywhere in the Third World, although we know they are.

—Mildred F. Schmertz



The Aga Khan Award for Architecture

William Porter (left) and the Aga Khan



A CHANGE IN DIRECTION FOR KEVIN ROCHE?

Kevin Roche John Dinkeloo and Associates have done a lot of office buildings—all for first-line clients, all quite beautiful and beautifully detailed, all supremely logical and functional, all the seemingly inevitable conclusion of a thought process that begins with the site and the program and proceeds step-by-step to the solution. Because the problem is always different, the buildings are always different.

What about this one—a corporate headquarters for General Foods. It certainly looks different—startlingly different. It is formally, even classically, composed. To some it is romantic—a castle, or a palace. Others will

spot first the obvious Beaux Arts symmetry. Art historians will wonder about neo-Rationalism, and wonder if Kevin Roche has been sharing a bottle of wine with Aldo Rossi in Milan. Anyway, we all know the rules are off, that historical allusion is in, and that we are here seeing the leaning of Kevin Roche and partner John Dinkeloo in some post-modern direction or another, right?

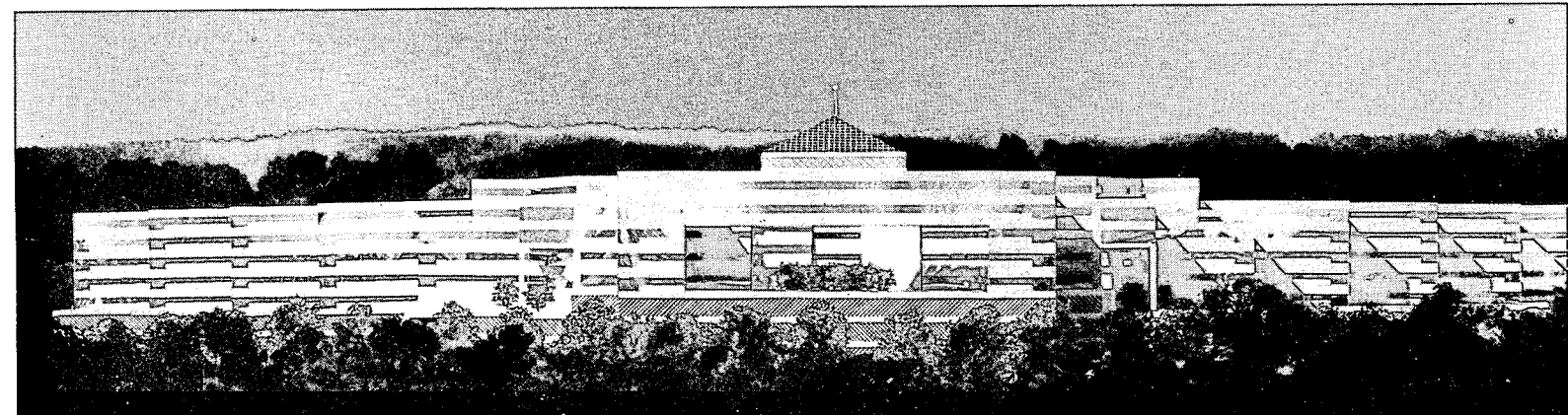
Roche says no. He says "This is the most obvious thing I could have done."

Obvious? Well, in the past, whenever Kevin Roche has finished explaining why a building of his *is* the way it is, you know intellectually that there must be some other

way. But you sure can't think of it. Here's his explanation of this project:

The site is 68 acres, in two adjacent parcels, one of which spans the line between Rye and Harrison, New York, both handsome residential suburbs of New York City. The town line is marked by Blind Brook, a stream which is subject to flooding; and a bit more than one-third of the site is designated as flood plain.

Site coverage is limited by zoning to 15 per cent of the area of the site, and office buildings are limited to coverage of 100,000 square feet—though with approval, parking structures, cafeterias and similar ancillary





space may be excluded from the site-coverage limit. Height limitation is eight stories or 120 feet. These restrictions worked out to permit (since the site is in two parcels, with an existing building on one) a site coverage of 179,235 square feet in office space, 88,765 for "other building," for a total site coverage of 268,000 square feet.

Given those limitations, Roche Dinkeloo then calculated the needed parking coverage. Assuming 1.4 people per car gives 1,978 cars; assuming 400 square feet per car gives 791,200 square feet of parking; and dividing 791,200 by the maximum 268,000 square feet of site coverage gives three floors of parking. Similarly, dividing the program requirement of 975,000 square feet (325 gross square feet per person for an ultimate population of 3,000 people) by the allowable office-area

site coverage of 179,235 feet gives (with a little adjustment) five floors of office space. And three floors of parking and five floors of office space give an eight-story building—within the zoning.*

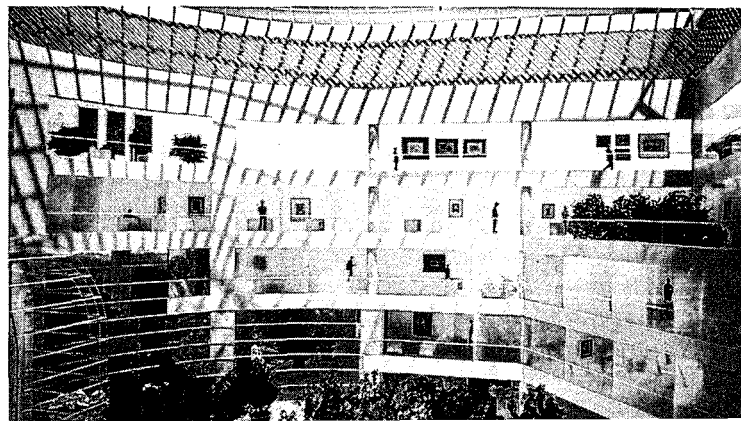
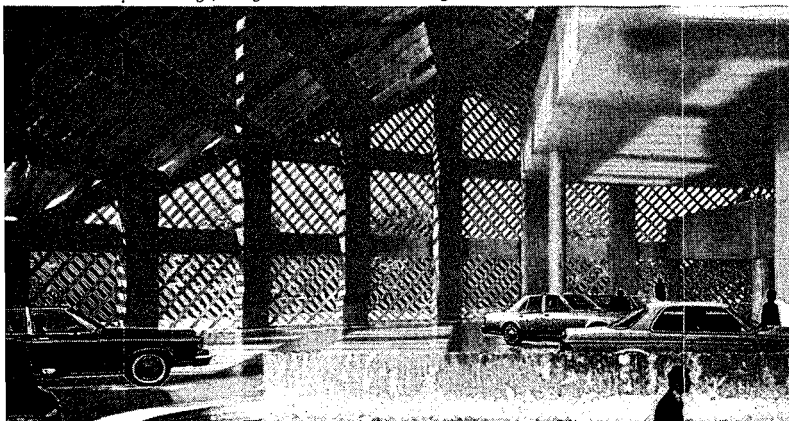
Next question: devising a structural system that suits the office spaces and can also be extended down through the garage, which ideally (in Roche Dinkeloo's view) wants a 60-foot span. The solution is a 30- by 30-foot bay, which permits angled parking for six cars per bay, and readily accommodates offices or work-station modules of 10 by 15 and 15 by 15 feet. This obviously permitted a building width of 30, 60, 90, or even 120 feet—and by analyzing, for each department, the number of offices requiring windows with the amount of support work stations and file space required, Roche found the best

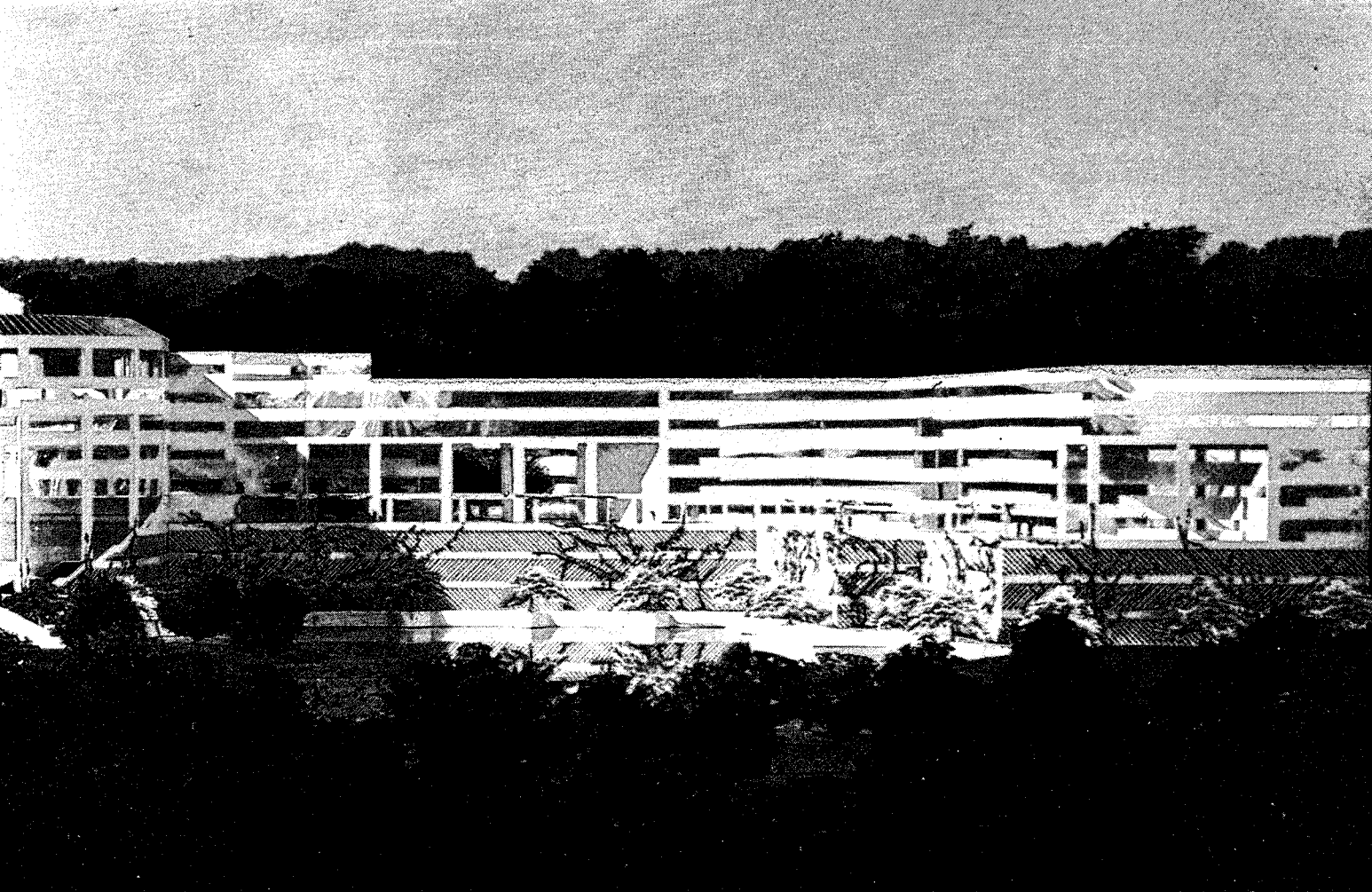
balance at 60 feet—which is an ideal width.

The architects then (step-by-step logic again!) studied configurations. A 60-foot-wide building of the required floor area, five stories high, would have made a strip building 3,000 feet long. Folding that strip into a rectangular building with three cross-aisles and four interior courtyards would have created a building 270 feet wide and 1,020 feet long—a size that would have fit on the site. It was tried lengthwise—which would have carried part of the building over the flood plain and into unnecessary structural complications. Set along the top of the ridge sloping down to the flood plain seemed then the logical solution. Finished? Could have been—but that design seemed a little "uneventful."

In hands as skilled as Kevin Roche's, it is only a short step from that rectangular, four-

* This article discusses Roche Dinkeloo's original design. In fact, it has been reduced somewhat in square footage, though the essentials of the design remain the same.





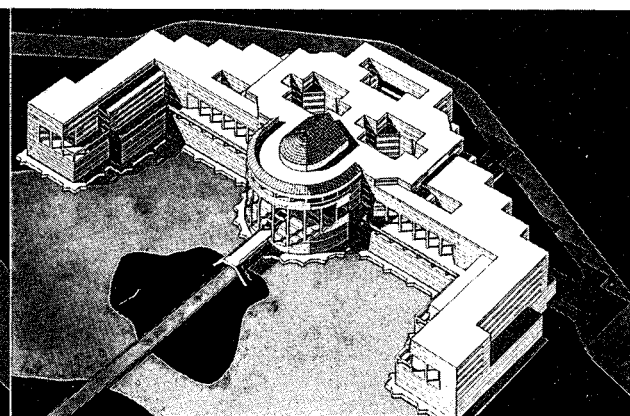
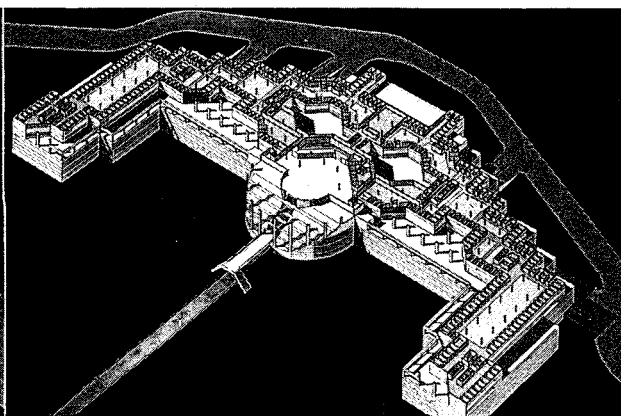
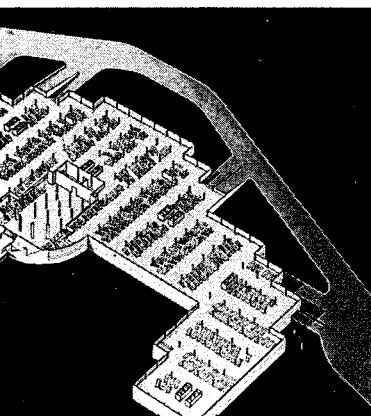
courtyard building to the configuration shown in the drawings below: You simply open up the two ends of the building to create open courtyards with slightly longer wings (leaving only the two center courtyards as interior open space); you soften up the edges a bit at the corners to create more corner offices and "a bit more interest;" and then—on axis of course—"you add a round bump on the front [let's call it a rotunda]." Finally, you soften things up a bit more by setting back successive office floors to create a series of terraces at each level, you create a series of skylights over the interior courts and, "logically," you have the plan described in the drawings—an axial office structure with a strong central focus and broad sheltering wings, all above the base platform of parking space let into the slope of the site.

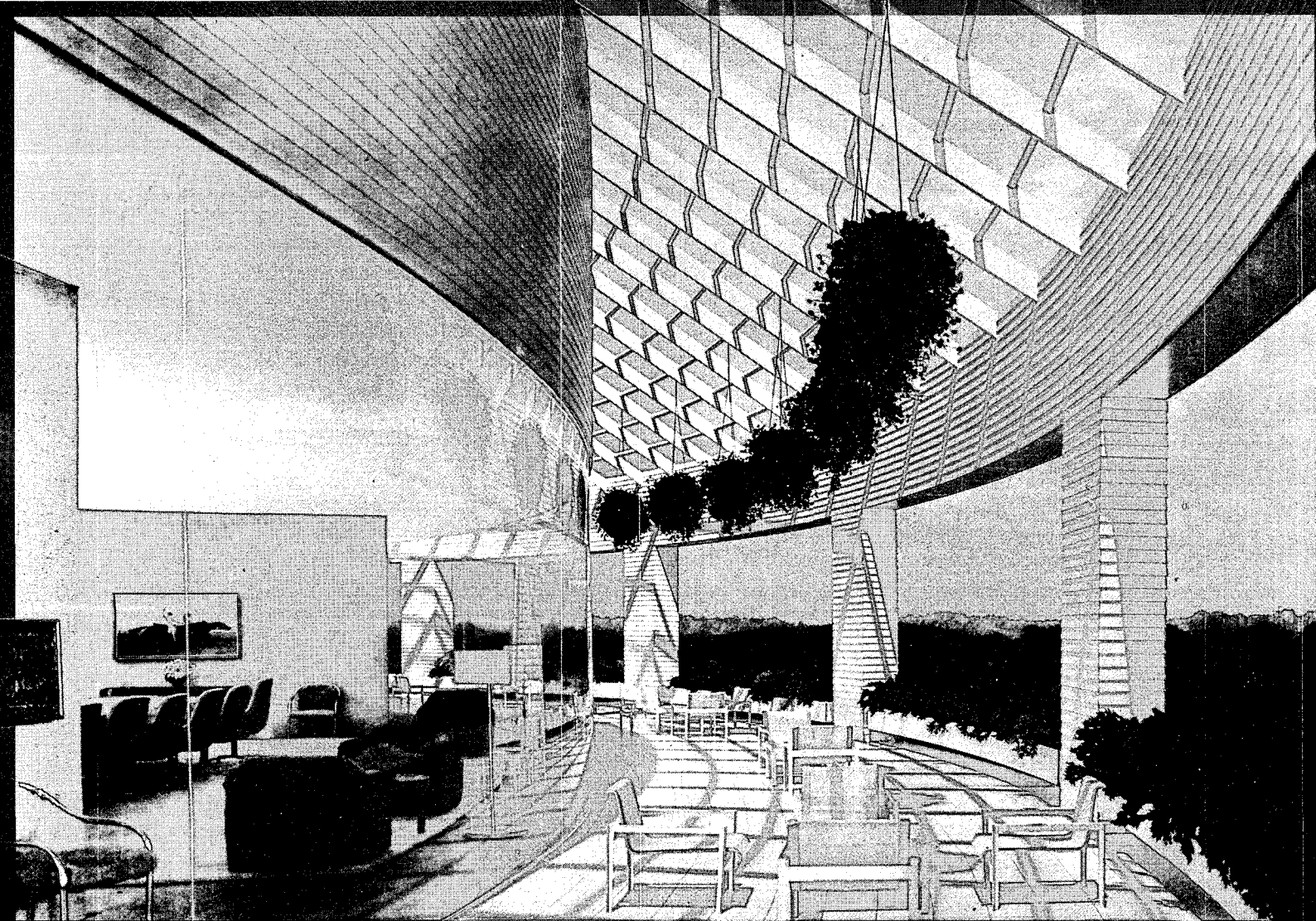
Employees enter from behind the building (opposite the rotunda) on roads from both sides of the site. Visitors enter by a separate road across the flood plain. They enter through the woods, and then, at a gentle turn, find themselves on axis with a stunning view of the building (see above) filling their windshields. "It should have," Roche thinks, "considerable impact."

