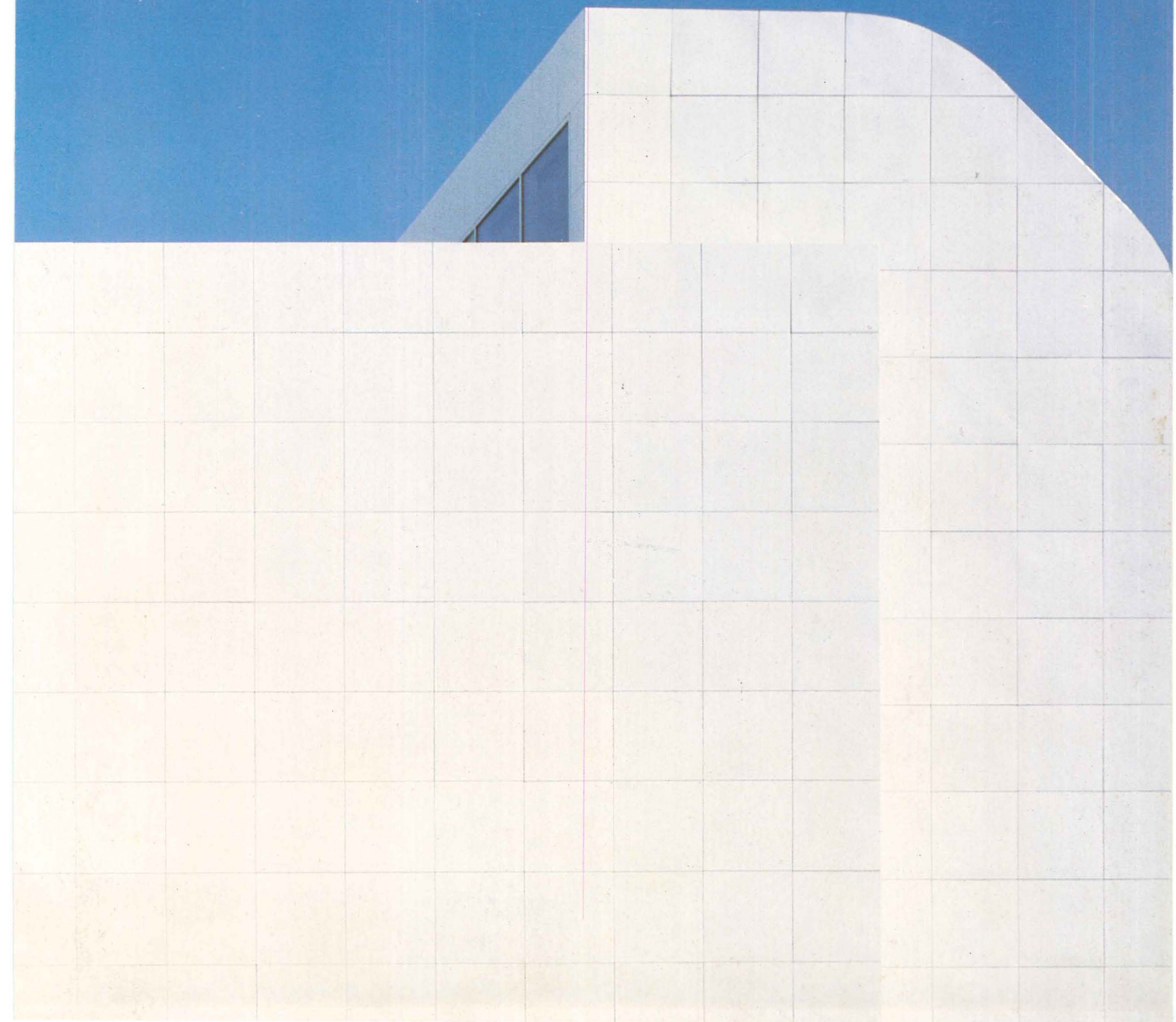


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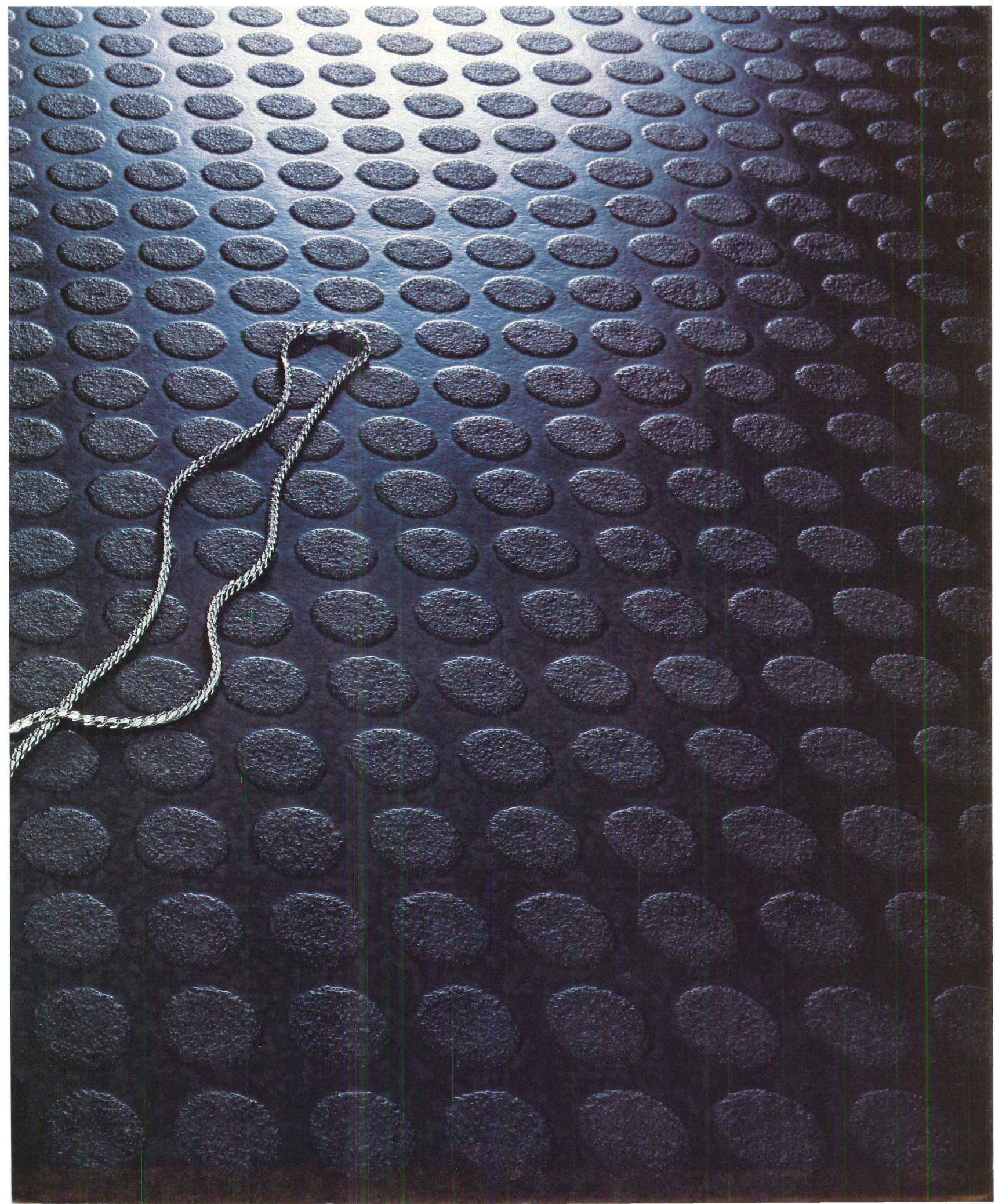
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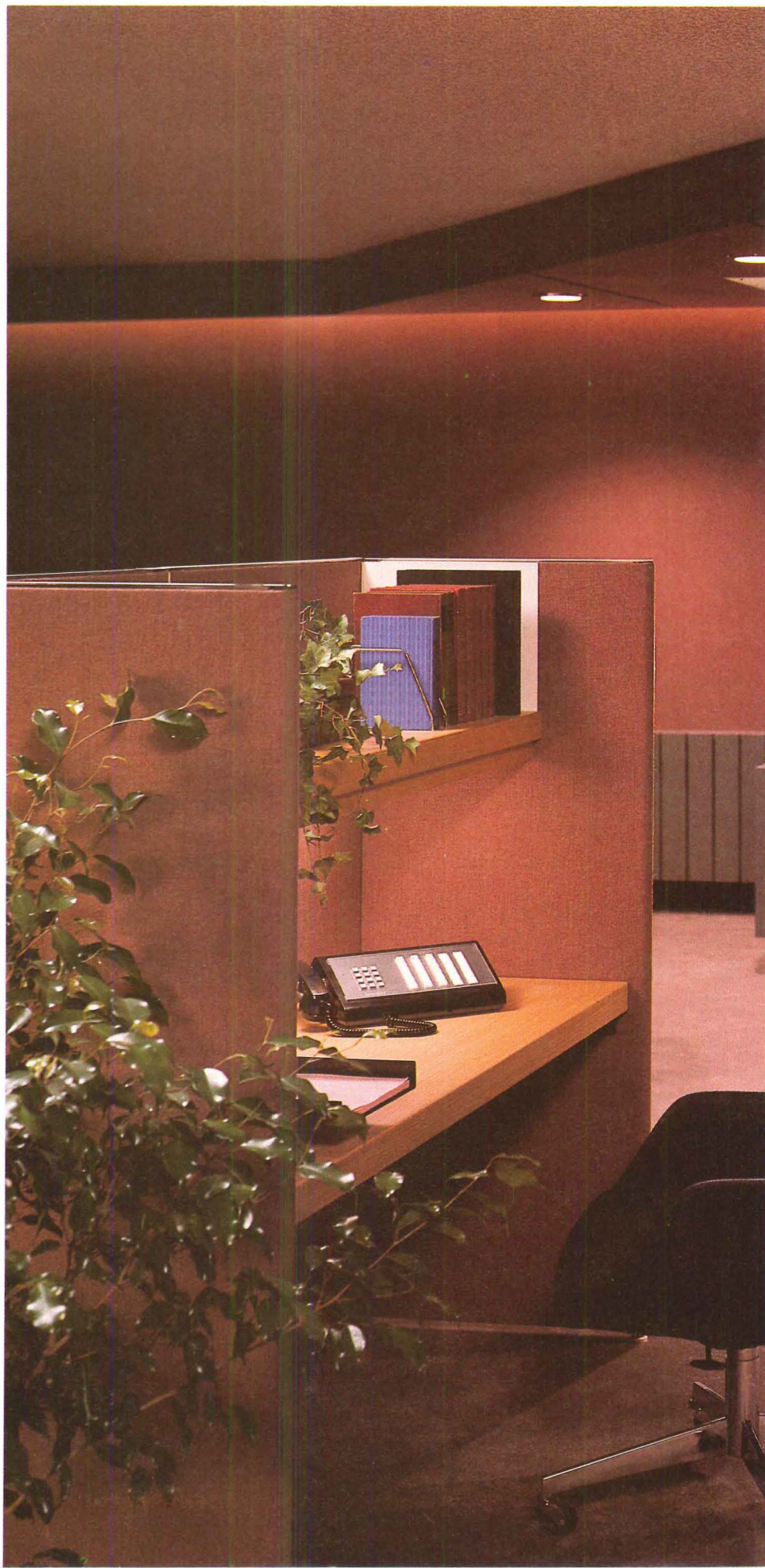
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We were pleased to see ARCHITECTURAL RECORD's coverage of the proposed bill for New York State that would exempt religious properties from landmark designation [September 1983-II, page 25]. The Preservation League of New York State is strongly opposed to this bill, which could have disastrous consequences. We are joined in opposition by a broad-based coalition of nearly 100 not-for-profit and governmental organizations representing communities throughout New York State.