In its design, Roche Dinkeloo has managed a singularly ceremonial entrance for the auto age (everyone arrives, remember, by car). After driving across the flood-plain lake, cars will pass under a portico which extends out from the rotunda, thence into the garage. The 120-car visitors' garage is, you will not be surprised to learn, no ordinary garage—it will have a metal-trellis wall, be covered by a huge sloping glass skylight (photo

to lower left), and be open to an elegant reception area "on axis." Elevators from that lobby lead to the offices above.

From there to the fourth level is employee parking. The fourth floor has office space—but its main feature is the dining lounge under a skylight in the rotunda (lead photo, and photo at bottom opposite). This dramatic landscaped space is the focal point—offering an enormous sense of space in the building as well as a handsome view year-round. From that space (see again lead photo and the center plan drawing) a formal stairway leads down to the top of the canopy over the entrance drive, and from there to the ground. "These steps are most important," says Roche. "If you've arrived by car and moved to your office by inside elevator, you need a contact with the ground; both as





a way out of the building for a summer lunch-time walk, and for psychological reasons." Offices on the floors above all share balconies overlooking this grand space. The offices on the top two floors are all perimeter, and on the top floor—a kind of penthouse space—the executive offices ring the dome of the rotunda on both sides of the board room, which is on the grand axis. All of these top level offices open to an arcade (photo above).

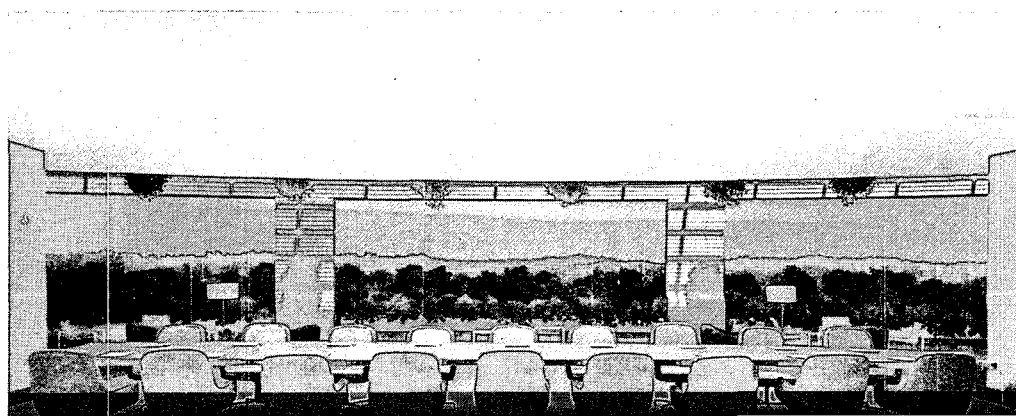
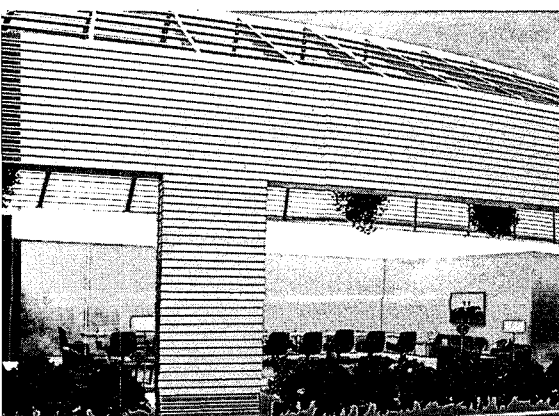
For energy considerations, the windows were held to a three-foot strip, except at the corners where they are five feet high—all double-glazed, silver reflective. "Given this smaller glass area, the wall became more important," says Roche. He decided (another surprise) on everyday, run-of-the-mill, builder-house white aluminum clapboards—"an

inexpensive, easy-to-install system with good weathering capability; a great material just waiting to be used in a non-residential building." Used at this scale, the butt joints won't show, and the shadow lines will emphasize the building's horizontality. The clapboards will be applied conventionally to steel studs with insulation and drywall on the interior. The question of steel or concrete structure awaits cost studies.

And so, Roche says again, "This is the most obvious thing I could have done. It's not post-modern or pre-modern; it doesn't pretend to be anything. It just addresses the problem. The client is a mainstream American firm selling to the mainstream American public—which was an important design consideration. This building would not be appropriate for other clients—it doesn't look

like a place where people who make tractors would live. But I think this design is an appropriate image for this particular firm—it does present itself as an important center of economic activity; and I think the public, the firm's customers, will identify with it.

"It was designed from the same base as all our other buildings. It started with a need. We have never considered starting from some formalistic idea. A well-educated art historian or critic can draw all kinds of historical allusions here—and they will. But that's all very personal—like looking at clouds and deciding what you see. What this building has to say," Roche *does* admit, "is open to all kinds of interpretation, and everyone is welcome to his or her own theory. But to me it is, once again, an obvious and logical solution to this particular problem."—W. W.



THE NEW PUBLIC PRIDE IN LOCAL GOVERNMENT BUILDINGS

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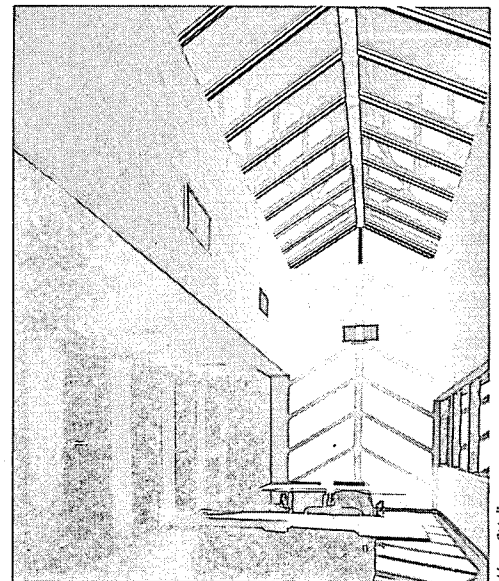
There are a number of important new implications to buildings built by local governments. First, strong, easily identified design characteristics are emerging, and these clearly tell us that a court house is different from, say, a police station—or more importantly that both are different from a supermarket. (We may all remember a time in the 1950s when it was not always so easy to tell.) While financial responsibility is becoming a bigger issue, public sensibility seems to be demanding something more than barebones, namely quality—and usually at not much greater cost. Perhaps constantly improving attitudes at the Federal level are filtering down—but it would be nice to think that the message about the value of good design—a message that good architects have been pressing all along—is finally getting across to even the most hardheaded administrations.

Perhaps not every local government building in the near future will be able to display the innovation shown in architect William Morgan's Police Station and park in Jacksonville (RECORD, January, 1978)—but combined uses are more good news: the same spaces used for multiple purposes, with the obvious consequent savings that can mean better value for and impact on the community. The Portland Public Safety Headquarters that follows is a particularly interesting example of getting "more for the money."

More good news: local public administration buildings continue to be generally resistant to the trend to lump larger-scale governments' facilities together in isolated centers. They now seem to be more often designed as part of the fabric of their localities. As demonstrated by the first three of five examples on the following pages, what is really new is that there is clearly a concerted, publicly-supported, and determined design effort to make this integration a viable part of any already-identified context. The "modified supermarket" syndrome seems no longer to invade the town square at taxpayers' expense.

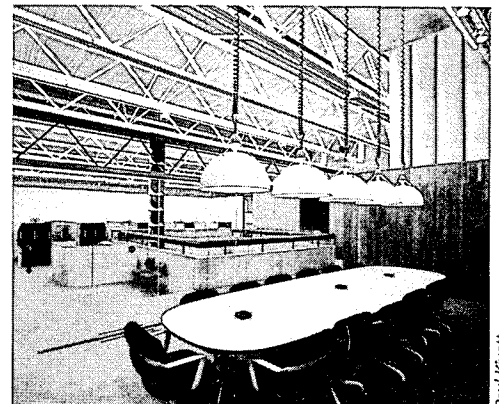
But the best news of all may be that the extra effort to finish local public buildings as was intended by the architect in the first place is now evident. Witness the interiors (photos right) of the local public buildings, shown on the following pages. Some of these buildings are of a function long considered to be particularly resistant to any more than the superficial trappings of good design; to be filled with furniture left over from the last inadequate facility. But, we suddenly find evidence of extra effort: good graphics, good furniture, and a good comprehensive design result. Architects all across the country are producing quality design for one of the toughest clients—local government.

The five buildings presented each illustrate at least most of these new trends. Each is well designed—designs that can be clearly identified for their purpose without large signs. Several offer multiple-use facilities. Those that are in localities with established character reflect it. And each has been finished to a high quality that has been unusual in such structures. Good design, inside and out, is coming to mean better value for even the most financially conservative administrations. —Charles Hoyt



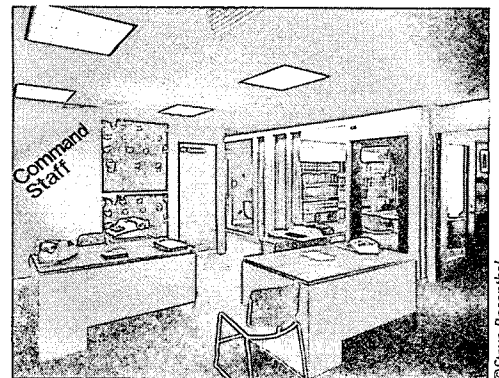
Third District Court

Wray Studio



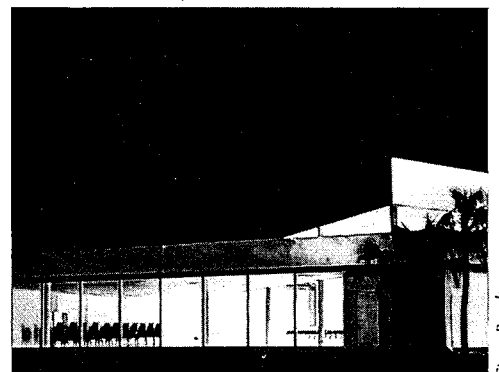
South Central Patrol

Paul Kivert



Portland Public Safety

©Steve Rosenthal



Hardee Center

Steve Brooke



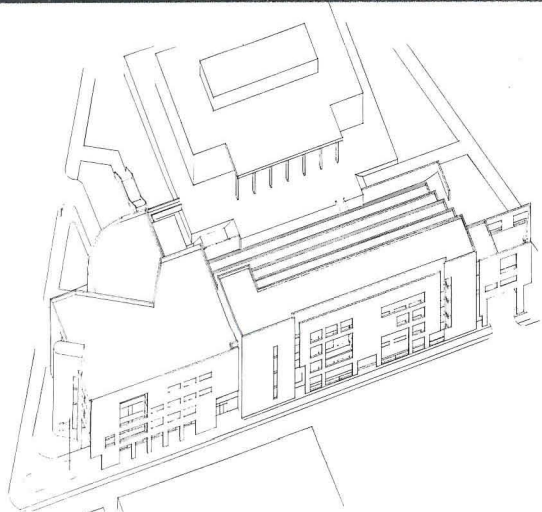
THE DURHAM CITY HALL IS A PLUS FOR ITS DOWNTOWN

A most skillful example of an effort to integrate a new local public building into an existing urban fabric is the Durham, North Carolina City Hall. Not only does the 140,000-square-foot structure occupy a confined site that is surrounded by very different types of urban situations, but it stands at the convergence of two street grids at different angles to each other and alongside a curved connector road to the east (shown at right in the isometric). The site is shared by a previous police headquarters building to the north (shown at the top of the isometric). Across the street to the west is that ubiquitous urban vacuum, a parking lot. And, to the south are more intimately-scaled buildings, including a venerable local-landmark church with a time-honored view from the connector road, (shown at left, large photo opposite). Clearly, the complexity of the resulting building design is a response to a complex situation.

What the architects—John D. Latimer and Associates, with Roger H. Clark—have done is to create a building with as many varied faces as those of the matching surrounds. Clearly articulated from the dark-brick building, a light-colored urban and monumental facade—part building wall and part sunscreen—faces south toward the pedestrian-scaled street. It matches the rhythm of the older buildings opposite by the visual breaks created by sections of the dark-colored building poking through. On the east end, the building is angled (foreground of photo opposite) to provide a view of the church from the connector road. At the other end, toward the parking lot, an even larger-scaled presence is created by the sculptural forms of a projecting semicircular council chamber, echoed in form, by the nearby stair tower seen in the photo above. The architects planned for the room's symbolic role—as well as for its benefits of urban scale.

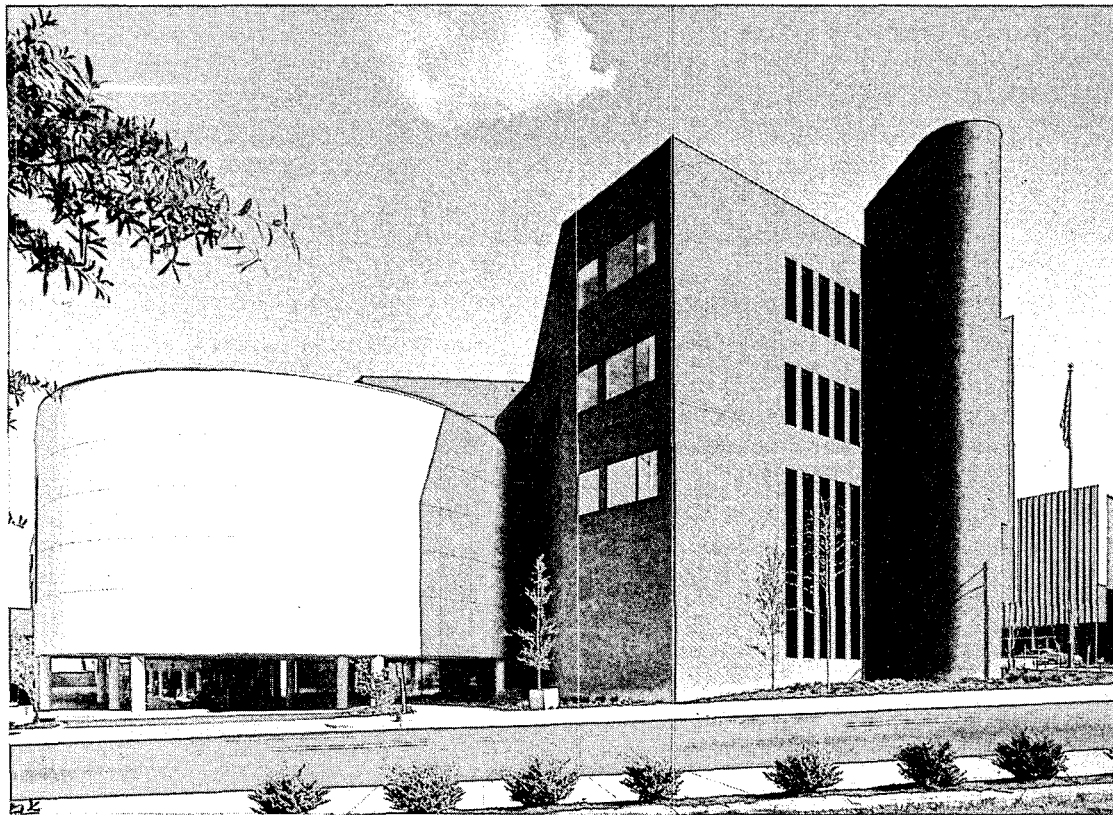
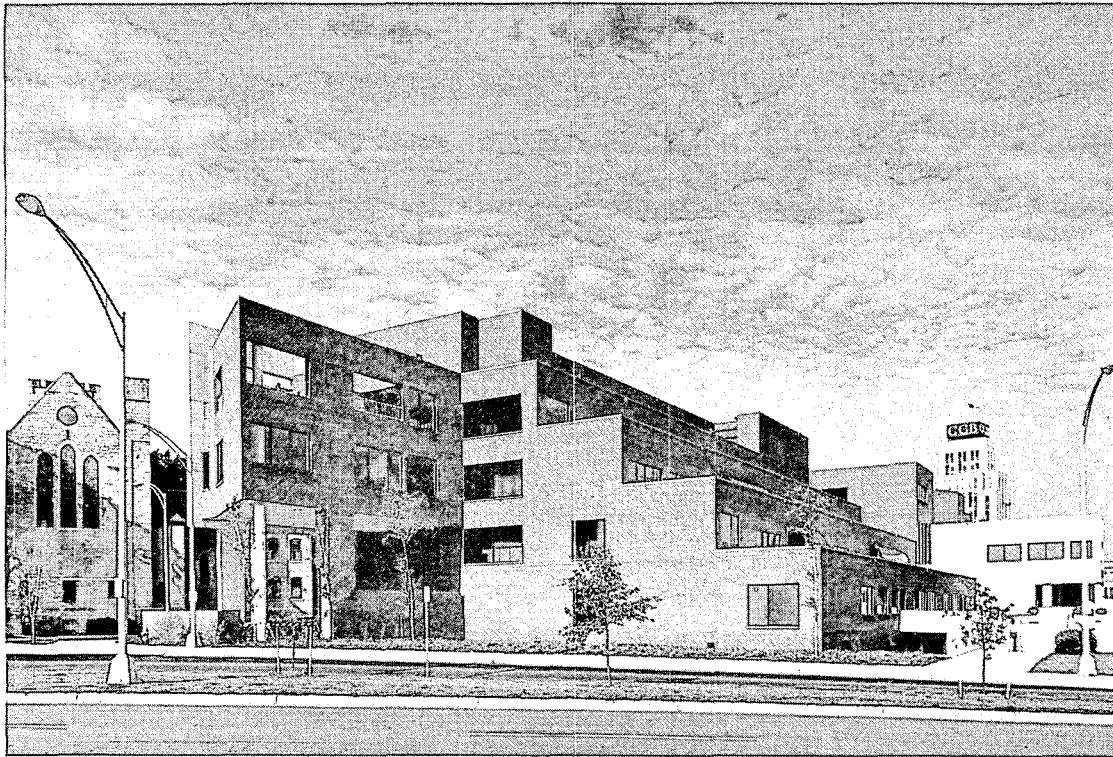


Gordon H. Schenck, Jr. photos

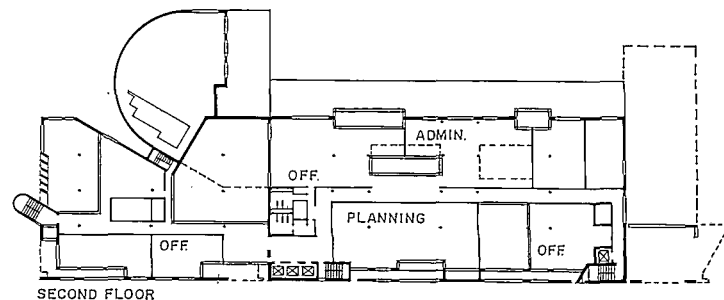
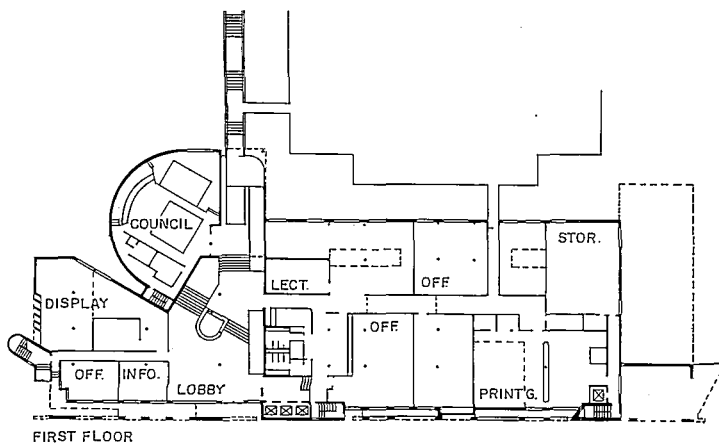
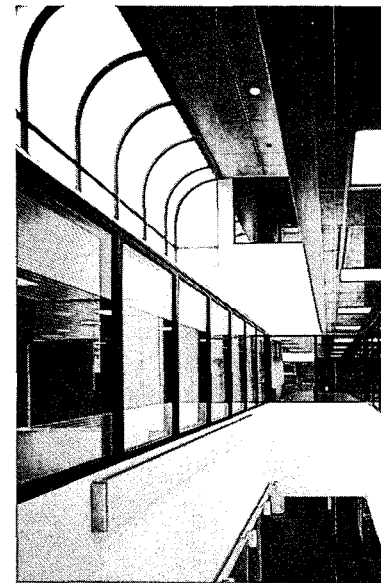


On the side facing the relatively small police station, the building takes on another character—with a stepped structure that allows light into the interiors (by wells to the lower floors as seen in the small photo overleaf), and allows sun to reach the plaza that separates the two structures. An added bonus is that major public functions can be located on the lower levels near public access. On the largest floor where the main lobby and information desk are located, several entrances are given equal importance, creating pedestrian activity all around the building. Future-office expansion has been provided both within the current volume and to the east.

CITY HALL, Durham, North Carolina. Architects and engineers: *John D. Latimer and Associates, Inc.*—design architect: *Roger H. Clark*. General contractor: *J.M. Thompson Company*.



Solving some difficult problems of urban context as explained on the last two pages, this large building manages to be both a good neighbor and a unifying force in an area of jumbled surrounds. The architects have purposefully projected the semicircular city council chamber (lower photo below and photo opposite) from the building as an expression of importance—and as a large-scale element. Adjacent to the council chamber are the other ceremonial spaces, separated from offices in the stepped portion of the building by the main lobby. Running along the length of the office wing, open wells (photo below) admit natural light to the interior and allow visual interaction between the various activities on different floors. Those partitions that are basic to the building's concept are masonry, while two types of less permanent partitions allow various degrees of movability.





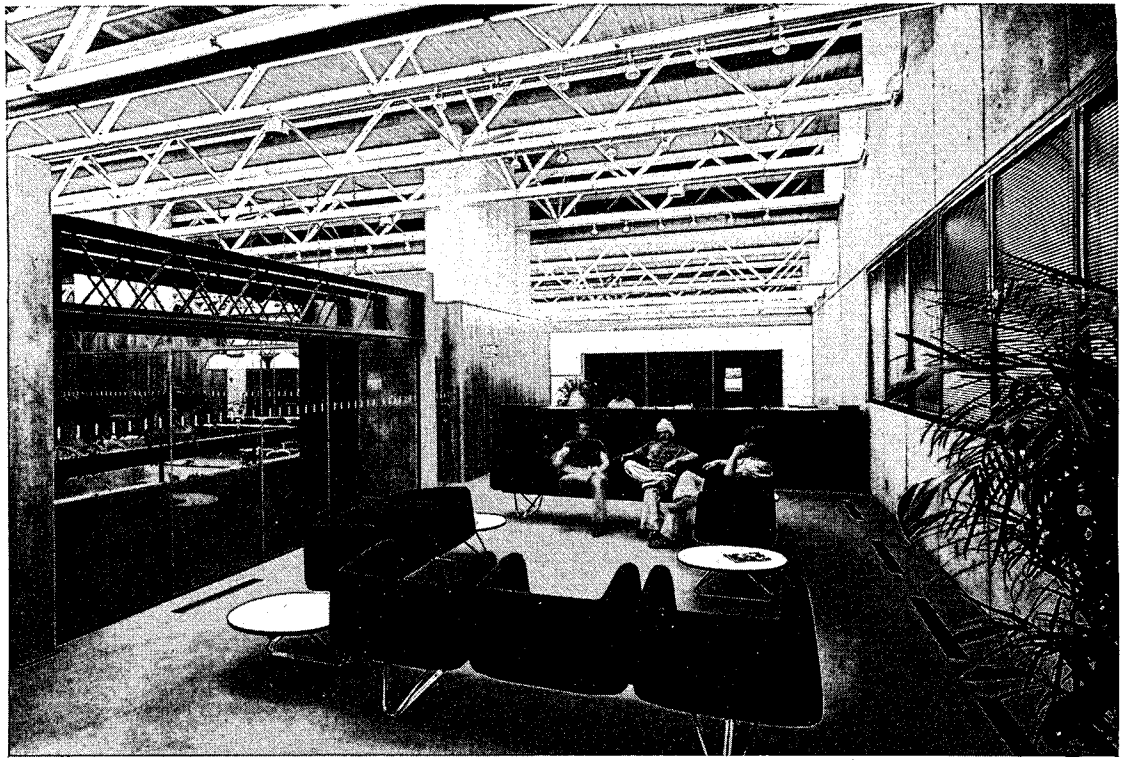


THE KANSAS CITY POLICE OPT FOR ACCESSIBILITY

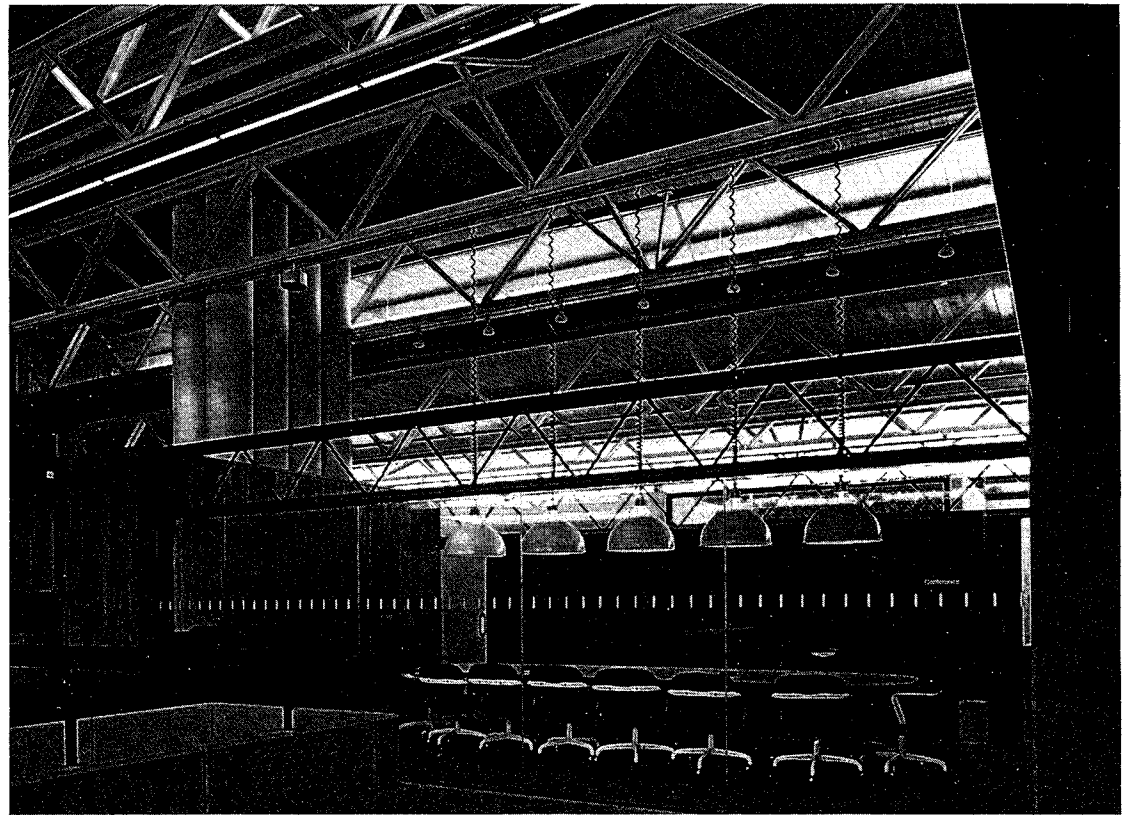
A recent recipient of a coveted A.I.A. Award for Excellence, architects Patty Berkebile Nelson Associate's design for the South Central Patrol Division is a new high point for the image of law enforcement. Located in an area of low-rise buildings, this design presents a one-story face to the street by having non-public functions located on a lower level. (The site slopes away from the sidewalk, so that the police can come and go without disturbing the public areas above.) In contrast to the appropriate monumentality of the city hall on the previous pages, this 12,400-square-foot structure is appropriately modest in a thoroughly welcoming and cheerful manner that makes the best of some often-grim business. On the upper public level, normally concealed functions are carried on in public view, because of the open planning of the floor—and there is even a well down into some more private spaces below.

And indeed the building is part of the growing multiple-use trend, by being available for community meetings and activities. Within the context of structure and mechanical equipment that are exposed to rich visual effect, the graphics and furnishings are of an extraordinarily high quality that further reduces the onus of daily police business. Natural light enters both floors through the clerestory windows in the steel-supported wood roof deck. And the stepped profile of this roof provides an identifying imagery for the building from afar—even without PNBA's handsome sign that sets the tone for the high quality.

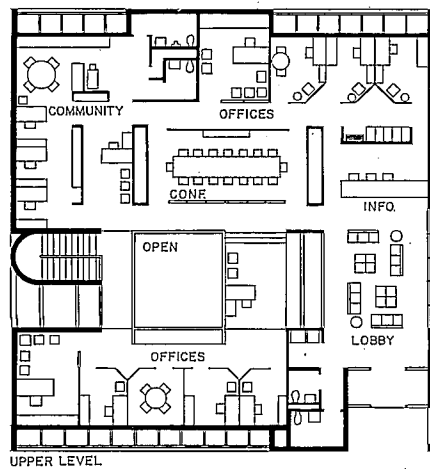
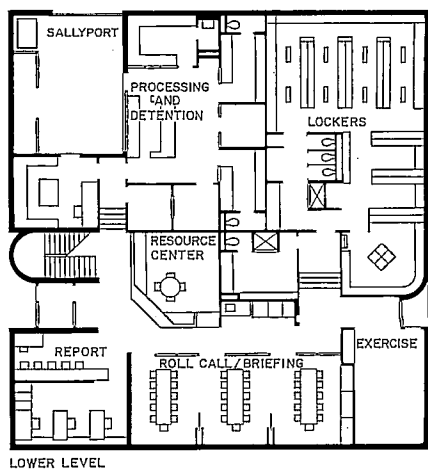
SOUTH CENTRAL PATROL DIVISION, Kansas City Missouri. Architects: *Patty Berkebile Nelson Associates Architects Incorporated—partner-in-charge: R. Bruce Patty*. Engineers: *Stevson-Hall & Wade* (structural); *Smith and Boucher* (mechanical/electrical). General contractor: *Bennett Construction Company*.



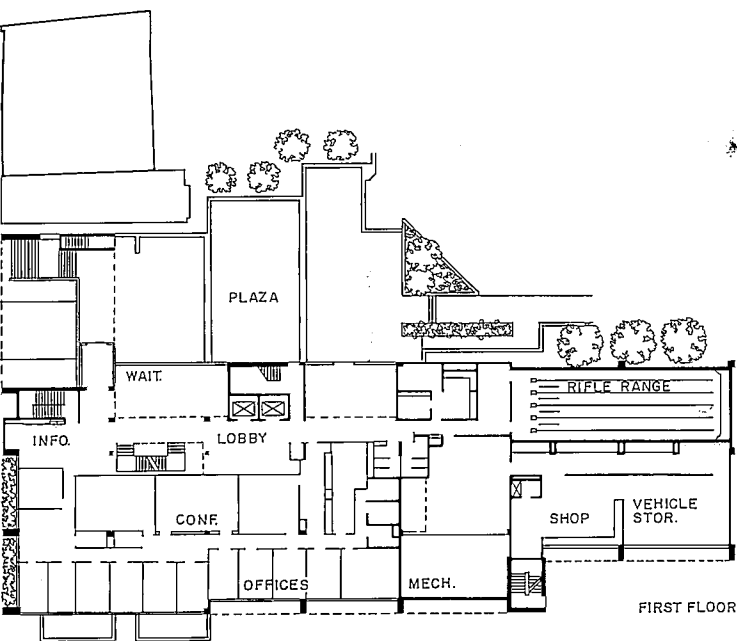
Remarkable for maintaining a bright open atmosphere through planning, finish details and natural light through skylights and clerestories (as well as preserving the necessary security for police functions), the South Central Patrol Division is also a multiple-use building that accommodates community functions. The second floor is directly accessible from the street, and has a minimum of solid partitions so that this public floor can provide a welcoming image. Such rooms as the lobby (photo above) and conference room are separated from the public entry by only glass partitions. The police functions which must—by their nature—be private occur on the lower floor (see plans below).