We would like to add that approval of the proposed legislation could jeopardize Federal certification of local preservation ordinances, which prevent owners of all sorts of properties—not only religious properties—from taking advantage of the tax incentives for rehabilitation under the Economic Recovery Tax Act of 1980. In 1982, New York State alone received over \$9.5 million in tax revenues resulting from rehabilitation projects using the Federal tax incentive.

The League has long been concerned about the future use and architectural integrity of all types of religious buildings. In 1980, we developed the Historic Religious Properties Project, which has included not only publication of *How to Care for Religious Properties*, but also regional workshops on maintenance and reuse, a study of the attitudes of various denominations toward historic properties under their care, and a slide/tape program entitled "Stewardship: Responsible Care of Religious Buildings," which is available for local screenings. This spring we plan to convene our annual conference in New York City to identify strategies for caring for our religious architectural heritage.

*Diana S. Waite*  
Executive Director  
Preservation League  
of New York State, Albany

Nory Miller's article on the Pittsburgh History & Landmarks Foundation [RECORD, October 1983, pages 91-109] is excellent and we appreciate the accuracy of your coverage and its complimentary nature. Also, please thank the photographer [Timothy Hursley] for his superb work.

May I make three small corrections? There are not 70,000 square feet of space in the older buildings at Station Square, as you indicated, but 700,000, and

while I did assist in setting up Landmarks Design Associates, architects, I have no ownership interest in that firm. I do frequently use them because of their experience with both old buildings and new construction and their understanding of the complexity of large-scale mixed-use urban projects.

Also, you indicated that we are demolishing two theaters but saving the facades. We are only demolishing one theater and saving two theaters. The one has no architectural interest and has been vacant for some years. Of the remaining two, one will become the home of the "Kentucky Show" and the other will be a home for the performing arts.

*Arthur P. Ziegler, Jr.*  
President  
Cranston Development Company  
Pittsburgh

Nory Miller's Article entitled "Big Business Preservation," [RECORD, October 1983, pages 91-109] was a splendidly written and strikingly laid out report on what the New York Landmarks Conservancy and other organizations in select cities in the United States are doing to promote the preservation and reuse of significant buildings.

I would, however, like to add two points of information regarding the Conservancy's projects. First, the magnificent full-page photograph [page 94] of the Fraunces Tavern Block, which received no credit, was taken by Mr. Stephen Senigo. Secondly, it was the architectural firm of Mendel Mesick Cohen and Waite that completed the restoration plan for the Church of St. Ann and the Holy Trinity [page 93]. Hardy Holzman Pfeiffer developed the rehabilitation plan for the interior of the church.

*Laurie Beckelman*  
Executive Director  
New York Landmarks  
Conservancy  
New York City

#### Corrections

Credits for Tampa Bay Performing Arts Center [RECORD, October 1983, page 69] should have included ARCOP, Inc., as associated architects.

The original date of the Venturi, Scott Brown house, incorrectly given in *Record Interiors 1983* [RECORD, September 1983-I, pages 108-113], was 1910.

#### January 21-24

National Association of Home Builders (NAHB) 40th Annual Convention and Trade Show; at the Astrodomain Complex, Houston, Tex. For further information, contact NAHB (202/822-0200).

#### January 24-27

Second Annual Interstate Solar Coordination Conference; at Arizona State University; sponsored by Interstate Solar Coordination Council (ISCC). To register, contact ISCC, 300 State Rd. 401, Cape Canaveral, Fla. 32920 (305/783-0300).

#### January 30 to February 2

Training course, "Revitalizing Downtown: Understanding Real Estate Development," sponsored by National Main Street Center in conjunction with National Trust for Historic Preservation. To register, contact:

Preservation, 1785 Massachusetts Ave., NW, Washington, D.C. 20036 (202/673-4219).

#### January 31 to February 15

"Mediterranean Indigenous Architecture: timeless solutions for the human habitat," a traveling exhibition of drawings, photos and paintings by Steven and Cathi House; at the School of Architecture & Environmental Design, California Polytechnic State University, San Luis Obispo, Calif. (415/474-2112).

#### February 3-5

Leadership and Conflict Resolution for Engineers and Technical Professionals; conference sponsored by the Engineers Leadership Institute; at Bergamo Conference Center, Dayton, Ohio. For information: Engineers Foundation of Ohio, 445 King Ave., Columbus, Ohio 43201 (614/424-6645).

#### February 7-10

Infra-red scanning certification course for detection of building energy losses and roof moisture, and inspection of electrical and mechanical systems; sponsored by Infrasppection Institute; at the Econo-lodge, South Burlington, Vt. (802/985-2500).

#### March 22-24

Conference and exhibition, "Solar Hot Water: Technologies, Trends and Markets," explores developments in solar hot water for residential and commercial applications; presented by New England Solar Energy Association; at the Center of New Hampshire Conference Center, Manchester, N.H. (802/254-2386).

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*Change of Address:* Forward changes of address or service letters to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, NJ 08520. Provide both old and new address; include zip code; if possible attach issue address label.

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*Publication Office:* 1221 Avenue of the Americas, New York, New York, 10020. ARCHITECTURAL RECORD (ISSN0003 858X) published monthly except April and September when semi-monthly, by McGraw-Hill, Inc. Second-class postage paid at New York, NY and additional mailing offices.

*Postmaster:* Please Send address changes to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, NJ 08520. THIS ISSUE is published in national and separate editions. Additional pages or separate editions numbered or allowed for as follows: Eastern Section 32Ea through 32Eb. Western Section 32Wa through 32Wb.



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## Another New Year, some other new starts

The first month of each year always seems like a good time to embark on new projects—which is the way it should be if we are to continue to earn your respect and readership. It has not been so long (though it seems a long time) since the redesign/repositioning of RECORD—indeed, people are still volunteering that they “sure like our new look.” Editors Herb Smith and Charles Hoyt have, in the last year, made RECORD’s *Business* section into one of the best-read and talked-about sections of the magazine. It’s not got the razzle-dazzle of the more glamorous mid-book features, but it does have the kinds of information on building activity, costs and financing, construction and management, marketing, office management and computer use that an increasing number of firms increasingly understand they need to operate efficiently.

Editors Paul Sachner, Peg Gaskie, and Doug Brenner have built an equal loyalty for what I see as an increasingly lively *Design news* section providing “an early warning system” of what some of the bright and sometimes controversial designers have on their boards at project stage, and news of important exhibitions and happenings. And making an every-month feature of *Design awards/competitions* has, research shows us, created new insight into the emerging design trends across the country, not just in “the hotbeds.”

Similarly, with some help from his friends Grace Anderson and Jim Gardner, engineering editor Bob Fischer’s long commitment to covering the best and the brightest work in *Engineering* has added to the reader loyalty of not just our engineering readers but architects, for the simple and fundamental reason that those “architectural engineering” concepts are, of course, inseparable from the arts of design.