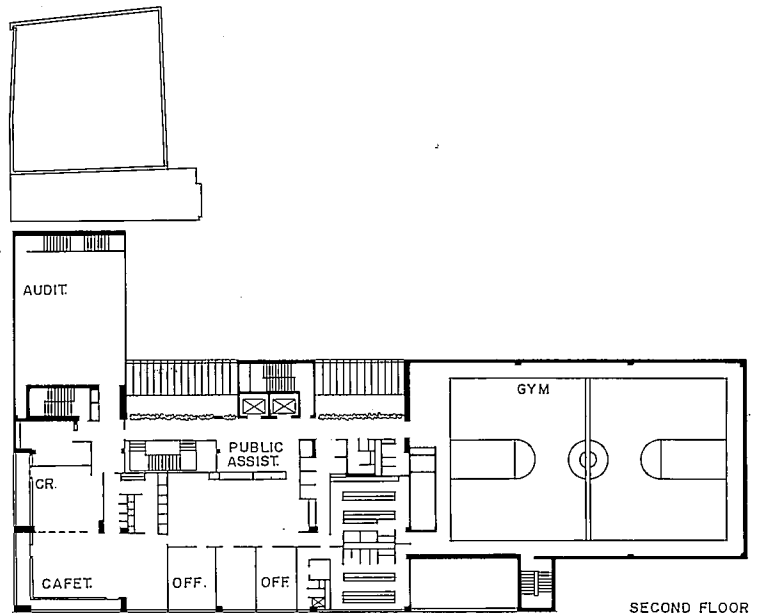
Paul Kivett photos



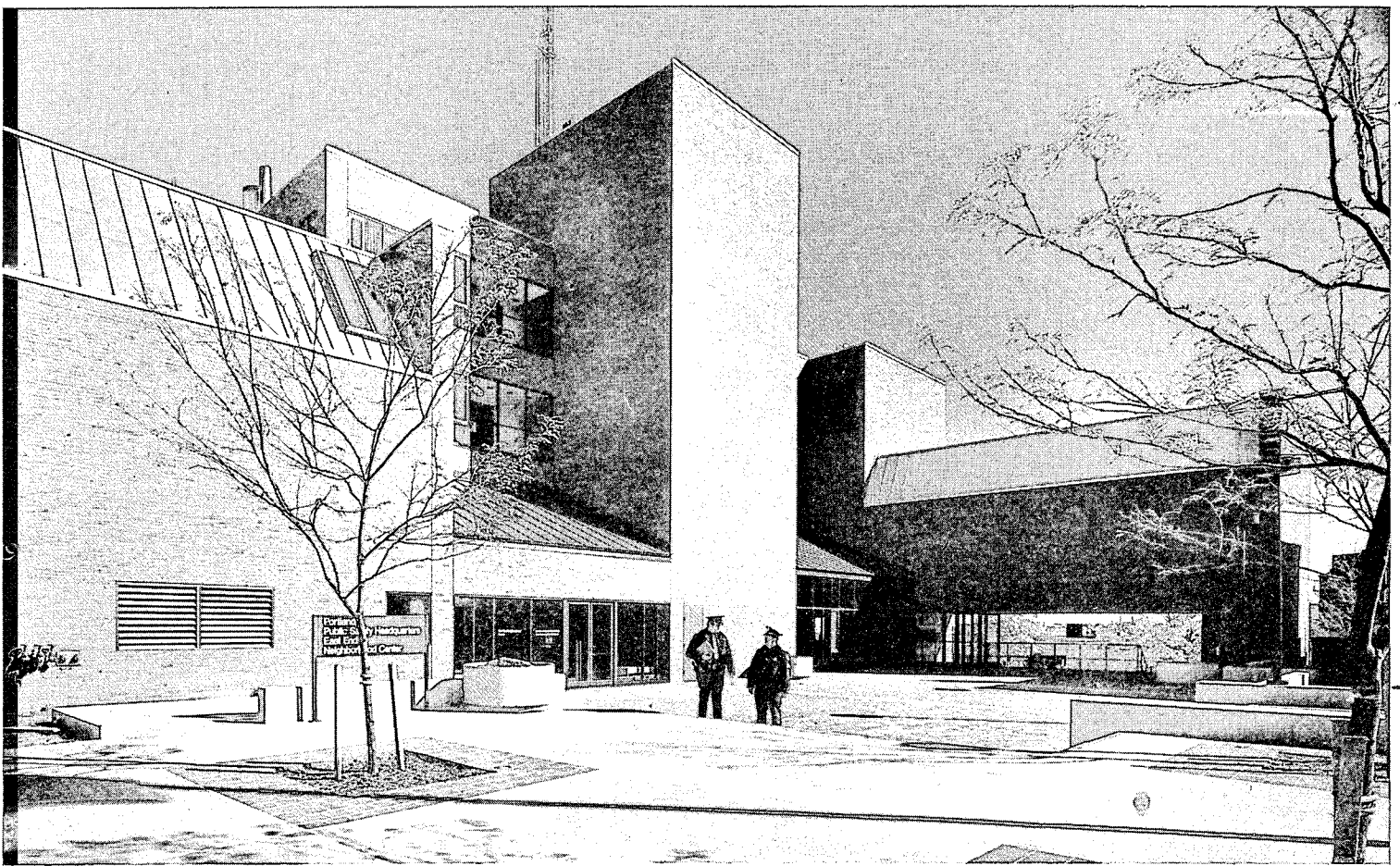




FIRST FLOOR



SECOND FLOOR



©Steve Rosenthal

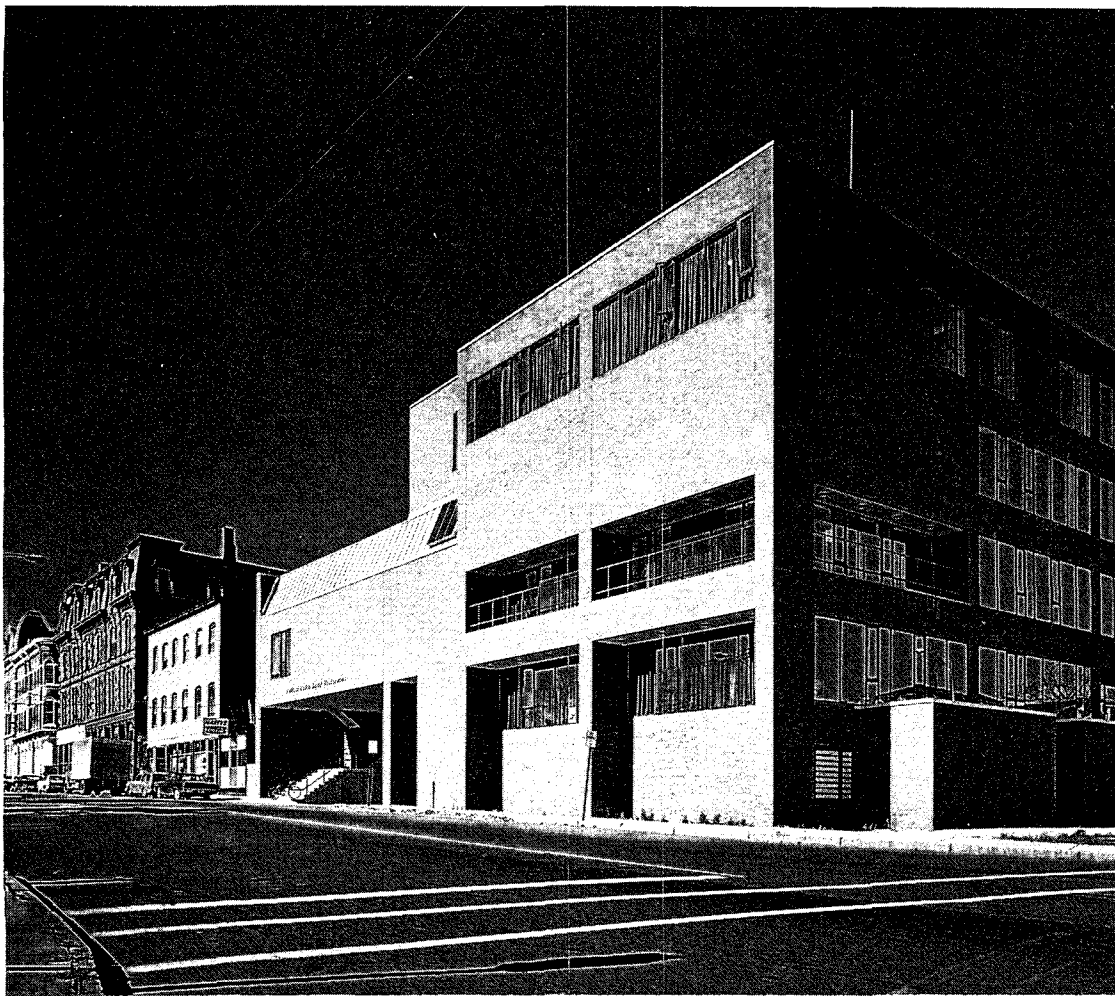
PORTLAND GETS SEVERAL BUILDINGS IN ONE

Portland, Maine's Public Safety Headquarters is a true multiple-use building. Gaining high marks for urban fit, for a bright and welcoming image, and for spaces that do double duty, this 64,000-square-foot building was designed by architects Johnson, Hotvedt, Di Nisco to house not only a headquarters for the police, but a fire-communications center, and a variety of neighborhood activities in spaces shared with the police. Besides a public plaza, and a lobby that doubles as a community display area on the second level, the third floor holds a 6,000-square-foot gymnasium, lockers, an auditorium, a classroom, and a cafeteria that are all open to community use.

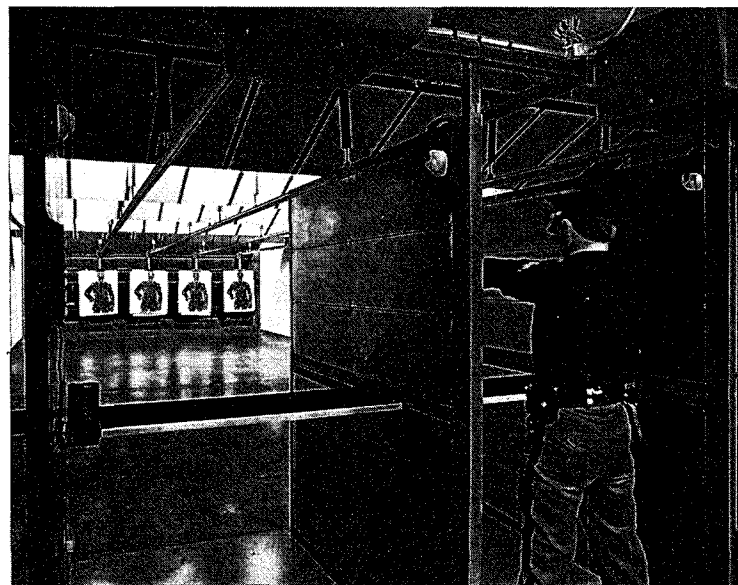
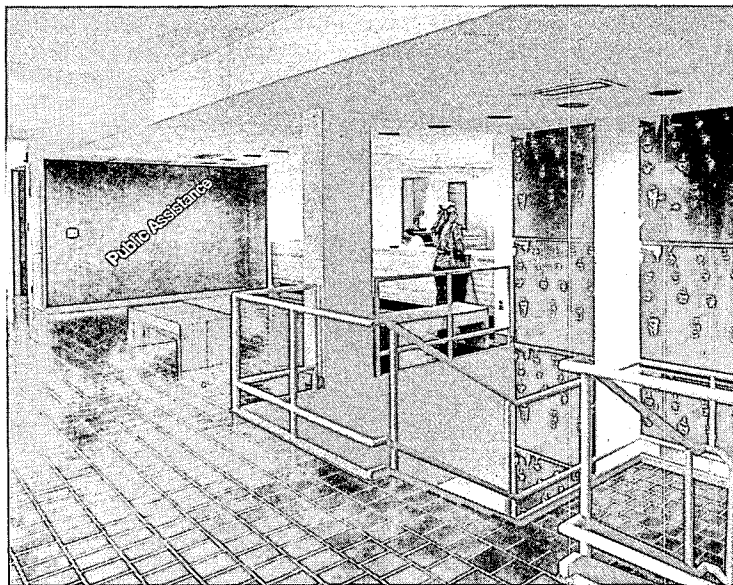
Because of the slope of the site, police vehicles can enter at street level into a garage under the plaza, adjacent to such internal activities as detention and property holding. Via special elevator, isolated contact can be maintained between this police activity and

internal offices and processing facilities on the fourth and fifth floors—while neighborhood programs as those sponsored by Model Cities in the gymnasium go on undisturbed. The initial program set out to eliminate a "damaging misrepresentation of the importance of public safety," and the ambitious result is more than accessible imagery—it is a positive effort to integrate law enforcement into the community.

The welcoming imagery is certainly there. Through large glass areas, especially in the lobby facing the plaza (photo above), brightly-colored photo enlargements of police in garb that spans the last hundred years decorate the walls. Coupled with unusually successful graphics that guide the public (see photos on the introduction page and on the next two pages), the visual result is truly extraordinary in its success at overcoming negative imagery.

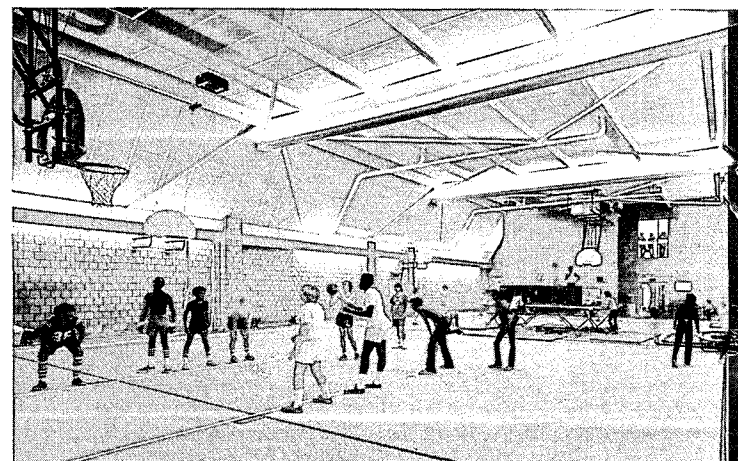


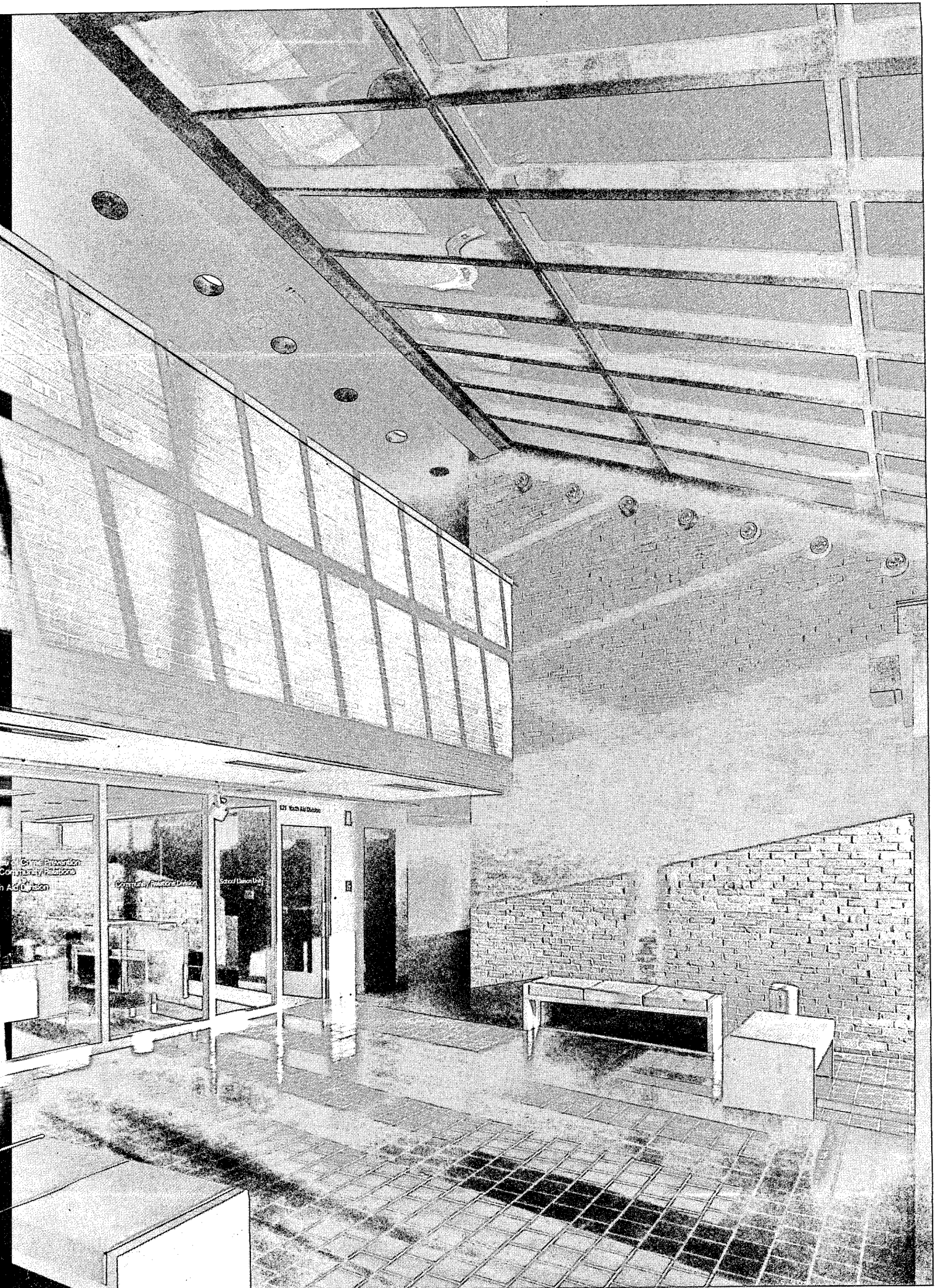
Because of the sloping site, the five-story building fits gracefully into a row of adjacent older structures (photo left), and can be entered (photo opposite) from a raised plaza at the second floor. Bright graphics are particularly appropriate to the dual role of community use and public services. These include signs designed and placed to become decorative elements on brightly colored walls, and vivid photo images transferred onto clear plastic panels by silk-screening to create murals. Considering the police headquarters role, the building has remarkably large areas of glass that not only admit natural light, but provide views of the colorful interior from outside—especially from the raised plaza.



Working with the complications of community input and the complex requirements of police functioning, the architects were still able to turn out their preliminary design in thirteen weeks. And they credit extensive use of models of everything from the neighborhood to individual rooms for their quick success. The brick-clad structure is a combination of steel and concrete.

PUBLIC SAFETY HEADQUARTERS, Portland, Maine. Owner: *City of Portland, Maine*. Architects: *Johnson, Hotvedt, DiNisco*—principals-in-charge: *Kenneth F. DiNisco, Robert N. Hotvedt*; project architect: *Steve Albert*. Engineers: *Veitas & Veitas* (structural); *Shooshanian Engineering* (mechanical); *Lottero and Mason Associates, Inc.* (electrical) Consultants: *William Lam Associates* (lighting); *Moriece & Gary Inc.* (landscape). General contractor: *Consolidated Constructors and Builders*.







RURAL FLORIDA AGENCIES GAIN NEW PROMINENCE

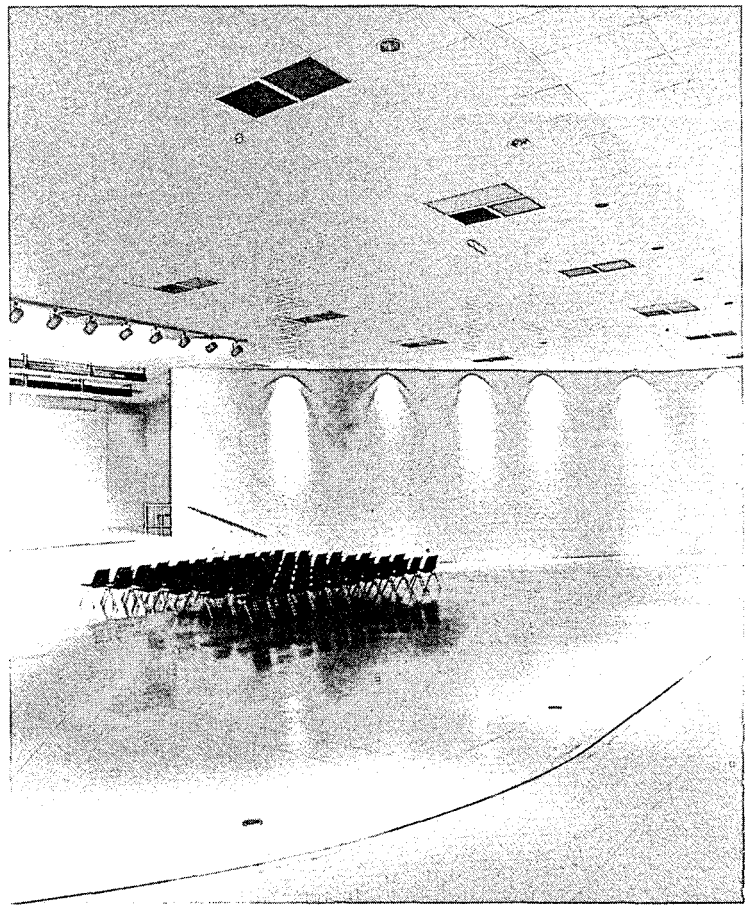
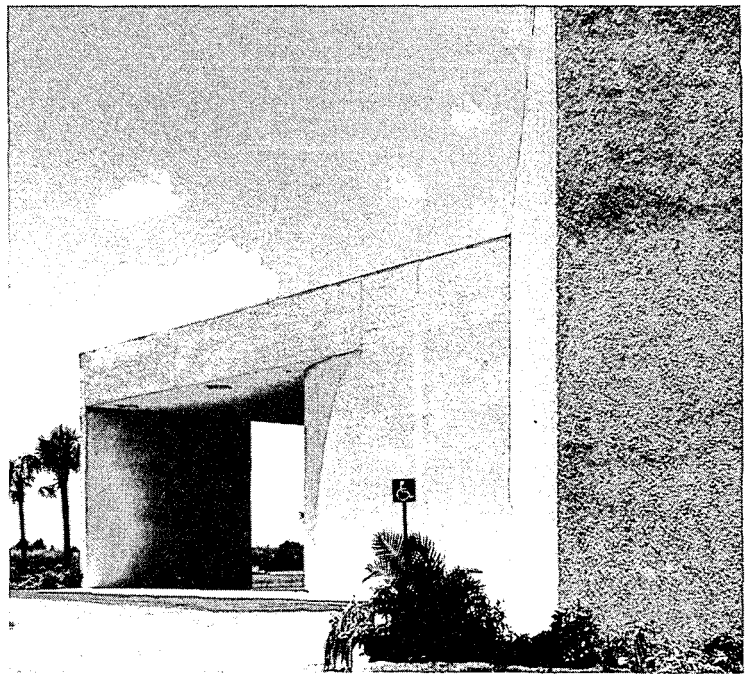
The Hardee Center in Wauchula, Florida gives an architectural and community focus to a rural area. An example of a building type that *has until recently* tended to resemble a roadside stand, the working part (to the left in the isometric view) of this structure contains county offices for the local branches of such agencies as the Farm Home Administration and the Florida Cooperative Extension Services. What architects Zoller-Abbott have done is to give visual importance to small-scale functions by combining them with a needed civic auditorium. The combination worked not just visually, it also allowed the use of Federal Revenue-Sharing funds for both parts. The 1,500-seat auditorium is in turn a part of a long-term county master plan to make the flat open 70-acre site into a civic center—with a strong rural bent, such as facilities for cattle fairs and rodeos. The focus of the site will become the fairground.