But this is a new year, a time for new starts. And in this first issue of the new year, we offer two:

On page 43 is the first article in what will be a continuing series on *Architectural education*, developed by editor Herb Smith. These new pages every month are a commitment to exploring with energy and the best thinking we can muster the concerns that a lot of us have about the education of future architects. Herb has written an introduction to the series—entitled “Architectural education’s year of challenge”—in which he outlines the areas that we’ll be covering. They range from practitioner’s concerns to the debates within the schools, to curriculum criteria, to discussions of the new licensing procedure, to student views and concerns, to the educational goals of various schools great and not so great, to internship, to accreditation—a mix of hard and vital news and philosophical writing on a most important subject. For sitting in the design studios and classrooms of those 100 or so accredited schools is 100 per cent of the future of the profession, and we must never forget that simple fact.

We are also inaugurating in this issue a new section of criticism, design theory and philosophy, championed by executive editor Mildred Schmertz, which will be called *Observations*.

It begins with one of the most thought-provoking and insightful articles that we’ve seen around here in years, entitled “The tall building artistically reconsidered: the search for a skyscraper style,” written by that most thought-provoking and insightful of critics, Ada Louise Huxtable. We think this article forms a splendid beginning for what we hope will be a lively and readable (and sometimes irreverent) addition to the magazine. In it each month will appear important book reviews, critical comment on what is happening in design, some re-examination of the role that historians have played (especially their penchant for picking and choosing the historical events to fit their arguments) and comment on almost anything else that strikes our fancy on the posturings and progress in the architectural community.

So, new year, new starts. We hope with both new sections of the RECORD to interest you—and make you think. *Walter F. Wagner, Jr.*



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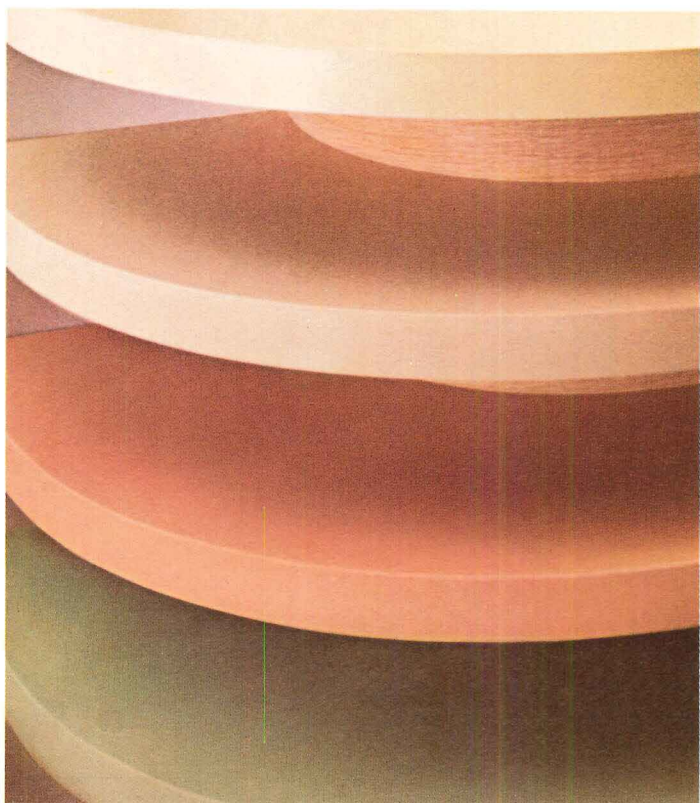
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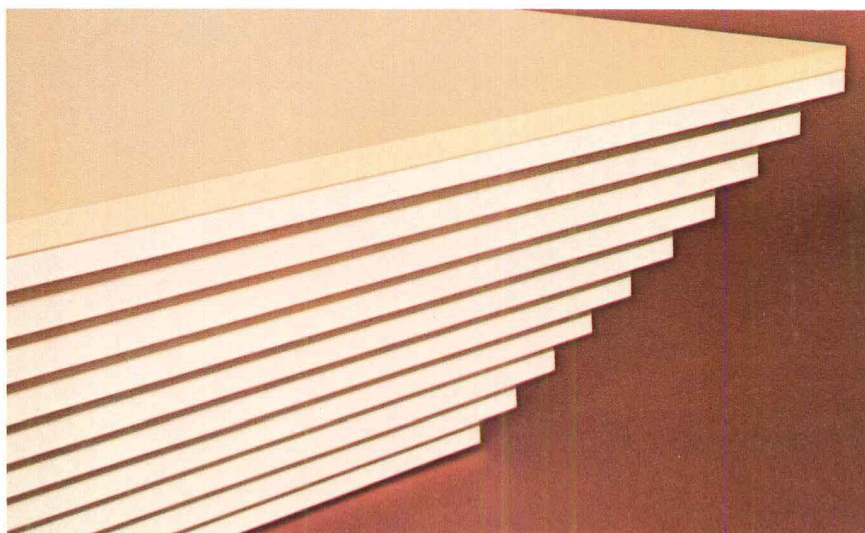
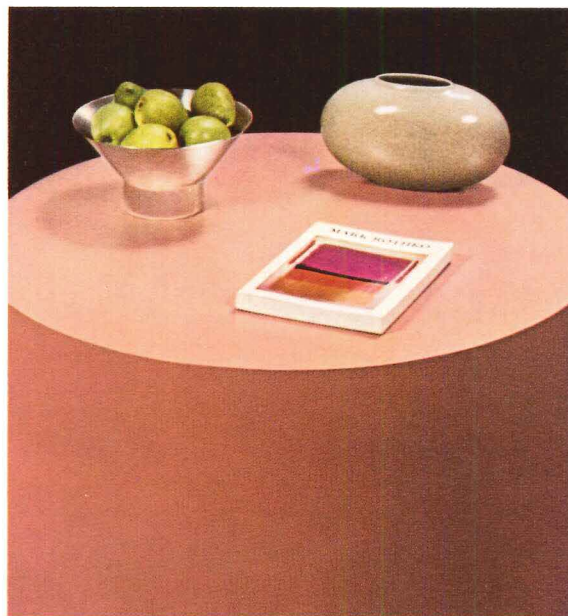


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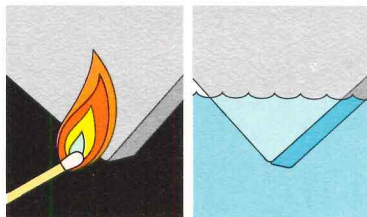
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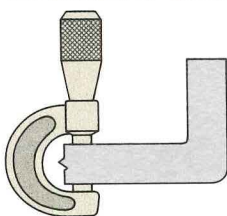
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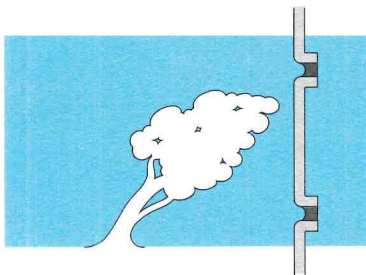


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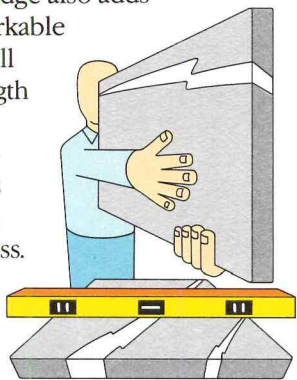
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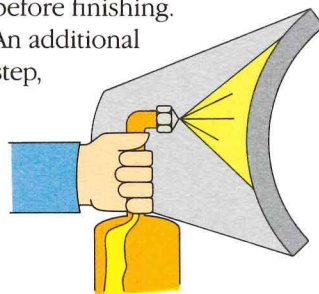