In effect, for the majority of working hours, the auditorium becomes a gateway for the constant flow of traffic to and from the offices. Located near the entrance to the site, the large-scale open auditorium entrance (photo opposite) also becomes a gateway to the fairgrounds, and such facilities as rest rooms are located here for the whole site. Total costs for the 23,000-square-foot project were \$617,000. Typical of Florida construction, the wall structure is concrete block with a stucco finish. The roof construction over the larger spaces—such as the 70-foot-wide auditorium—is steel truss.

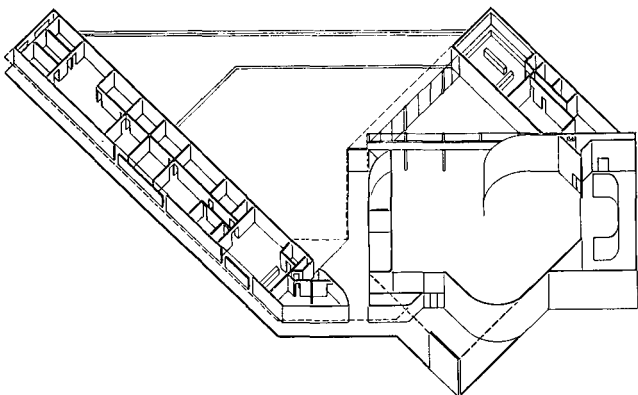
THE HARDEE CENTER, Wauchula, Florida. Owner: *Hardee County*. Architect: *Carl Abbott of Zoller-Abbott Architects/Planners* Engineers: *Harry Hodson* (structural); *Scott & Scott, Inc* (mechanical/electrical). General contractor: *Advanced Contractors, Inc.*



Rising unexpectedly from the flat rural terrain, the crisp white walls of the auditorium form a large-scale gateway to both the relatively modest adjacent offices for local agencies and to the large site that is to be developed as an agricultural and ranching fairground. Like an open scoop towards those arriving, the 20-foot-high porch takes on a monumental character, and—by skillful manipulation of the volumes—the architects have managed to wed the diverse scales inherent in the varying functions. The two wings of the building form two sides of a triangular courtyard, which is open on the third side to an adjacent pond.



Steve Brooke



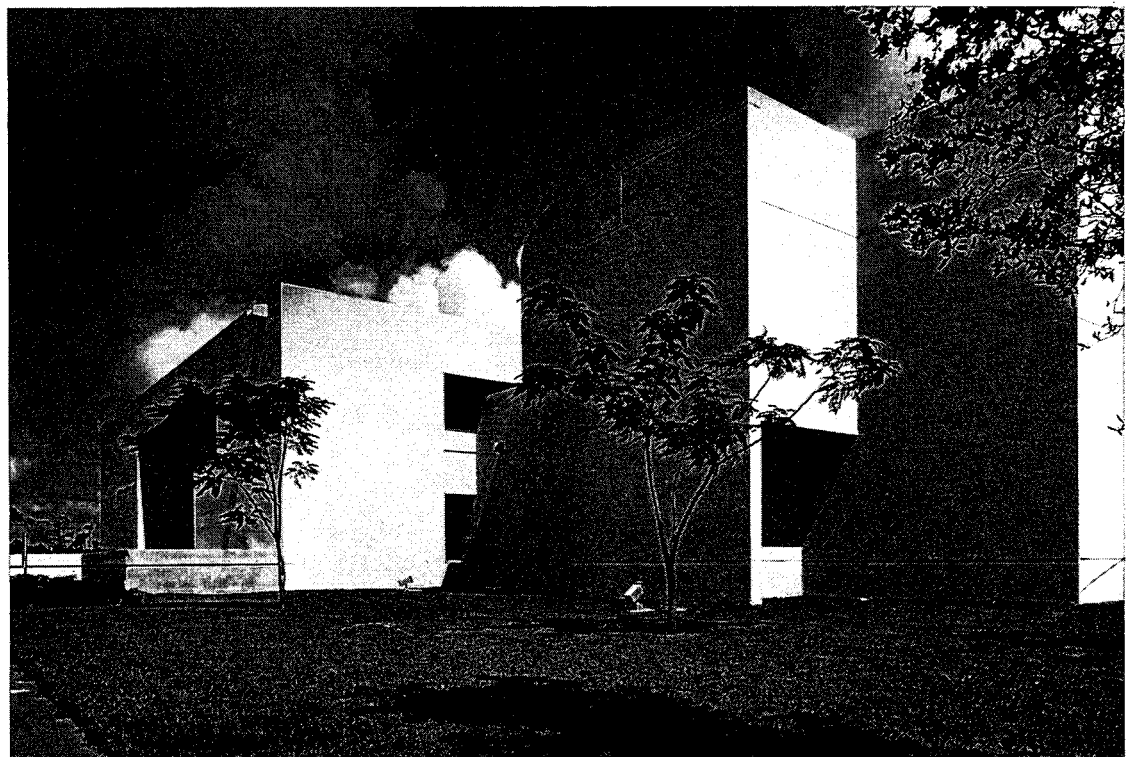


MIAMI COURT COUPLES MONUMENTALITY AND ACCESSIBILITY

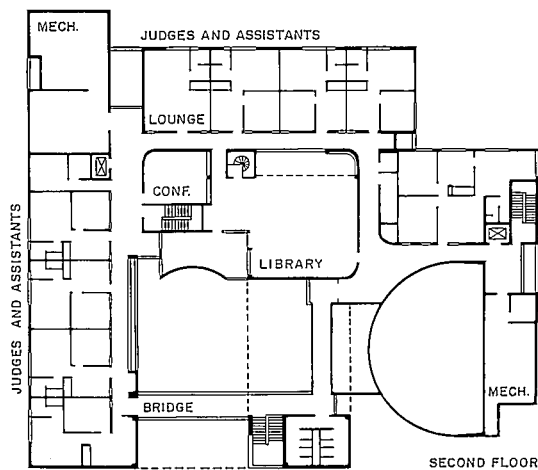
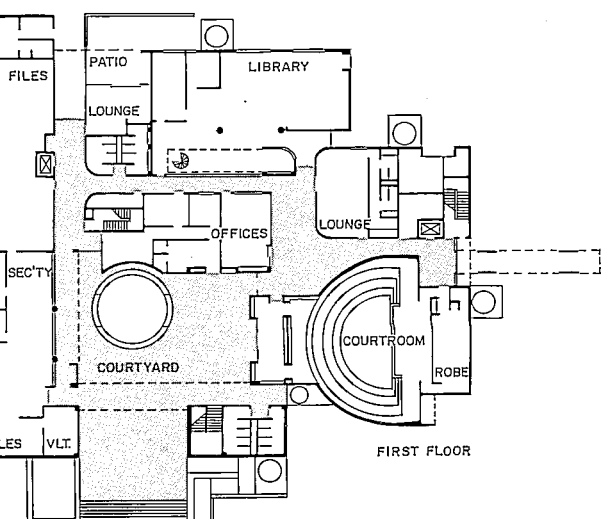
With an added bonus of savings on heating and cooling loads, the grand entrance to the new Third District Court of Appeals leads not to the expected enclosed lobby, but to a welcoming open courtyard that gives both a place of assembly and a way of reaching the various basic spaces located off it. Using a centuries-old format for circulation in warm-weather climates, architects Ferendino/Grafton/Spillis/Candela have produced a monumental, but appropriate building for official functions with only 37,500 square feet of enclosed space. A good part of the perceived volume is wide open to the sky, and becomes a "free" contribution to the building's scale. This circulation concept would not work for a series of smaller air-conditioned spaces where doors are opened frequently; thus there is the usual system of enclosed corridors on the second floor, where there are offices for eight judges, their assistants and secretaries.

An extensive library occupies parts of both stories of the building in two different areas, and is connected by an open well (see plans). Opening directly from the courtyard—and indeed expressed as an articulated building volume—the all-important courtroom is semi-circular in shape, and provides unusually good visual contact with the bench by both the short radial distances from spectator seating and by having that seating on stepped platforms.

THIRD DISTRICT COURT OF APPEAL, Miami, Florida. Owner: *The State of Florida, Department of General Services/Justice Branch*. Architects and Engineers: *Ferendino.Grafton.Spillis.Candela—principal-in-charge: Ed Grafton; project manager: Don Dwore*. Consultants: *Dr. Augusto Condom (acoustical); Peggy Nye/Design Matrix (interior); Cole Early (cost)*. General contractor: *SAC Construction Co.*



Dan Forer



The Third District Court of Appeals is a small building that gains appropriate monumentality by capturing open space, in the form of a central courtyard, within its carefully-designed volume. Unlike other examples in this study, the Court is located in a suburban—almost rural—area, where the element of monumentality becomes important in creating a statement of civic presence. The courtroom is expressed as a separate volume. Increasing the importance of the bench in what is a relatively modest room, the ceiling steps up to provide greater height at the focus.



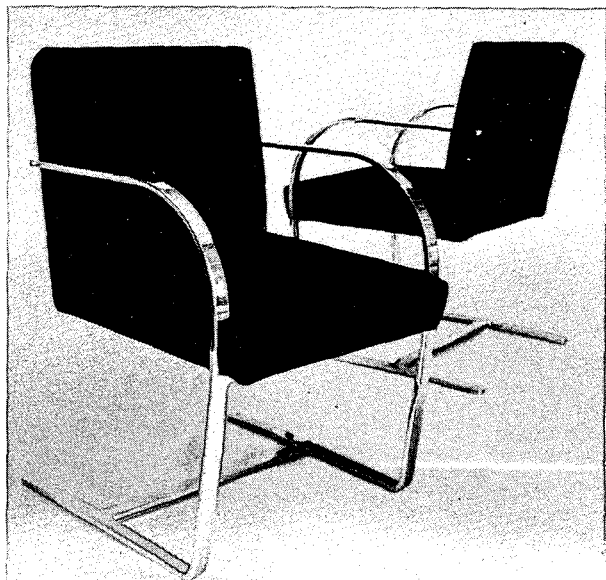
Like many interiors on the previous pages, those of the Third District Court of Appeal exhibit a high level of finish and furnishing for publicly sponsored construction. In the semi-circular courtroom, naturally finished wood cabinetwork shows particular attention to detailing. And in the skylit library, there is a particularly strong attention to spatial qualities.

For more information, circle item numbers on Reader Service Inquiry Card, pages 167-168

Four unique chair designs highlighted by stainless steel

This chair design (left) has a stylish rectangular chrome frame with connected double tubes at two points. A hinged seat and back, clad in leather, is slung so that the tip of the seat rests on one set of tubes. Called "CH 16," it was given a design award at the third annual International Product Design Awards sponsored by ASID. ■ Zographos Designs Ltd., New York City.

circle 300 on inquiry card



Suede and leather seat and back coverings have been added to the existing line of this elegantly designed chair (above). Designed by Elyse Lacher, the frame is made of stainless steel molded in a flat

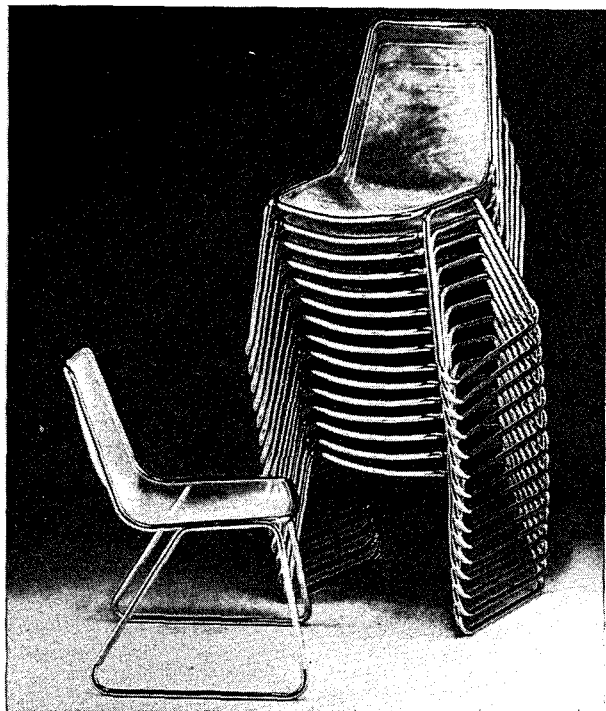
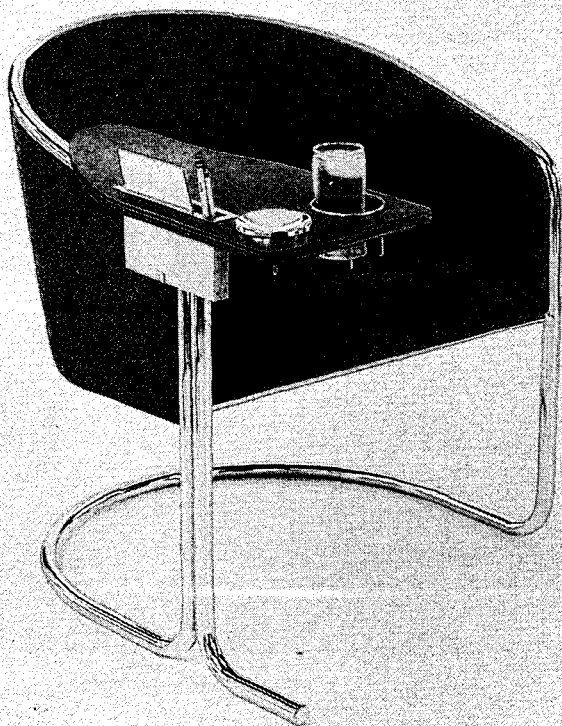
form allowing a broader surface for greater reflectivity. Its dimensions: 23-in. wide by 22½-in. deep by 34-in. high. ■ Cy Mann Designs Ltd., New York City.

circle 301 on inquiry card

The chair below combines the practicality of a sturdy, convenient lecture chair with an aesthetic appeal in this innovative design. The model 278KN chair is styled with a chromed tubular steel frame supporting a semi-circular upholstered back and seat. A walnut lami-

nated plastic surface with chromed metal holder for paper, pencils, glass and ash tray (also offered with a solid-top writing surface) is connected to a flared leg for stability. ■ Virco Manufacturing Corp., Torrance, Calif.

circle 302 on inquiry card



A highly unique design, this chair has a contoured seat of steel mesh tied to a sleek tubular steel frame finished in bright chrome. It was originally developed for the U.S. Navy for on-ship use. The "Astro Mesh" chair is stackable, and is

available in conventional sled-leg models, with or without arms, and in a variety of epoxy colors. ■ Fixtures Manufacturing Corp., Kansas City, Mo.

circle 303 on inquiry card
more products on page 121

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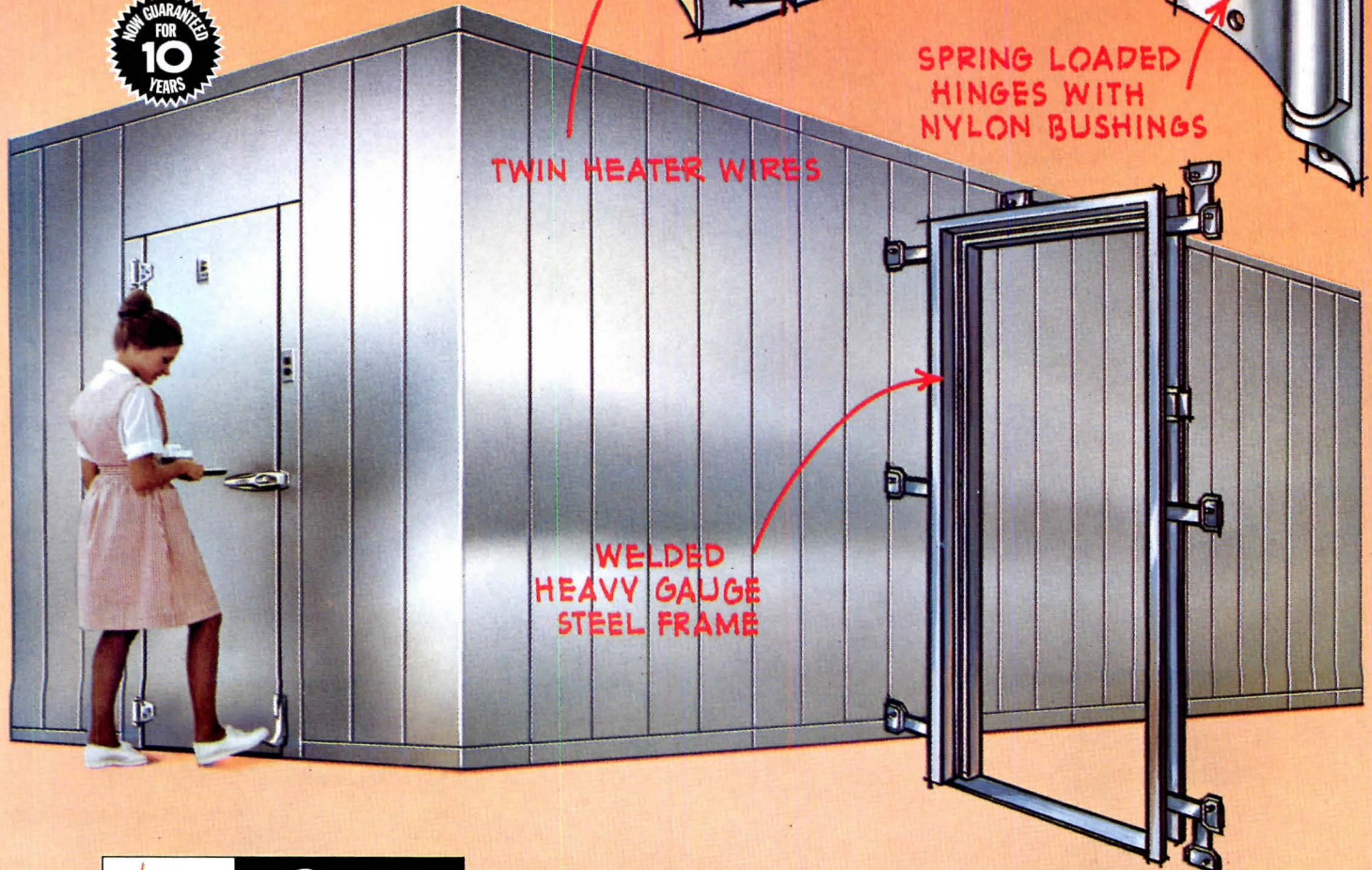
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For more information, circle item numbers on Reader Service Inquiry Card, pages 167-168