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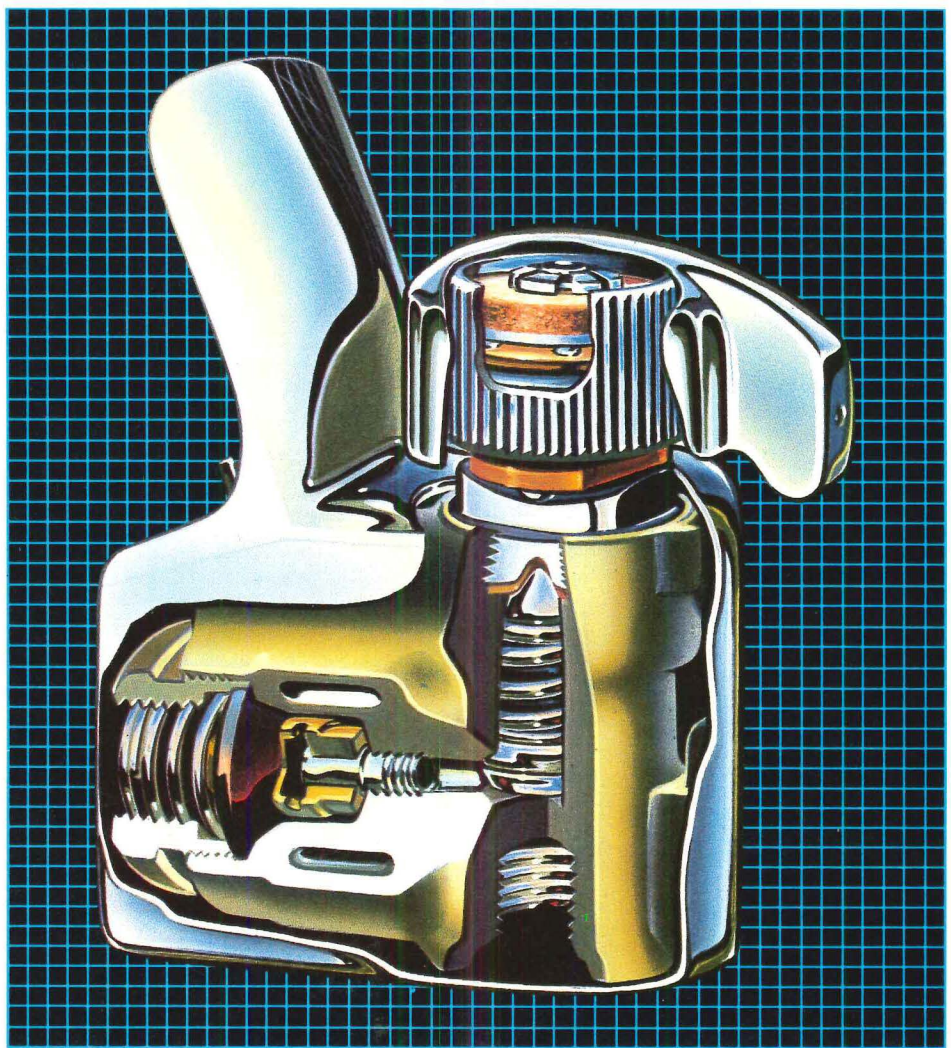
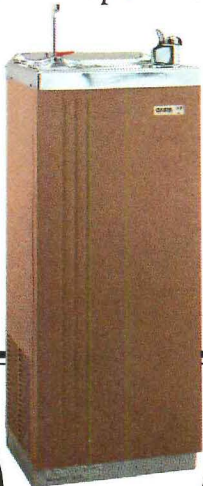
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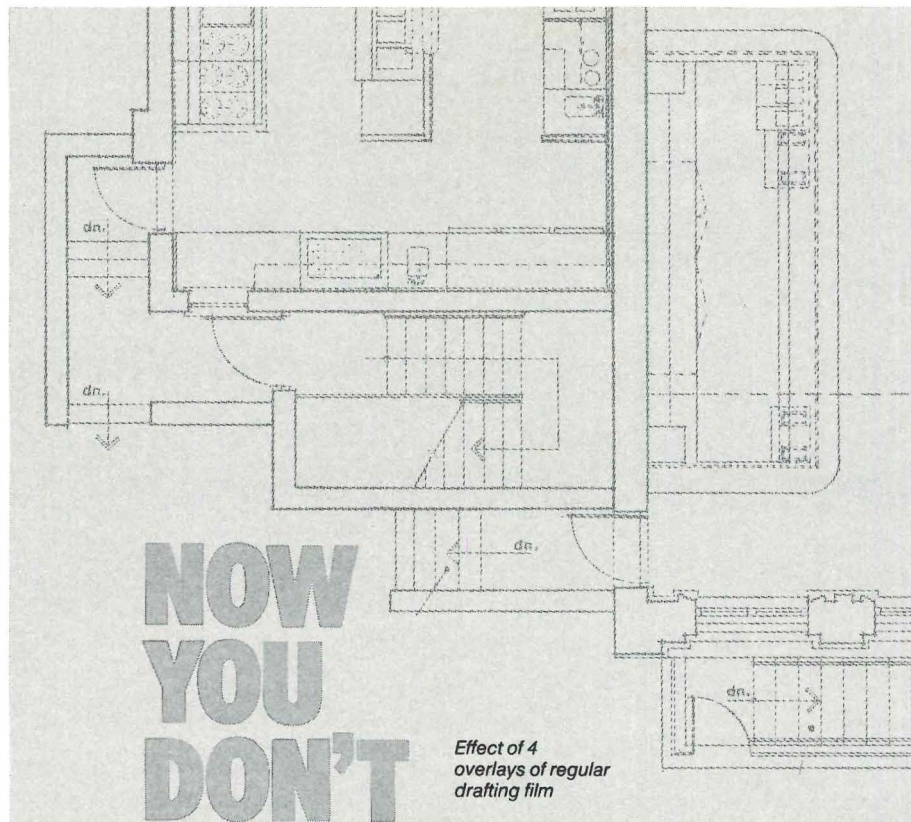
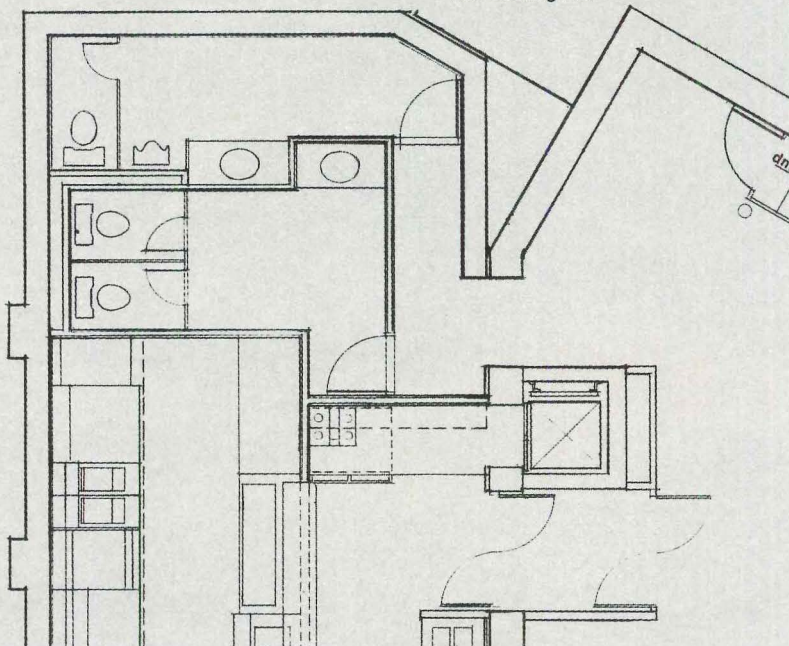
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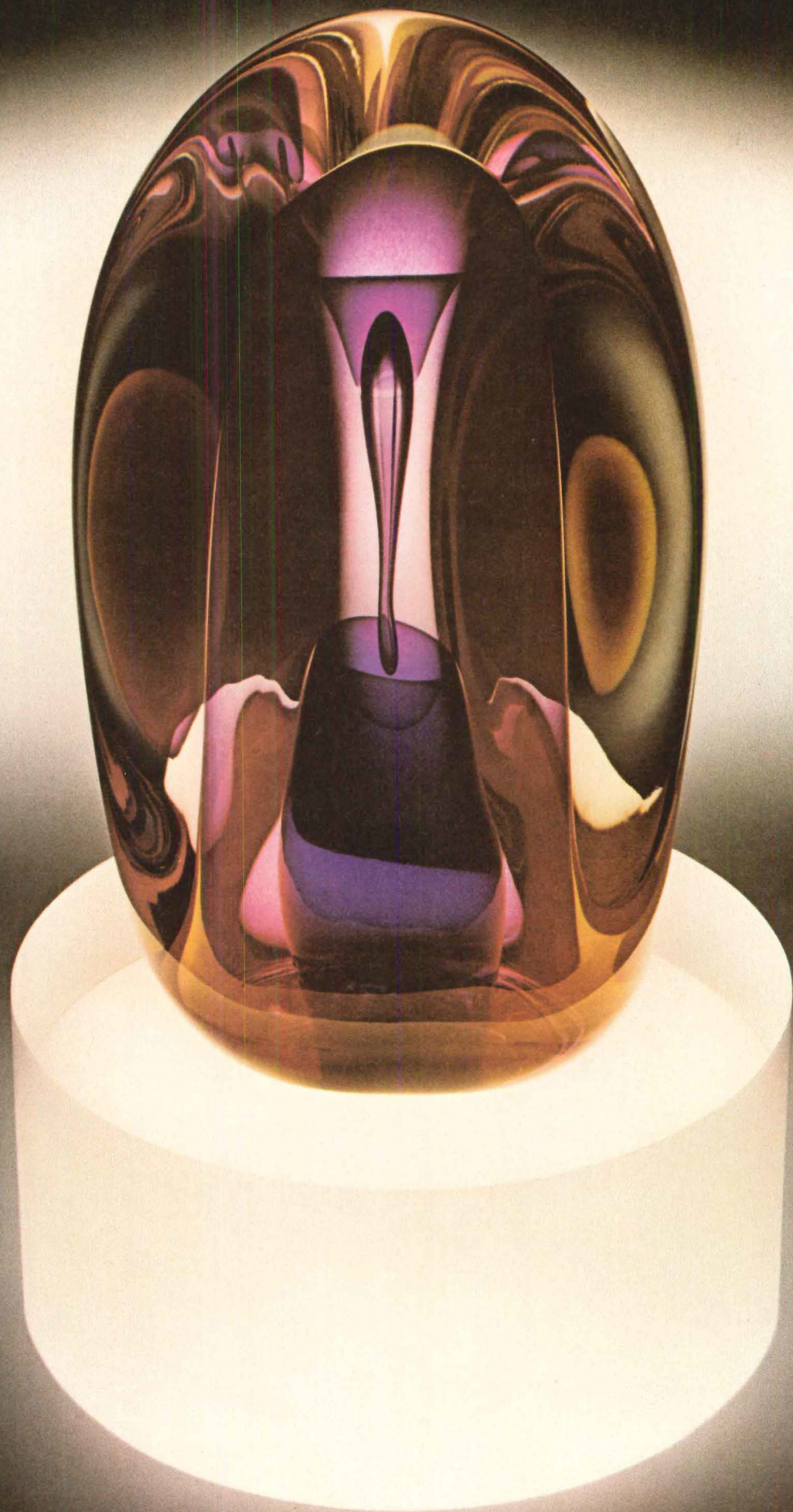
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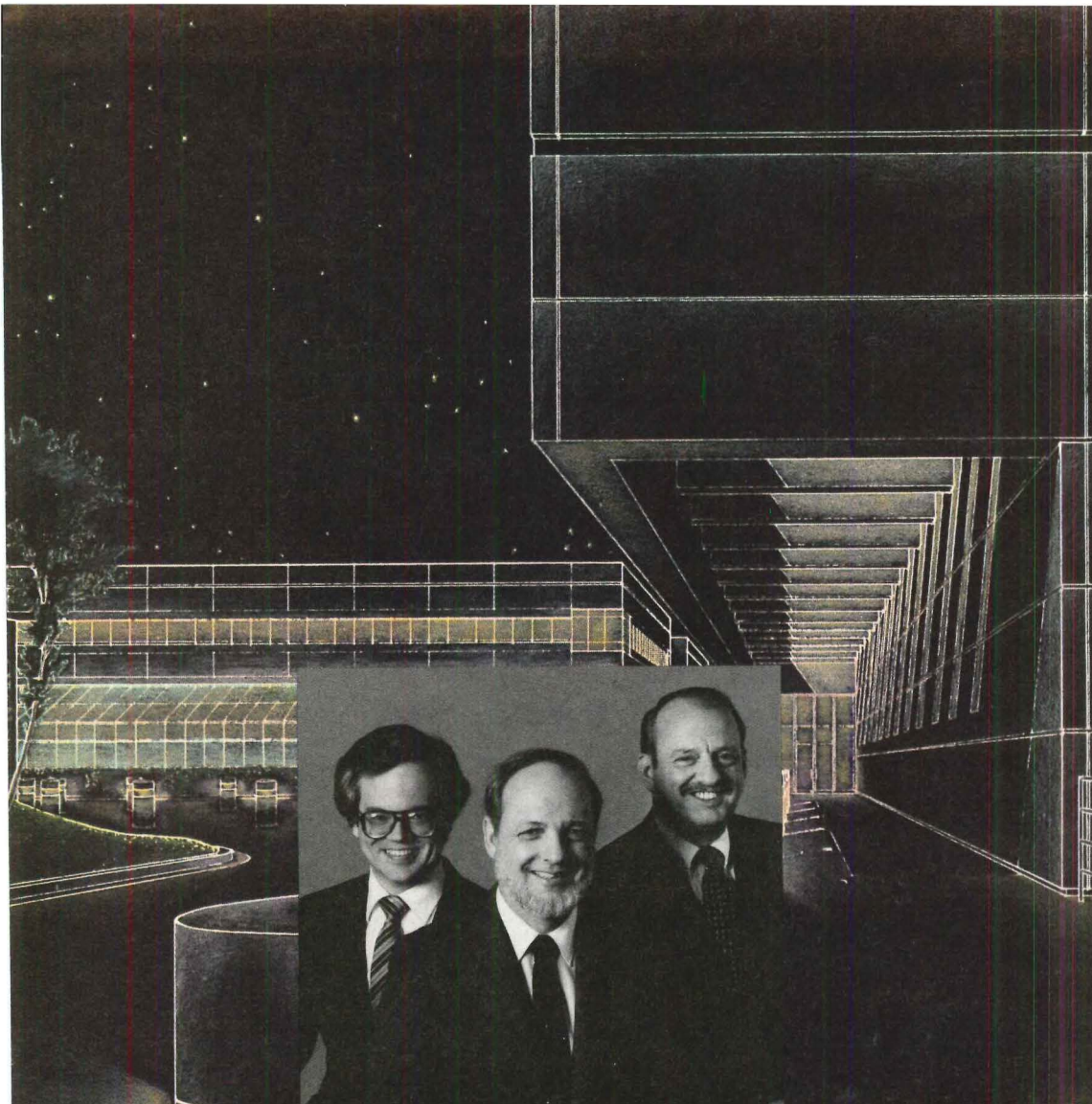
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ANNOUNCING THE 1983 OWENS-CORNING ENERGY CONSERVATION AWARDS.





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Charlotte, NC

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Ray C. Hoover, AIA, Project Mgr.,  
Thompson, Ventulett & Stainback, Inc.;  
Homer E. Anglin, Jr., Part.-in-Charge,  
Brady & Anglin Consulting Engineers;  
Thomas W. Ventulett, III, FAIA, Principal,  
Thompson, Ventulett & Stainback, Inc.



CHATHAM COUNTY  
SOCIAL SERVICES BUILDING  
Pittsboro, NC

Echoing the form and towers of the region's tobacco sheds, this building calls upon traditional strategies to control the interior climate. Fans in the roof monitors draw air through the building envelope to buffer the conditioned mini-house offices set along "streets" inside. These "houses," complete with doors and windows, receive illumination from skylights in the roof "to create a very soft, friendly, humane environment."

Robert E. Hall, Dir., Chatham County  
Social Services; Dennis W. Carter, Mech.  
Eng./Energy Consultant, G.W. Francis  
Assoc., P.A.; Norma DeCamp Burns, AIA,  
Project Arch./Interior Design; Robert  
Paschal Burns, FAIA, Part., Burnstudio  
Architects, P.A.

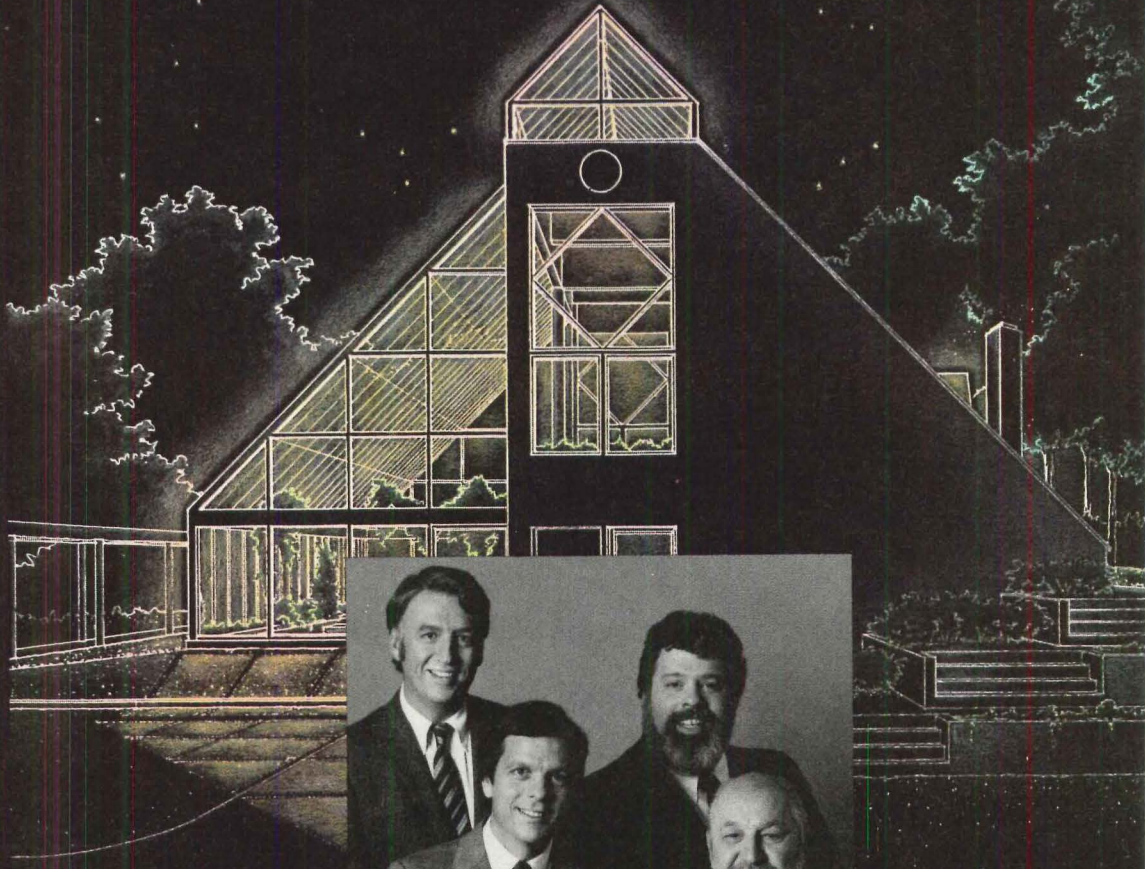




## HORTICULTURAL EDUCATION BUILDING New Canaan, CT

This combination greenhouse and education facility thwarts the notion that large expanses of glass are inherently energy-inefficient. Plants are kept alive by a root-bed heating system served by solar collectors which permit cooler air temperatures. The heavy thermal mass combined with phase-change heat-storage containers and shading/insulating curtains will provide an 80 percent heat energy reduction.