TIMBER CONNECTORS / A product design and specification sheet describes a line of spike grid timber connectors and installation tools. Connectors are offered in three different types—single curve, flat, and circular—for use in the construction of pole frame structures, docks, wharves, transmission towers and wood trestles. ■ Teco, Washington, D.C.

circle 400 on inquiry card

METRIC TUBE FITTINGS / A 74-page catalog provides detailed specifications and pertinent technical data useful to designers of hydraulic and pneumatic systems. ■ Voss, Inc., Columbus, Ohio.

circle 401 on inquiry card

STORAGE RACKS / New products featured in a 34-page color catalog of *Sturdi-Bilt* storage racks include heavy-duty slope leg designs, where the columns at aisle intersections are recessed to minimize damage from lift trucks, and premium-duty standard selective pallet and drive-in/drive-through racks. ■ Unarco Materials Storage, Chicago.

circle 402 on inquiry card

REPLACEMENT WINDOW / The "Optima 135" aluminum replacement double-sash window provides a condensation rating of 58, designed to eliminate moisture formation on the inner sash in any climate. Illustrated brochure describes the window's double-hung, two- and three-style sliders, and picture-type models. ■ Season-all Industries, Inc., Indiana, Pa.

circle 403 on inquiry card

FLOOR GRINDERS/PLANNERS / Gasoline and electric-powered floor and deck finishing equipment is shown in an eight-page catalog. Safety and convenience features include a flip-top storage compartment for extra stones and accessories; counter-rotating discs to eliminate torque; and a handle-mounted on-off switch for safety. ■ Stow Mfg. Co., Binghamton, N.Y.

circle 404 on inquiry card

PROTECTIVE TUBING / A 16-page brochure explains the advantages of *Korvex* heat-shrink fluoropolymer tubing in insulating and protecting electrical and mechanical parts in severe environments. Six non-flammable, inert tubing types are described, with their suggested applications and installation methods. ■ Chemplast, Inc., Wayne, New Jersey.

circle 405 on inquiry card

LIGHTING CONTACTORS / "Application of Lighting Contactors" is a 16-page technical bulletin on the control of lighting and other resistance loads. Material includes information on ratings, types of loads and their operating characteristics, and various control schemes, as well as a list of the standard and special modifications, many capable of being added in the field. ■ Square D Co., Milwaukee, Wisconsin.

circle 406 on inquiry card

CONCRETE FORMING / Illustrated with on-site photos of wastewater treatment plants, bridges, and other heavy-duty structures using this modular concrete forming system, a brochure on *Quad-8* forms explains how the system offers lower costs, maximum operational safety, and quality concrete finishes. ■ Conesco Industries, Ltd., Little Ferry, N.J.

circle 407 on inquiry card

PERLITE ROOF DECKS / Four-page catalog describes a new perlite concrete/polystyrene roof deck system exhibiting a 2-hr fire rating and claimed low "U" values. Six different roof deck designs with fire resistive ratings up to 3 hours are shown. ■ Perlite Institute, Inc., New York City.

circle 408 on inquiry card

FACING TILE / Based on manufacturer's data and other sources such as the "Means" Cost Data Book 1979, the "In-place Wall Costs" comparison chart compares both "bare" and "total costs" of materials such as glazed facing tile, facing and glazed brick, panels, concrete block and epoxy coating, ceramic tile, etc. ■ Stark Ceramics, Inc., Canton, Ohio.

circle 409 on inquiry card

RUBBER PRODUCTS / A detailed guide to this manufacturer's most commonly processed polymers is included in a 16-page rubber product brochure. Items in the line range from custom-molded oilfield products to window glazing gasket systems. ■ F.H. Maloney Co., Houston.

circle 410 on inquiry card

MEDICAL/DENTAL FACILITIES / Pre-engineered building systems for the construction of medical facilities are described in a color brochure. Integrated components include UL-rated Class 90 (wind uplift) metal roof systems with double locked standing seams, fascia and energy-efficient wall panel options. ■ Butler Mfg. Co., Kansas City, Missouri.

circle 411 on inquiry card

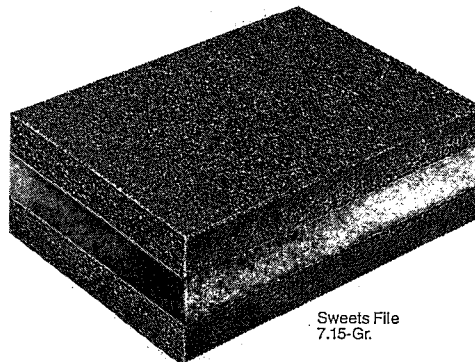
INDUSTRIAL AIR FILTERS / Lightweight aluminum air filters for velocities of from 150 to 900 fpm are shown in a product data sheet. A strong *Web-Lok* frame contributes to the *RP* industrial air filter's longer-than-normal service life; the aluminum sheet filter media is easily cleaned by flushing with water. ■ Research Products Corp., Madison, Wis.

circle 412 on inquiry card

ANTI-SKID COATING / A "Contractor's Pavement Sealer Guide" explains how a proprietary coal tar pitch emulsion, sand and rubber additive coating for asphalt pavements provides both anti-skid properties and long-lasting weather- and traffic protection. The coating is said to be ideal for airports, parking lots, highways and other asphalt paving. ■ Walaschek and Assocs., Inc., Fort Lauderdale, Fla.

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more literature on page 128

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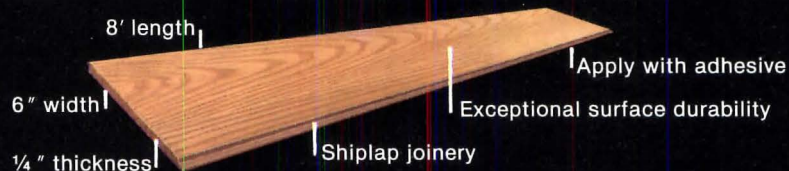


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Circle 46 on inquiry card

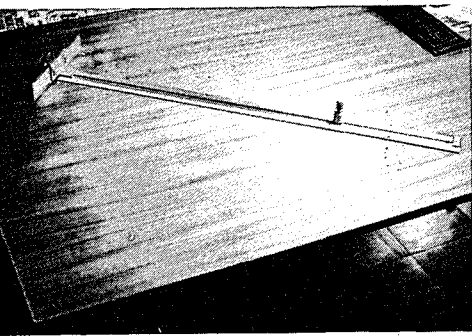


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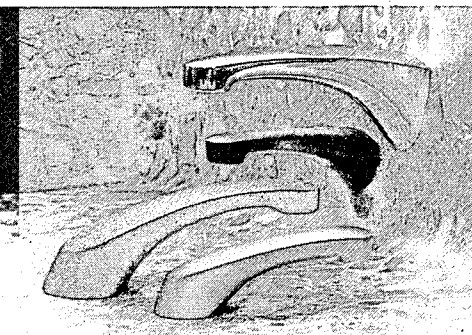


MULTI-PURPOSE RULER / A versatile drafting instrument, the *Instagraph Doret 1* may be used as a T-square, beam compass, ruler and perspective locator. Made of black anodized aluminum with a movable center pin, the *Instagraph* is available marked in a range of gradations, either metric or English. ■ Michel Doret, New York City.

circle 304 on inquiry card

OFFICE SEATING / Button-tufted upholstery is used on all seven chairs in the "FST" office seating series. Three "Executive Tilt Swivel" chairs offer adjustable height and tilt tension; a "Posture" chair also incorporates backrest support with spring mechanism for maximum comfort. Other options are arm panel fillers and caster choices. "FST" seating comes in 42 fabric colors, 24 vinyls, or any combination of fabric and vinyl. ■ Cole Business Furniture, Div. Litton Industries, York, Pa.

circle 305 on inquiry card



DECORATIVE FAUCETS / These Roman tub spouts come in two styles each for wall and bath-top mounting. Fixtures are 8- or 11-in. long, and are available in a choice of 12 epoxy-coated finishes, including ebony, brass and pewter. ■ Bathroom Jewelry Inc., Los Angeles.

circle 306 on inquiry card

LABORATORY EQUIPMENT / This lyophilization chamber for botanical and zoological specimens is an addition to a line of freeze dry laboratory apparatus which includes refrigerated dryers up to 3 liter capacity, accessory chambers and glassware.

The chamber is fabricated of vinyl-clad steel with a window-door of clear acrylic; the aluminum interior is large enough to accommodate small animals, entire plants and whole organs. The Botanical/Zoological chamber may be connected to the *Labconco* freeze-dryer -18, -8 or -5 deg. ■ Labconco Corp., Kansas City, Mo.

circle 307 on inquiry card

COMMERCIAL CARPET / Shown here is "Merion," a small-scale checkerboard design available in five colorways ranging from a tone-on-tone brown and tan to combinations like brown-blue-orange. "Merion" is one of six pattern-dyed carpets in the "Engraver's Mark" line of embossed carpets for such heavy-traffic areas as schools, hotels, stores, and offices. Each is made of 26-ounce $\frac{3}{64}$ gauge continuous filament anti-soil nylon using the *Sculptron* process, which embosses a design deep into the level-loop carpet pile. ■ Armstrong Cork Co., Lancaster, Pa.

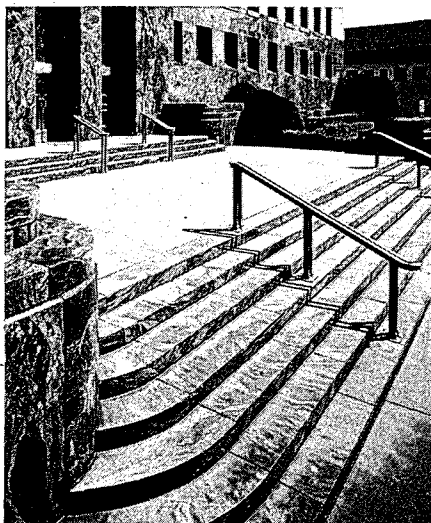
circle 308 on inquiry card

PEDESTAL LAVATORY / A sculptured basin standing 33-in. high, the "Chablis" lavatory features rounded corners and sweeping lines of vitreous china. The fixture measures 24- by 19-in. with full ledges and an anti-splash rim, and is available with 4 or 8-in. faucet drillings. "Chablis" is offered in all of this maker's vitreous china colors, including Aspen Green, Swiss Chocolate, Espresso, Country Grey and Black Black. ■ Kohler Co., Kohler, Wisc.

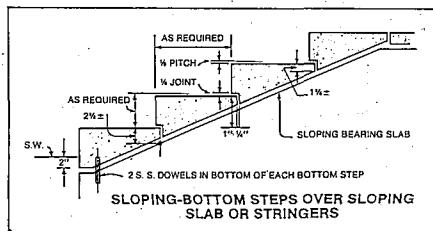
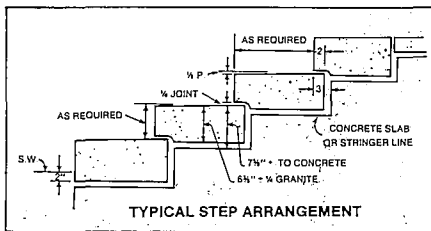
circle 309 on inquiry card
more products on page 123

Granite.

Tough enough to take the thunder of 10 billion feet.



Architect: Tinsley Higgins Lighter & Lyon, Des Moines, IA



What else but granite can take 38 years of wear and weather without fading, staining, or showing measurable wear? That's what made Cold Spring granite the ideal choice for the Banker's Life Insurance Building when it was built in Des Moines, Iowa, in 1939. And that same unique combination of beauty and unsurpassed durability make it ideal for today's floors, facades, core walls, steps, malls and walkways — wherever you need maximum durability that's virtually maintenance-free.

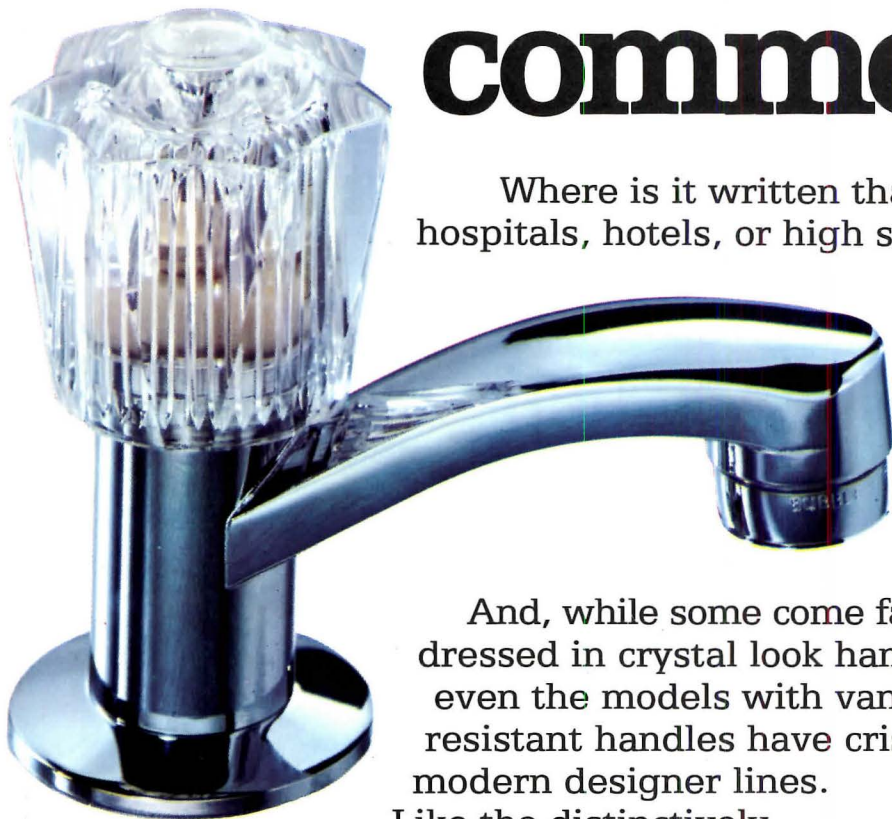
For more information, plus a free copy of our 16-page, full color catalog showing all 18 Cold Spring colors available, call toll free **800-328-7038**. In Minnesota, call (612) 685-3621. Or write to the address below.



Cold Spring Granite Company, AR-8A 202 South 3rd Avenue, Cold Spring, MN 56320

Circle 48 on inquiry card

Introducing the commercial faucets that don't look commercial.



Where is it written that the faucets you find in hospitals, hotels, or high schools should always look plain and practical, always sacrificing form for function.

Delta has a full line of washerless commercial and institutional faucets and valves, including the only washerless basin cock in the

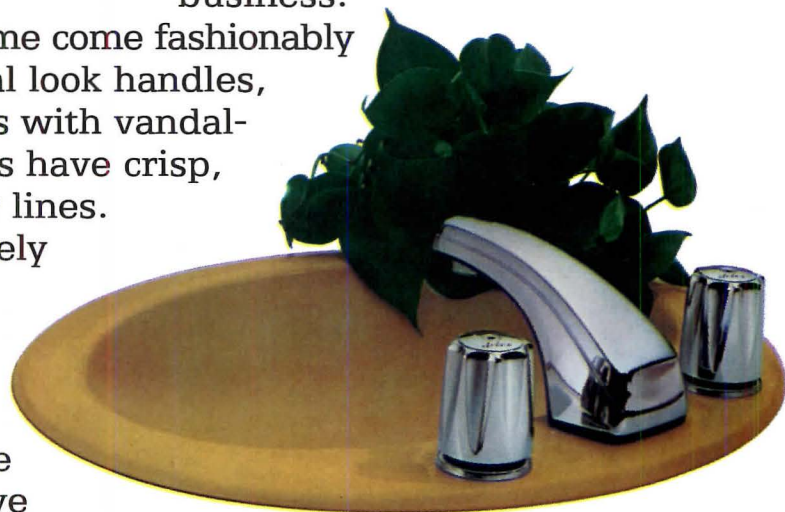
business.

And, while some come fashionably dressed in crystal look handles, even the models with vandal-resistant handles have crisp, modern designer lines.

Like the distinctively

European Waterfall with the 8-inch swing spout, or the more classic wide-spread with the grid strainer.

Of course, when you need traditional blade handles, we have those, too.



Matter of fact, we have just about any kind of commercial faucet, to meet just about any building code and design preference.

The next time you need a hard-working faucet that isn't hard on the eyes, or the pocketbook, specify Delta.



Delta[®] Faucet

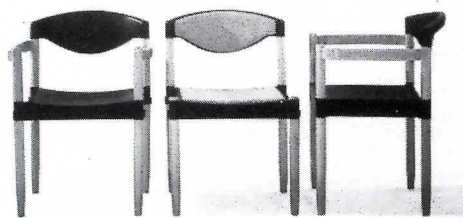
America's Favorite Washerless Faucet

Delta Faucet Company, Indianapolis, Indiana 46240. A Division of Masco Corporation of Indiana.
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Circle 49 on inquiry card

TEMPERATURE CONTROLLER / This digital read-out temperature controller with 1/2-in.-high LED numbers and digital thumbwheel set point selection is available in three series, offering increasing degrees of adjustability and performance. The rate action of the "Series 1500/1600" controllers is derived directly from the process input signal through an active filter circuit which generates the rate signal. Even large changes in set point temperature do not result in instability in these controllers. ■ West Instruments, Gulton Industries, Inc., East Greenwich, R.I.

circle 310 on inquiry card



STACK CHAIR / The "Strax" seating line combines a clean hardwood frame with polypropylene seats and backs; finish is a clear lacquer. The large compound curved seats and backs are also offered with foam cushioning upholstered in wool or nylon fabrics. ■ Krueger, Green Bay, Wis.