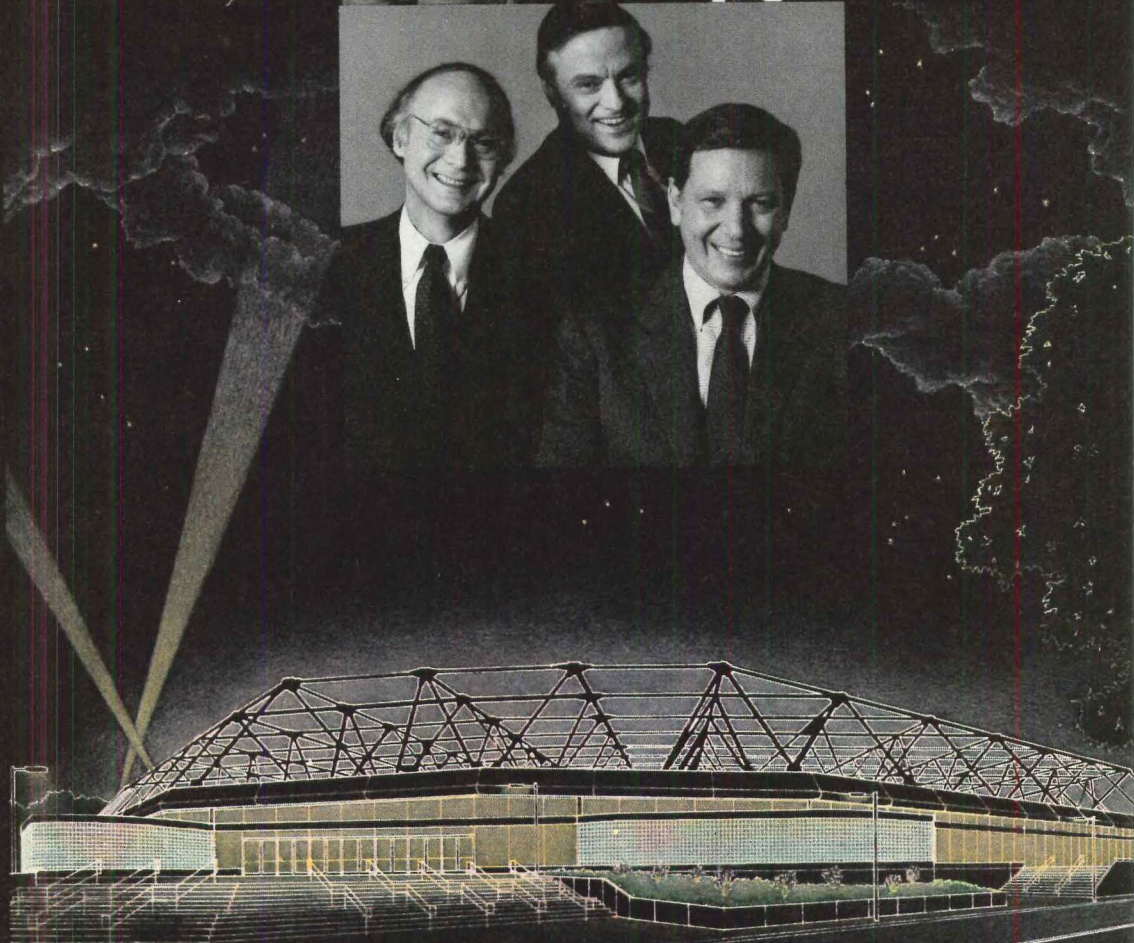
Donald Watson, FAIA, Principal, Buchanan/Watson Architects; Kenneth E. Mull, P.E., Principal, Mull Assoc., Mech. Eng.; George E. Buchanan, AIA, Principal, Buchanan/Watson Architects; Milton S. Johnston Jr., Pres., New Canaan Nature Center Assoc., Inc.



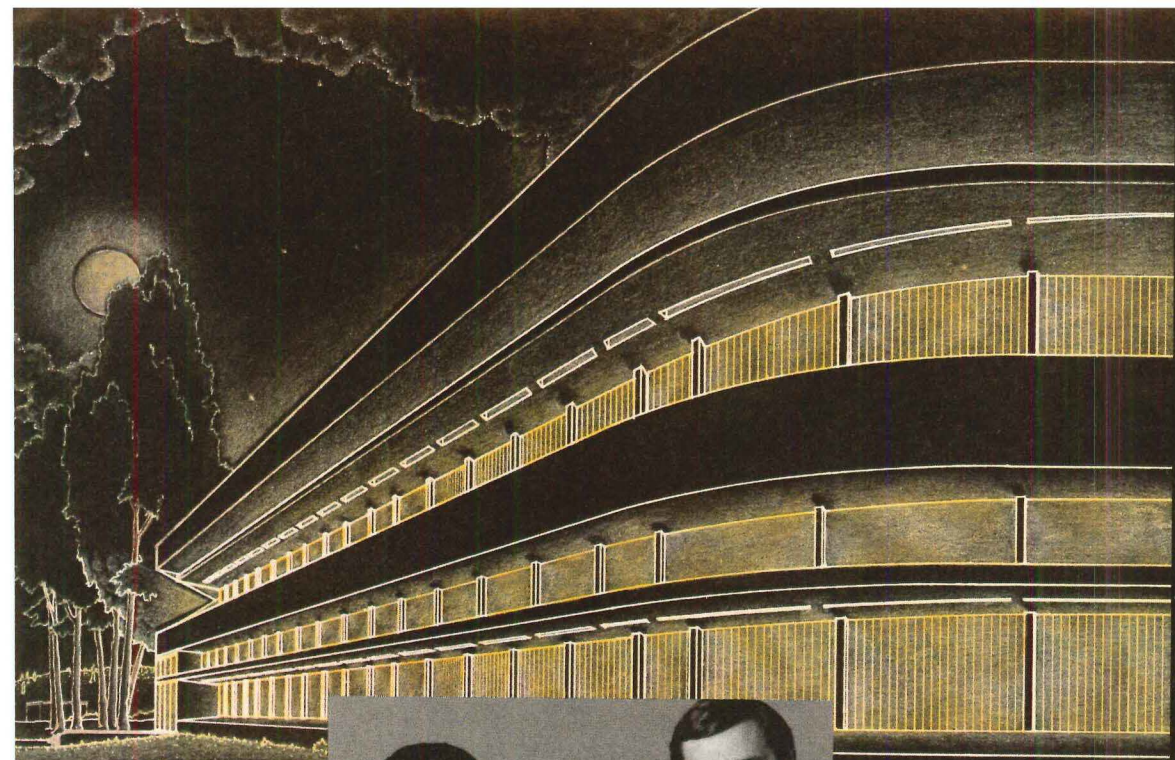
## CARVER-HAWKEYE ARENA University of Iowa

Scooped out of an existing ravine, this 15,200-seat arena is a brilliant utilization of a site to reduce the impact of a very large structure, while seizing upon the energy advantages inherent in stable ground temperatures. Bridging the ravine is a steel space truss with the roof hung below. "This not only minimizes the volume of conditioned air, it gives the building a sense of spirit."

Paul A. Kennon, FAIA, Design Principal/Pres., CRS; David H. Geiger, Principal, Geiger Berger Assoc., P.C., Structural Eng.; John E. Kettleman, P.E., Vice President/Dir. of Mech. Eng., CRS.



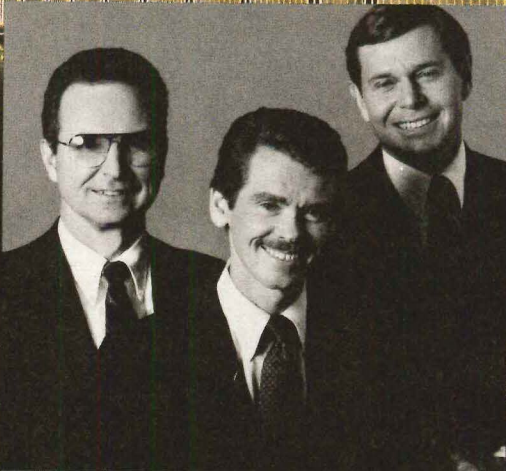




VENTURA COASTAL  
CORPORATION BUILDING  
Ventura, CA

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Donald A. Spitzer, Mgr., Corporate Engineering, Ventura Coastal Corp.; Scott Ellinwood, AIA, Project Design/Energy Strategy, Rasmussen & Ellinwood, Architects & Planners; Alfred F. Nibecker, Mech. Eng., A. F. Nibecker & Assoc., Inc.



BURNET CIVIC CENTER  
Burnet, TX

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Lawrence W. Speck, Principal;  
Paul M. Lamb, Project Architect, Lawrence  
W. Speck Assoc.

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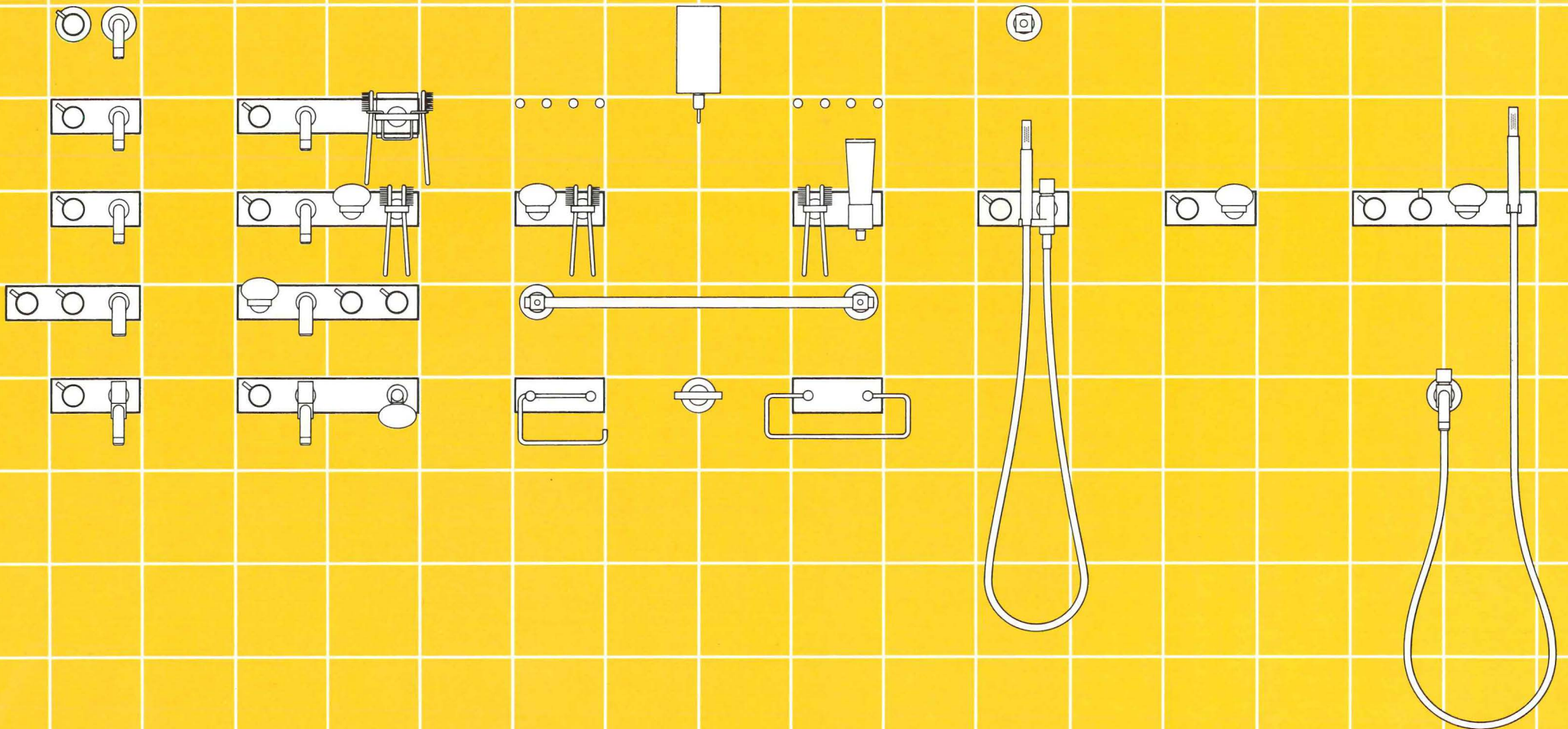
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## Long overdue GSA overhaul now due

In its third try in as many years, Congress just may be coming up with new legislation early this year to strengthen and rejuvenate the Public Building Service of the General Services Administration. A Senate committee issued proposed legislation S. 452 last February, but the full Senate had yet to vote on it by the end of its first term. A House subcommittee held three days of hearings on a similar bill, H.R. 630, in late October and early November.

The key provisions of the House version include the appointment of a licensed architect within GSA's Public Building Service; language to permit design work to proceed before Congress actually authorizes new construction to speed up the process; permit the agency to issue long-term obligations; and consequently reverse the present emphasis on leasing over construction.

R. Randall Vosbeck, past president of the AIA, emphasizing the Institute's belief in the "importance of establishing a coherent, rational plan for managing our nation's public buildings," said the AIA supported all these goals. Beyond that, Vosbeck said, the AIA especially supported language emphasizing the Institute's belief to preserve buildings of historic, architectural or cultural significance, something that—in the AIA's view at least—the GSA has not done to the extent possible. "Historic preservation is a major priority of our nation's citizens, the Congress and the AIA," Vosbeck said, "and should be a major feature of any public buildings reform."

The AIA also supported a provision requiring that the GSA give preference to distressed metropolitan areas in government-redevelopment plans. "Locating Federal facilities with a greater sensitivity can increase the value of public structures to the community in improving the urban design fabric," Vosbeck told the subcommittee.

GSA administrator Gerald Carmen, raising a number of

questions dealing with the GSA's role—for example, should legislation address all Federal space or only that portion controlled by GSA?—proposed two task forces, one from Congress and another consisting of executive-branch members and qualified private experts, to examine current practices.

Emphasizing the possible need for even more major reforms than the legislation now encompasses, a court-system official told the subcommittee that autonomy of regional officers is causing "as much confusion as expertise." James E. Macklin, Jr., executive assistant director of the administrative office of the United States Courts, said GSA reacts slowly and expensively, and initial cost estimates are often higher than expected or warranted: Large projects—such as the construction of new courthouses—regularly require many years.

Allyn Lite, Clerk of the United States District Court for New Jersey, who accompanied Macklin, related detailed instances of GSA overcharges and delay. Lite told the subcommittee: "The GSA charged \$1,200 to estimate the enlargement of a jury box from 12 to 16 seats and then took a year to complete even that work. For the actual construction, the GSA proposed to charge \$33,000, an offer turned down by the court."

Among the more bizarre space offers GSA came up with in response to the search for commercial quarters for the Newark Bankruptcy Court was space above a local fast-food restaurant. "To get to the space, you entered Kentucky Fried Chicken, made a right turn at the salad bar and went up the stairs," said Lite. "That is where they wanted to locate a United States Court." A subsequent GSA report said: "The court did not find the quarters unsatisfactory." Lite said: "It was abominable."

*Peter Hoffmann,  
World News, Washington, D.C.*

## Federal pressures on tax breaks for real estate may continue

Partially because they have been unimpeded and even aided by Federal legislation in recent years, tax laws favoring the real-estate industry and designed to promote increased activity and investment may come under serious fire in the current scramble to balance Federal budgets. The most recent such attack (a House bill sponsored by representatives Dan Rostenkowski and Barber Conable, listed as H.R. 4170) was only narrowly defeated in the closing sessions of last year's Congress and—according to Merrill Busch, a spokesman for the National Association of Industrial and Office Parks—will almost certainly be revived again in 1984, despite this being an election year.

H.R. 4170, a softened version of an earlier House bill introduced by Representative J.J. Pickle called the Industrial Development Bond Limitation Act of 1983, would have placed caps of \$150 per resident and \$40 million per user on the amount of tax-exempt private bonds each state could issue, it would also have restricted their use from the purchase of land or existing facilities as well as certain other purposes.

An earlier proposal by the Congressional budget office would have extended the depreciation-recovery period for business structures from 15 to 20 years. This was bitterly fought by the real-estate industry and the Association of Industrial and Office Parks in particular.

Member Thomas Schroyer estimated that the five-year extension would reduce the return to an investor in the first three and a half years by some nine per cent, and a National Realty Committee model prepared by the accounting firm of Coopers & Lybrand estimated that the result would be a \$67.3-billion decrease in investment by 1986. While this proposal was also unsuccessful in 1983, it too can, according to Busch, be expected to resurface again this year. *C.K.H.*