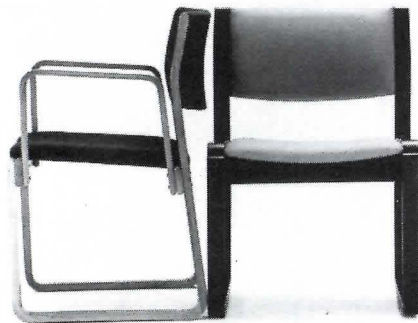
circle 314 on inquiry card

CONTOURED FURNITURE / The "Ambassador 8000" line consists of contemporary seating for executives, architects, engineers, artists, secretaries, word processing operators, and visitors. Chairs are designed with contoured seats and backs with adjustments

for personal posture control; upholstery may be plush button-tufted or smooth non-tufted. The line is offered in 37 fabric colors and textures, and 24 vinyls; textured shells come in black or beige for most models. ■ Cole Business Furniture, Div. Litton Industries, York, Pa.

circle 315 on inquiry card

more products on page 125



OAK-FRAMED CHAIRS / The steam-bent solid oak frame of "De Fuccio Series I" chair provides strength and durability; both arm and armless versions are designed with a minimum number of parts. The chairs use a direct method of joinery, which incorporates a flexible pack post for greater seating comfort. ■ The Gunlocke Co., Wayland, N.Y.

circle 311 on inquiry card

PRECISION MEASURING KIT / The "G-750" measuring instrument kit is used for materials testing and quality control in testing laboratories and such fields as architecture, engineering, all types of manufacturing and industrial design. Calibrated in metric units, the kit consists of 150- and 300-mm steel rulers, dial caliper, combination square, protractor with a range of 0 to 180 deg, and a scribe with a retractable carbide point. There is also a micrometer; inside and outside calipers; 150-mm divider; and a 7-power optical comparator. The 11-piece set comes with a sturdy carrying case. ■ Soiltest, Inc., Evanston, Ill.

circle 312 on inquiry card



SMALL AREA SEATING / The "3400 Series," consisting of armchairs and both high-back and low-back swivel chairs, has been specifically designed for smaller offices and work stations of open plan systems. Available with either oak or walnut frames, the chairs can be upholstered in any fabric, leather or vinyl. The seating is scaled to be equally comfortable for men and women. ■ Alma Desk Co., High Point, N.C.

circle 313 on inquiry card



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Passive — Active — Greenhouses — North-light Situations. The ONLY Solar Glazing Panel That Is Highly Insulated — With Solar Transmission of 77% — Light Transmission of 84%. "U" = .46

Sun-Lite® insulated panels are factory prefabricated 1 1/2" thick panels designed expressly to transmit maximum solar radiation, yet insulate! They are lightweight, shatterproof, and require minimum maintenance for long term performance. The panels are made from famous Sun-Lite® glass fiber reinforced sheet used in thousands of solar applications worldwide, engineered to resist the rigors of high sunlight and heat exposure fatal to most glazing materials! Unlike thermoplastic glazing, Sun-Lite® resists longwave radiation (the greenhouse effect) has a low coefficient of expansion, and does *not* deform when subjected to heat.

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Fiber glass solar screens warmed this building operator's heart by cooling the air conditioning bill 7% in summer. And by making the building more comfortable in winter.



Phil Iatesta, Chief Engineer of Bethesda (Md.) Air Rights Building, shows how easily solar screen unlocks for window cleaning. He expects payback through energy savings in less than two years.

On summer days, the operator of this office building had to switch on the air conditioning at four or five o'clock in the morning just to get a head start on the day's heat.

Even so, it was hard to keep temperatures under 80 F—or tenants happy—on the hottest summer days.

But then, in May 1978, he installed fiber glass solar screens to screen out the heat of the sun on the south, east and west faces of the building.

From May until October '78, solar screens kept temperatures 76 F or below even on the hottest days. Better yet, the air conditioning wasn't switched on until 6:00 a.m.—a cool saving of up to \$120 per day in elec-

tricity or about 7% per degree day.

There were winter advantages, too. The screens eliminated hot spots up to 82 F near sunny windows and allowed a more uniform setting of thermostats. That in turn enabled tenants on the shady side to do away with individual electric heaters.

Money savings isn't the whole story. Fiber glass solar screens add daytime privacy and a more pleasingly uniform building exterior because they appear practically opaque from the outside. Outward vision is excellent.

Solar screens of fiber glass cost only about \$2.00 to \$2.50 per square foot, installed. Yet they deliver

invaluable comfort and they can pay for themselves by saving energy. For information write PPG Industries, Inc., Fiber Glass Division, Dept. AR, One Gateway Center, Pittsburgh, Pennsylvania 15222. In Europe, contact Sommergeasse 29, CH. 4056, Basel, Switzerland.

PPG: a Concern for the Future

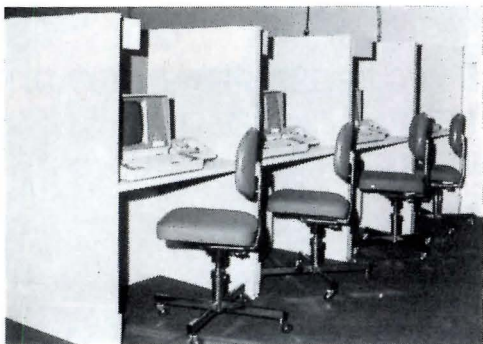
Fiber Glass 
INDUSTRIES

Circle 51 on inquiry card

WIND TURBINE / The utility grade vertical axis wind turbine is rated to deliver a shaft output of 5½ hp in a 24 mph wind, with an operating wind speed range of 10 to 80 mph. Designed as a long-life, trouble-free prime mover suitable for a wide variety of applications, the "DWT-5M" uses sealed bearings, few

moving parts, and balanced, interchangeable aluminum blades. Basic 16-ft-high turbine modules may be stacked for higher power applications. Accessories include a low speed direct drive permanent magnet alternator and control system for stand-alone applications; an induction generator and control system for interfacing with public utility power grids; and mechanical water pumping and heating equipment for use with solar systems and other applications. Wind turbine is available for 90-day delivery; design assistance to meet individual requirements is provided. ■ Dynergy Corp., Laconia, N.H.

circle 316 on inquiry card



MODULAR COMPUTER STATIONS / The work stations shown here are some of the 84 ready-made units installed to save space, control noise, and to provide operator privacy in a large order-processing center. The booth measures 30-in. deep by 36-in. wide and 54-in. high; face-to-face rows share center partitions. The back of each station has a vertical acoustic panel; all electrical cable is brought from the side walls of the room to the computer stations through spaces provided by "false backs" beneath the work tops. ■ Rockaway Metal Products Corp., Inwood, N.Y.

circle 317 on inquiry card



SLIDING GLASS DOOR / Constructed with a core-block wood frame, this sliding door for new or replacement residential and commercial use is said to provide superior energy saving performance. A panel frame larger than standard sliders creates a "French door" appearance; removable muntins in rectangular or diamond shapes are available for the double-pane glazing. *Slimshade* blinds may be inserted between the glass (center door in photo) to reduce heat loss and solar heat gain, as well as providing privacy. A toe-operated lock secures the door in the closed position or with a three-in. opening for ventilation. ■ Pella Windows & Doors, Pella, Iowa.

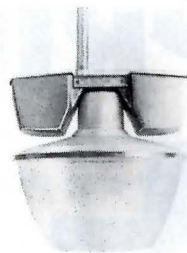
circle 318 on inquiry card



CONTRACT FURNITURE / Designed by Jules Heumann, "538 Series" general purpose seating features deep upholstery and practical, non-removable "cushions." The line is offered in one-, two-, and three-person units. ■ Metropolitan Furniture Corp., San Francisco.

circle 319 on inquiry card

HID FIXTURE / Designed to accommodate low-wattage HID lamps (up to 250-watt mercury lamps, for example), this *Vertiflex LW* luminaire can be mounted at comparatively low heights in such locations as warehouses, bin and stack areas, and light assembly areas. An optional UL label for wet



locations allows installation in storage sheds, loading docks, garages and canopied areas. The fixture's closed optical assembly reduces the potential for internal dirt accumulation; an enclosed plastic bottom permits use of the *Vertiflex* luminaire in food processing plants. ■ Westinghouse Electric Corp., Pittsburgh.

circle 320 on inquiry card

Problem Wall? Flexi-Wall!

Flexi-Wall® is a unique one-step process in covering walls for renovation or new construction projects. It goes up like wallcovering... over almost any surface... hiding blemishes and bumps, bridging gaps and voids. It dries hard as plaster... strong, long lasting, protective. It's easy to put up, easy to clean, easy on the budget. And nice to look at, too... in 23 colors. Ever face the question: Problem wall? Only one answer: Flexi-Wall! Write for free samples. Flexi-Wall Systems, P. O. Box 88, Liberty, SC 29657.

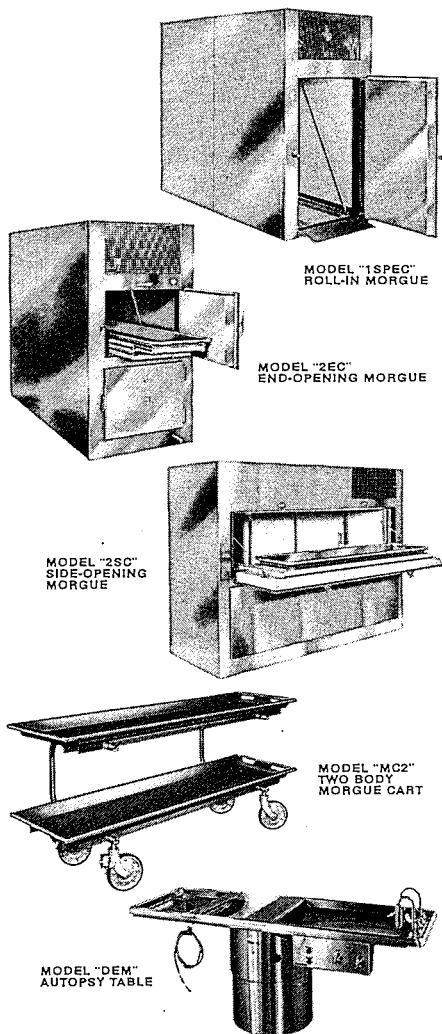
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- Class A flame spread rating
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EQUIPMENT



JEWETT MORGUE/AUTOPSY PLANNING SERVICE
To make the most of this precisely built equipment, Jewett specialists provide expert design counseling. If you are planning new quarters, modernizing present facilities, or replacing equipment, Jewett will analyze your requirements with you and/or your architect and submit plans of the complete layout as well as detailed drawings and equipment specifications. Jewett's morgue/autopsy planning services can save you time and costly mistakes. Your new construction or renovation will be right for your current needs and will also allow for future growth.

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*Individual Craftsmanship combined
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refer to Sweet's Catalog 11.20/JE
for quick reference

Circle 56 on inquiry card.

OFFICE INSTALLATIONS / "Creative Environments that Work for People," a 16-page color booklet, discusses features and cost benefits of the *Private Spaces* open office system. All panels in the system are acoustical, said to be easily installed and adjusted by in-house personnel. ■ Rosemount Office Systems, Inc., Lakeville, Minn.

circle 414 on inquiry card

TRANSFORMERS / A product brochure compares the "OptiMiser" line of 80 and 115C rise transformers to the conventional 150C rise transformer. Charts, graphs and case studies demonstrate the cost savings possible. ■ Acme Electric Corp., Cuba, New York.

circle 415 on inquiry card

LITTER RECEPTACLES / Indoor and outdoor containers are shown in a 24-page color catalog. Brochure introduces a line of natural wood panels for use on any of the five basic models. Side panel options include contemporary graphics, stone aggregate panels, and wood looks such as redwood, wafer weld, yellow pine and simulated oak and walnut. Units may be equipped with push doors, counter-balanced tops, drive-up chute tips, and permanent plastic or metal inner liners. ■ Clean City Squares, Inc., St. Louis.

circle 416 on inquiry card

PLAY EQUIPMENT / Child-scaled indoor/outdoor play *TheraPlay* units are shown in a full-color equipment catalog. Featured are climbers, play shelters, slides, coordinative games and a full line of wheeled vehicles. Wood furniture for storage and play is also included. ■ PlayLearn Products, Long Island City, N.Y.

circle 417 on inquiry card

STORAGE SYSTEMS / Color photos of actual installations demonstrate the versatility of such storage products as bridge catwalks with ladders and/or stairways, clearspan crossover bridges, and mobile benches, cabinets, and parts storage organizers. The full-line catalog also contains updated information on standard storage items including *V-Grip* shelving, *IronGrip* racks, steel floor grating, bins, lockers, etc. ■ Equipto, Aurora, Ill.

circle 418 on inquiry card

LABORATORY SERVICES / The 1979 *Directory of Consulting and Laboratory Services*, covering 20 Eastern and Midwestern states, describes the capabilities of 547 firms offering engineering and scientific consulting, testing, analytical, and research and development services. A 230-key word subject index is organized by process, product, material and technical discipline categories, such as coatings, corrosion, energy, flammability, noise, water, etc. Listed firms obtain at least 75 per cent of their income from external business; ownership and affiliation with other companies or laboratories is noted. Priced at \$34.75 plus \$1.35 postage, the "Directory" is available from J. W. Lundy Enterprises, P.O. Box 543, State College, Pa. 16801.

PLASTIC TUBING / A four-page brochure describes "Imperial" vinyl tubing, "Medallion" polyethylene tubing, and brass compression fittings especially designed for plastic tubing. Flexible plastic tubing is corrosion resistant, economical and easy to use; applications include laboratory, food, hospital, surgical, industrial and sound transmission. ■ American Granby Co., Liverpool, N.Y.

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Economy Cast
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100 E. Franklin Street
Richmond, Virginia 23207

Olympian Stone Co., Inc.
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192nd N.E. & Union Hill Road
Redmond, Washington 98052

Hamilton Concrete
Products Co., Inc.
1401 East 39th Street
P.O. Box 1935
Chattanooga, Tenn. 37407

Precast/Schokbeton, Inc.
3102 East Cork Street
Kalamazoo, Michigan 49003

Harter Concrete
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Southern Cast Stone
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GLASS FIBER REINFORCED CEMENT FOR VERSATILITY

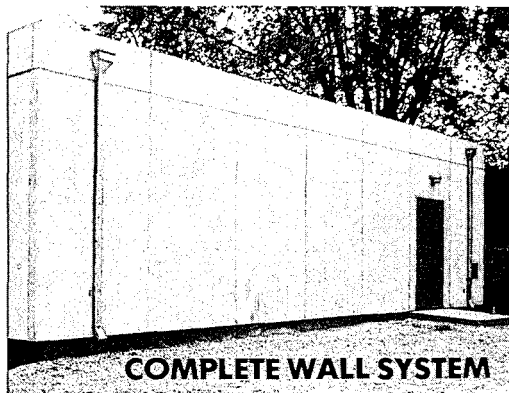
HIGH RISE



1 The permanence and appearance of pre-cast concrete at one-eighth the weight. Window wall unit was glazed and insulated in the factory offering substantial cost savings at the job site. Insulation was installed within the panel without any loss of floor space. Architect: Simpson, Usher, Jones, Inc., Anchorage, Alaska. Manufacturer: Olympan Stone, Redmond, Washington.



2 Intricately detailed one piece shape. Lightweight but with no plastic materials to burn or yellow. Architect: Warren, Knight & Davies, Birmingham, AL.



3 Functional modular design by Sverdrup and Parcel. Floor to roof panels. All panels same shape and size and removable. Manufacturer: Cem-Fil Corporation, Nashville, TN.

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See Sweets General Building
(Architectural File) 7.5/Cem

Circle 58 on inquiry card

Firm changes

Julia Thomas has succeeded Michael Bobrow as president of Bobrow/Thomas and Associates.

Daniel J. Barteluze, AIA, has been named an associate in the firm of Robert J. Bridges, Architect AIA.

Janice M. Ward has been named assistant laboratory director of Briggs Engineering and Testing Company, Inc.

Robert H. Belcher, AIA, has been named associate responsible for research and marketing with Broome, Oringdulph, O'Toole, Rudolf & Associates the Portland-based architectural and planning firm.

The architectural firm of Callinectes, Inc. has added the following new members to their staff: William F. Donaldson, Jr., AIA, is the new vice president in charge of design, William Bangham is the new vice president in charge of construction, Rudy Garber joins the firm as construction supervisor, and Jeannie Hodges is the new draftsman.

Dalton Dalton Newport are pleased to announce the appointment of Lamont W. Curtis, Larry R. Jacobson, Eugene L. Geller, Frank A. Monaco and J. Jeffrey Homans as new principals. Appointed as new associates are: Richard L. Bouman, Terry G. Hoffman, Richard E. Brown, John C. Lester, Maria R. Eigerman and William H. Moss.

De Leuw, Cather & Company, engineers and planners, announces the appointments of Clinton G. Brookhart as manager of Atlanta office operations and of V. E. Eikinas as manager of Boston office operations.

Nore V. Winter and D. Kaye Chandler have recently joined Downing/Leach architects and planners.

Environmental Planning & Research, Inc. has announced the appointment of Victoria Chester, Steven Lewis and Jack Moore to the position of vice president.

Ferrenz and Taylor Inc. announce the appointments of two new executive vice presidents and four vice presidents. The new executive vice presidents are: John Burdick, AIA, chief of production and administration, and John F. Matzelle, Jr., AIA, chief of design. Vice presidents are Morris Abraham, AIA, Charles D. Grable, AIA, Alexander Owsny, AIA and Joseph Weglarz, AIA. President William James Taylor, AIA, has been appointed chairman of a newly created board of directors and chief executive officer of the firm. At the same time, Richard C. Clark, AIA, has been appointed president.

New addresses

Bobrow/Thomas and Associates have moved their offices to 1001 Westwood Boulevard, Los Angeles, California.

Robert Cabrera, Architect has moved his offices to 134 East 95th Street, New York, New York.

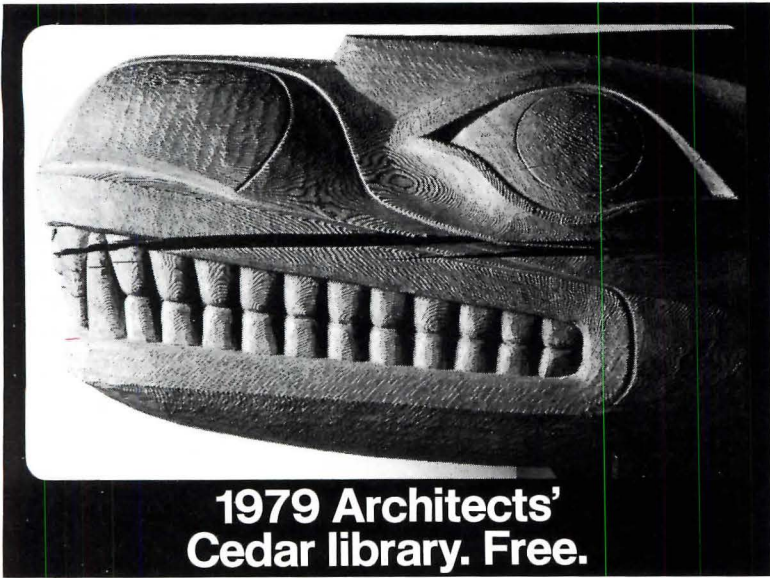
The architectural firm of Callinectes Inc. is moving to 318 - 6th Street, Eastport, Maryland.

Fletcher/Finch/Farr & Associates, architects have relocated their offices in a three-story building at 208 Southwest First Avenue, Portland, Oregon.

William Paxton & Associates, Inc., a consulting engineering firm, has moved its staff and operations to 512 Brush, Detroit, Michigan.

Emery Roth & Sons, P.C. Architects and Engineers are relocating their offices to 845 Third Avenue, New York, New York.

David Todd and Associates have relocated their offices to 134 East 95th Street, New York, New York.



1979 Architects' Cedar library. Free.

It's the new "Do it with shakes and shingles" kit. The most complete cedar library ever created for architects.

Covers 10 basic "How to" subjects: Insulation. Ventilation. Roof Junctions. Valleys and Flashings. Product selection. Economy grades. How to specify. Care and treatment. Finishing. Literature catalog. All free.

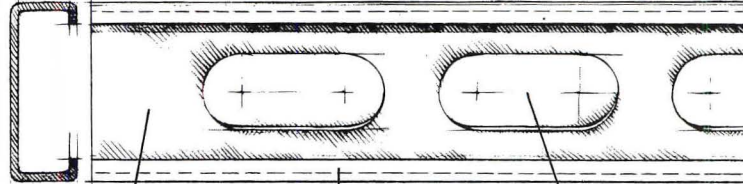
Send for the Cedar Library, Suite 275, 515-116th Avenue N.E., Bellevue, WA 98004.

Or use the reader service number 59

Respond.

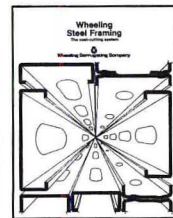
Red Cedar Shingle & Handsplit Shake Bureau

Specify savings with Wheeling Steel Framing.



Lighter than concrete or wood, Wheeling Steel Framing is easy to erect. So it saves construction time and reduces labor costs.

Pre-punched holes in both joists and studs permit installation of plumbing and electrical systems.



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Wheeling Steel Framing

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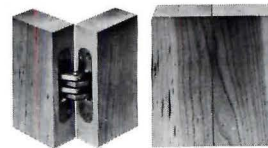
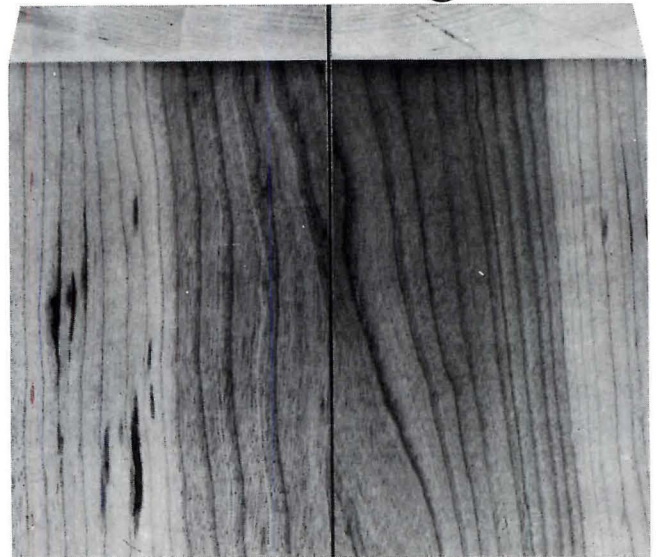
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Choose from 18 models and four finishes. All models open 180° and disappear when closed.

Complete specifications are in Sweet's. Or, write to Soss Mfg. Co., Div. of Core Industries Inc., P.O. Box 8200, Detroit, Mi. 48213.

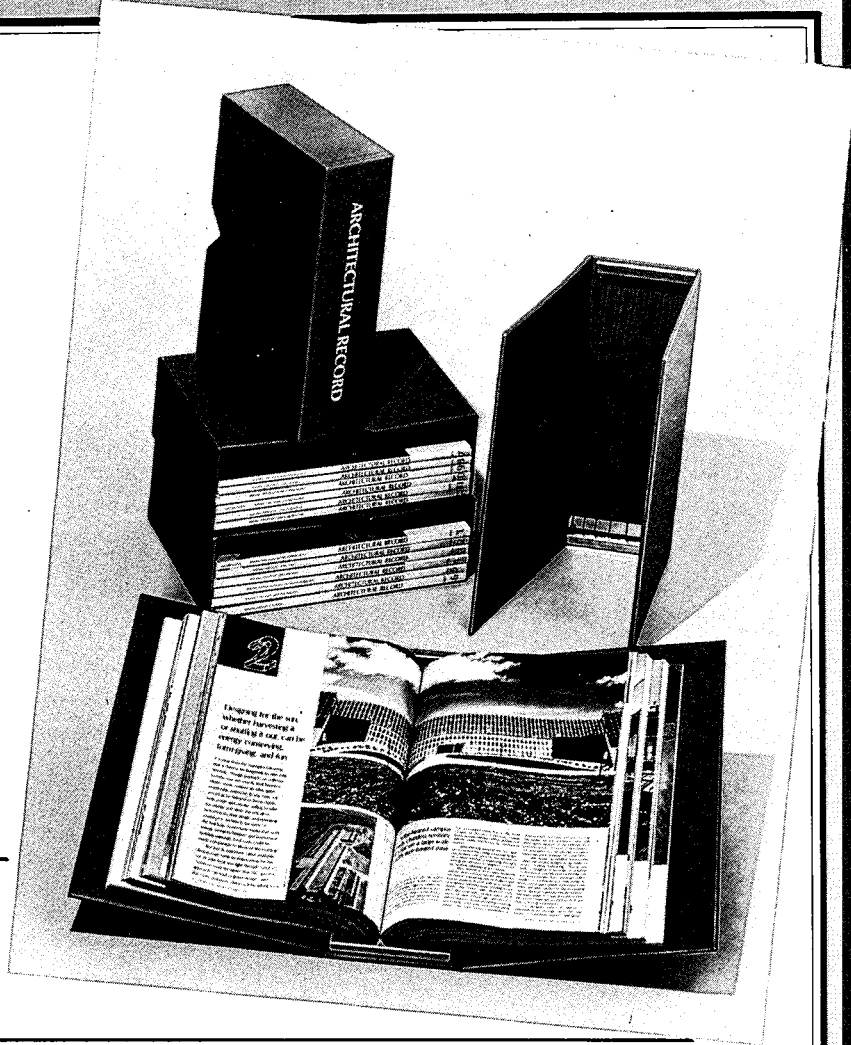
the SOSS
Invisibles

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On Aalto

ALVAR AALTO 1898-1976, edited by Aarno Ruusu-
vuori, with Juhani Pallasmaa; *the Museum of Finnish
Architecture, Helsinki, \$10 (also available until
September 16 from the Cooper-Hewitt Museum, 2
East 91st Street, New York, New York 10028, for
\$10, plus \$1 postage and handling).*

Reviewed by Stanley Abercrombie

Of the acknowledged masters of modern architecture, some seem unlikely to survive the '70s with their reputations intact; Aalto is the only one who may emerge with his enhanced. Whatever reversals of opinion may follow, Aalto's work is now, three years after his death, extraordinarily beguiling. One manifestation of this is the exhibition of his work currently at New York's Cooper-Hewitt Museum, having come there after stops at London and Edinburgh, and with plans to travel on to Houston, Chicago, and perhaps even Canada, Japan, and Russia.

The present book, though much more than a written record of the exhibition, serves as a catalog for it. The editor was Aarno Ruusu-
vuori, and the handsome layout and selection of illustrations and Aalto quotations are by Juhani Pallasmaa. Both men are themselves Finnish architects of uncommon strength (though in a vein more reminiscent of Mies than of Aalto), and Pallasmaa has recently replaced Ruusu-
vuori as Director of the Museum of Finnish Architecture

The book presents Aalto's work and thought not in a chronological listing, but in a collage of articles and picture essays on specific themes—"experiments with bent wood," for example, "the entrance to a building," "the undulating line," etc. But the major contribution of the book, aside from the insights suggested by its thematic organization, is that it exposes us to an unexpected wealth of Aalto writings and lectures. "Unexpected," because Aalto, like Mies, has usually been thought of as an architect who liked to build but not to theorize. Aalto himself seems to have liked to reinforce this image: "God gave us paper to draw on," he once said. "Everything else is a misuse of paper." And even one of the contributors to this book falls for the line, saying that Aalto, "if anybody, followed Goethe's advice to artists, to produce art, not talk about it."

Nevertheless, according to Pallasmaa, Aalto wrote 60 or 70 articles in his lifetime, and this book is a valuable sampler of them.



One article ("The Trout and the Stream," from *Domus*, 1947) is printed complete, and there are excerpts from more than two dozen others, ranging in time from one published in 1921 (when the nation of Finland was four years old and Aalto was 23) to one published in 1967.

Despite the time span, these articles present a consistent attitude, and its revelation here is helpful to us in seeing what may once have seemed arbitrary or whimsical in Aalto's buildings was instead purposeful and in the service of a well-considered philosophy. This philosophy was composed of several closely related themes.

First, a broad and humanizing interpretation of functionalism. This was nothing new, of course; Louis Sullivan had stressed the social function of architecture. But this aspect of functionalism is one that much of modern architecture has neglected. Aalto's writings return often to this theme; for example, from an essay of 1940: "Technical functionalism is right only if it is extended to the psychophysical field, too. It is the only way to humanize architecture."

Second, a vision of "tiny man." This was not a disdain for man, but, just the opposite, a concern for his fragility in the face of political and technological forces from which he must be shielded. (One can imagine, as an example of this concern, a typical Aalto detail: a steel column wrapped, for just that part of its height where it might be brushed against, with cane or leather.)

Third, a desire for architecture that is—damn the word!—"organic." Here is an example of Aalto's use of it: "the most profound property of architecture is a variety and growth reminiscent of natural organic life. I should like to say that in the end this is the only real architectural style. If barriers are set up before it, architecture fades and dies."

Architecture can be said to be organic in at least two ways: in a simplistic way, imitating or inspired by natural forms; and in a more profound way, considering a building

(as Wright did) as an organism in which all parts must be related in a functional way.

Unfortunately, Pallasmaa's book design, striking as it is, encourages us to think immediately of the first type of organicism. It interleaves, among the texts and photographs, delicate Aalto sketches, often printed on delicate transparent paper, of landscapes, donkeys, and fig tree branches. These are very attractive, and there are resemblances between the sketches and the buildings, but the implication, however unintentional, that Aalto buildings have been inspired by fig trees is a little insulting. We have had a surfeit of this look-alike game since the publication, a decade ago, of Gyorgy Kepes's "Vision + Value" series; Kepes showed us that a close-up of algae looks like a Buckminster Fuller dome, and that a close-up of a sunflower seed looks like Islamic vaulting, but so what? Similar visual coincidences were presented, by the way, in another product of the Museum of Finnish Architecture, a show of "Metamorphoses Finlandaises" at Paris' Centre Pompidou; the show implied, among other things, a direct link between the shapes of Finnish lakes and the shapes of Aalto vases.

Also distributed through the present book, however, are color reproductions of fifteen Aalto paintings. These are obviously nature-derived, but, except for three very early ones, they are thorough abstractions from nature, and are an important intermediary step of intellectual assimilation between attention to nature and the production of architecture. Aalto's buildings, following this crucial assimilation, are organic in the simpler way; but, of more importance, they are organic also in the Wrightian sense: their fanning plans, their asymmetrical spaces, their widenings and narrowings, their accommodation of light—these "idiosyncrasies" cohere, in his best buildings, to produce whole, complex, and interdependent organisms.

There is another similarity between Wright's work and Aalto's that seems worth mentioning and that is related to the philosophy this book reveals. It is a highly subjective similarity: that both architects gave to their buildings a sense of importance that lifted them above the ordinary, but gave to them also a feeling of being designed with human size and human senses never out of mind. Perhaps this simultaneous monumentality and humanity is not paradoxical; perhaps it is instead the natural result of minds that understand nature as fundamentally important; man, however tiny, as the most important feature of nature; and architecture as the most influential artifact of man.

Stanley Abercrombie is the editor of the American edition of *Abitare*.

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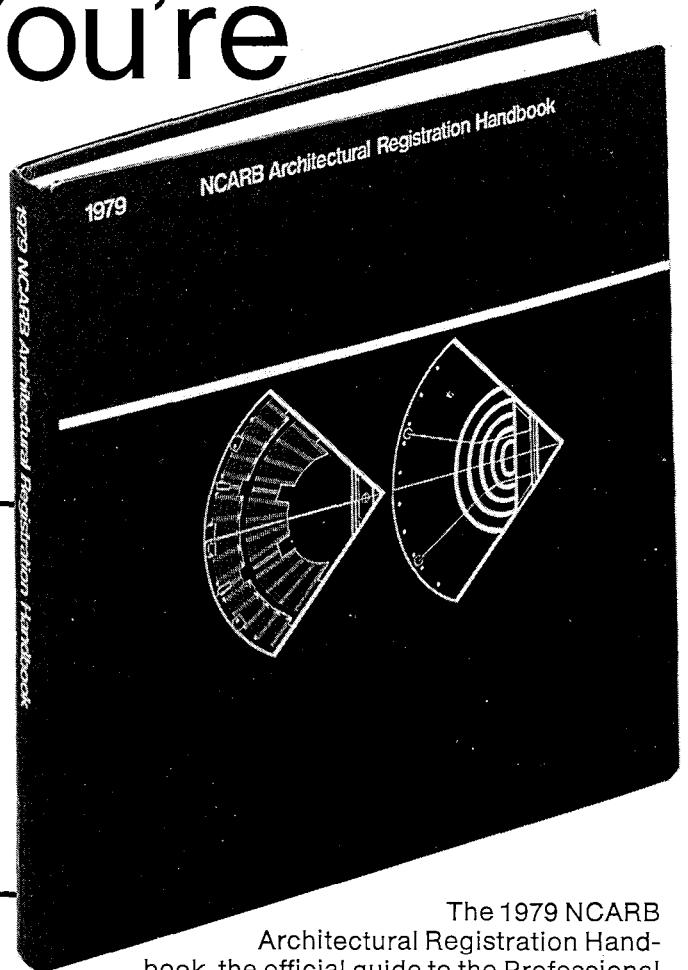
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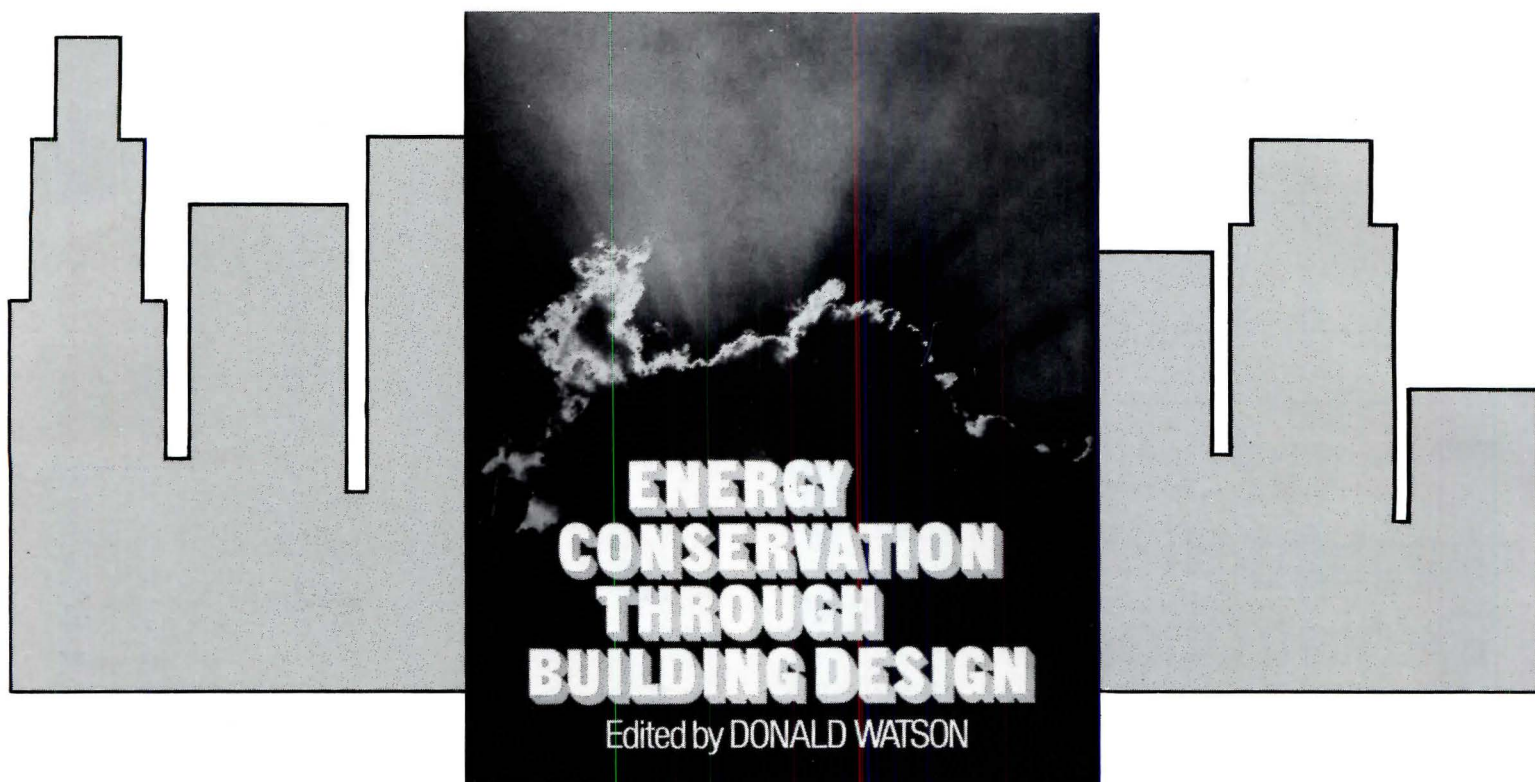
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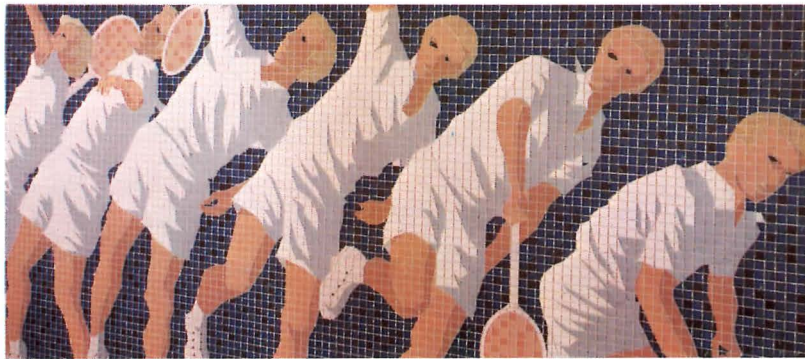
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