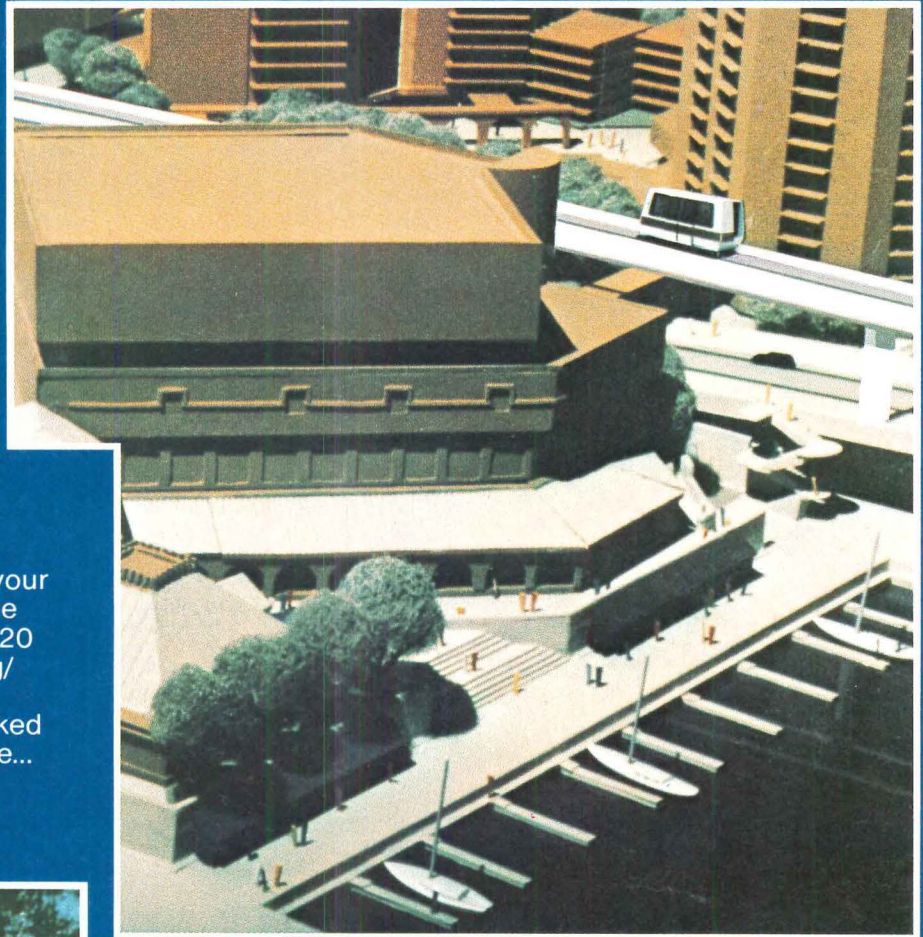
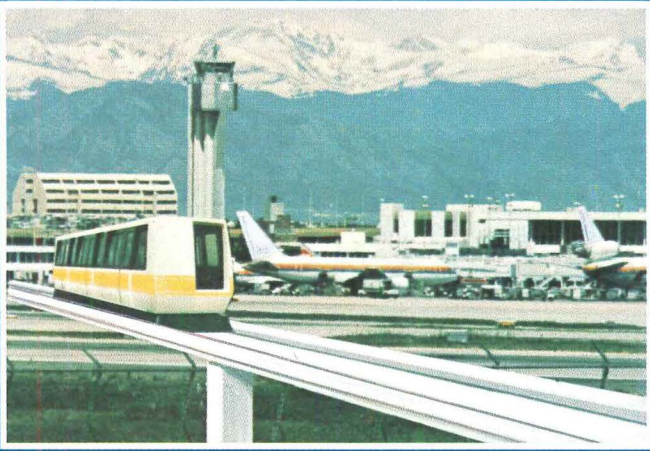
## McGraw-Hill panel concludes that industrial policy is not the answer

A group of 40 economists and market analysts assembled by the McGraw-Hill Information Systems Company has concluded, according to vice president and chief economist George Christie, that deregulation is the appropriate route to industrial growth. The panel, with representatives of building-product manufacturers, trade associations, financial

institutions, government agencies and private consulting, was evenly split on the value of tax concessions, opposed protective tariffs by three to one and was against subsidies by six to one. Stressed in Christie's summation of findings was the value of a better blend of monetary and fiscal policy.



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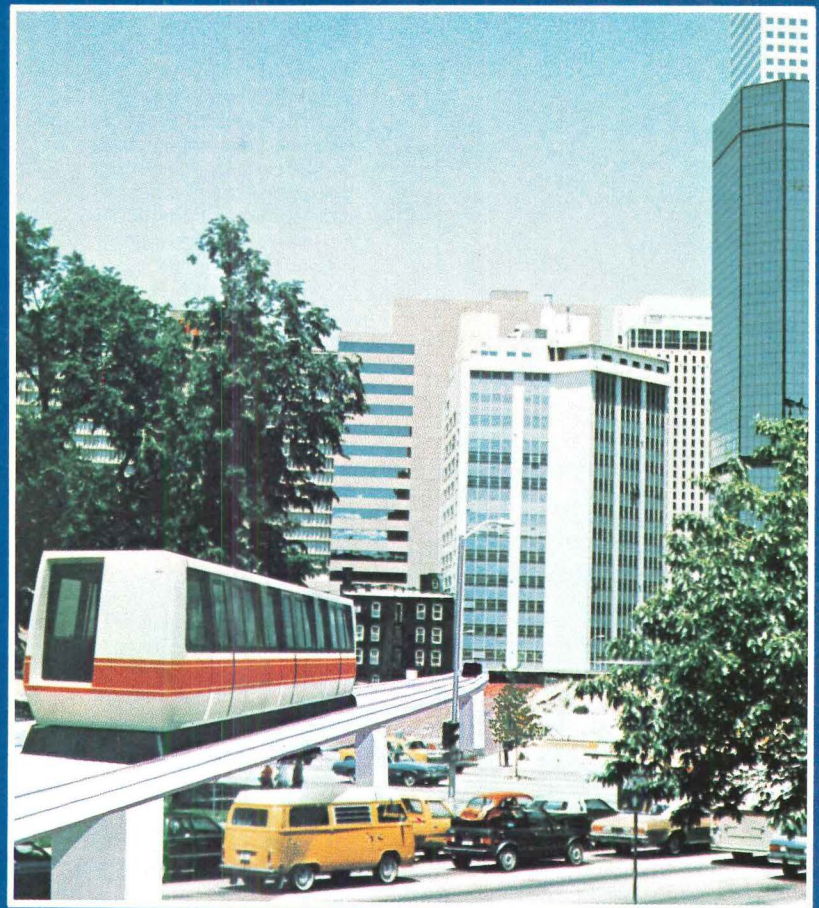


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# The profitable professional: It pays to maintain good client relationships

By Barry B. LePatner, Esq.

As a design firm grows, it must pay increasing attention to developing new business. In recognition of this growing need within the design community, seminars, books and articles on business development have proliferated.

Little, however, has been written on the subject of how to keep the new clients that a firm has labored so mightily to secure. In fact, it is generally assumed that professionals know how to maintain good relations with their clients to ensure repeat business. In reality, this is often not the case.

## Why does repeat business mean more than just sure business?

To establish a client base of repeat commissions, a design firm must treat each project as if it were the first project for that client. From a business standpoint, new assignments from an existing client are substantially more profitable than developing a new assignment from a first-time client. The reasons for this are clear: Where a firm can begin services on a project with a defined understanding of an existing client's needs, less waste and more billable work can be produced than where a new client relationship has to be developed.

Repeat commissions are important for another reason: They are a signal to prospective clients that you have won the trust and confidence of those who return for your advice and guidance whenever they need design services. Repeat commissions attest to the highest tribute a professional can have: a satisfied client who never thinks of looking elsewhere. Moreover, such clients are walking advertisements for your firm.

Developing such a loyal clientele is not easy; nor is it something that can be done in a short time. Yet each professional has as his or her greatest asset a reputation forged by the many relationships and interrelationships that develop over the years. Repeat commissions result from

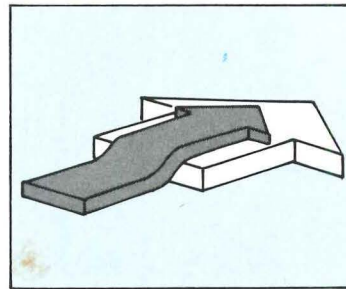
*Mr. LePatner has law offices in New York City, where he specializes in the representation of architectural and engineering firms. He is co-author with Sidney M. Johnson of Structural and Foundation Failures: A Casebook for Architects, Engineers and Lawyers, published in 1981 by McGraw-Hill. Portions of this article appear in the "Le Patner Report," a newsletter published by the author. Copyright © 1984 by Barry B. LePatner, Esq. All rights reserved.*

nurturing a reputation for honesty, integrity and the delivery of a constantly high level of work product.

Maintaining mutual trust with a client requires that a professional promise and deliver to that client the best that he can give. If that promise is kept, it will result not only in repeat business but in new business that flows from a satisfied client's recommendations. And it will also result in a sense of personal pride, for providing a quality work product to a client in need of those services is to fulfill the ultimate goal of a professional in our society.

## Keeping clients relates closely to how you got them in the first place, but...

Maintaining a close and supportive working relationship



*Building on previous effort. From Graphic Idea Notebook by Jan V. White, published in Folio 1981.*

with a client over a period of time requires an entirely different application of energies than you would use to develop that same client as potential new business. This difference becomes evident when you consider a general methodology for developing new clients:

1. In order to realistically approach prospective clients, you first must define the market for your firm's services.
2. Once the market has been defined (e.g., hospitals and medical groups for a firm that designs for the health field), you must determine who, within the potential market, is in need of your firm's services.
3. Direct communication, both written and oral, must be made with prospective clients to inform and advise them of the services available to them.
4. Prospective clients must be convinced as to how your firm's services can fulfill their needs.
5. The contract must be closed in all details by meshing the specific needs of the client with the services to be performed into a formal agreement so that the project can proceed.

It is only after this last step has been completed that a firm has developed a "new client."

## Keeping clients requires more than just professional delivery

Once a contract has been closed, a design professional should focus on two goals equally: ensuring the satisfaction of the client on the initial project and developing a close *personal* working relationship that will avoid any perceived need for that client to look elsewhere for future design services.

All too often, the selling and public relations techniques (used here in a positive sense) that enabled a firm to secure a new client are summarily halted after the project has begun.

In many firms, the principals who so actively pursued, cultivated and won over the client, turn the project over to a project manager or project director without maintaining a continuing presence for follow-up work. Often, assurances of personal service and promises of performance are not assiduously passed along to those who manage the new client. These broken promises often "litter the landscape" when the new client is asked why another design firm is being considered for future business.

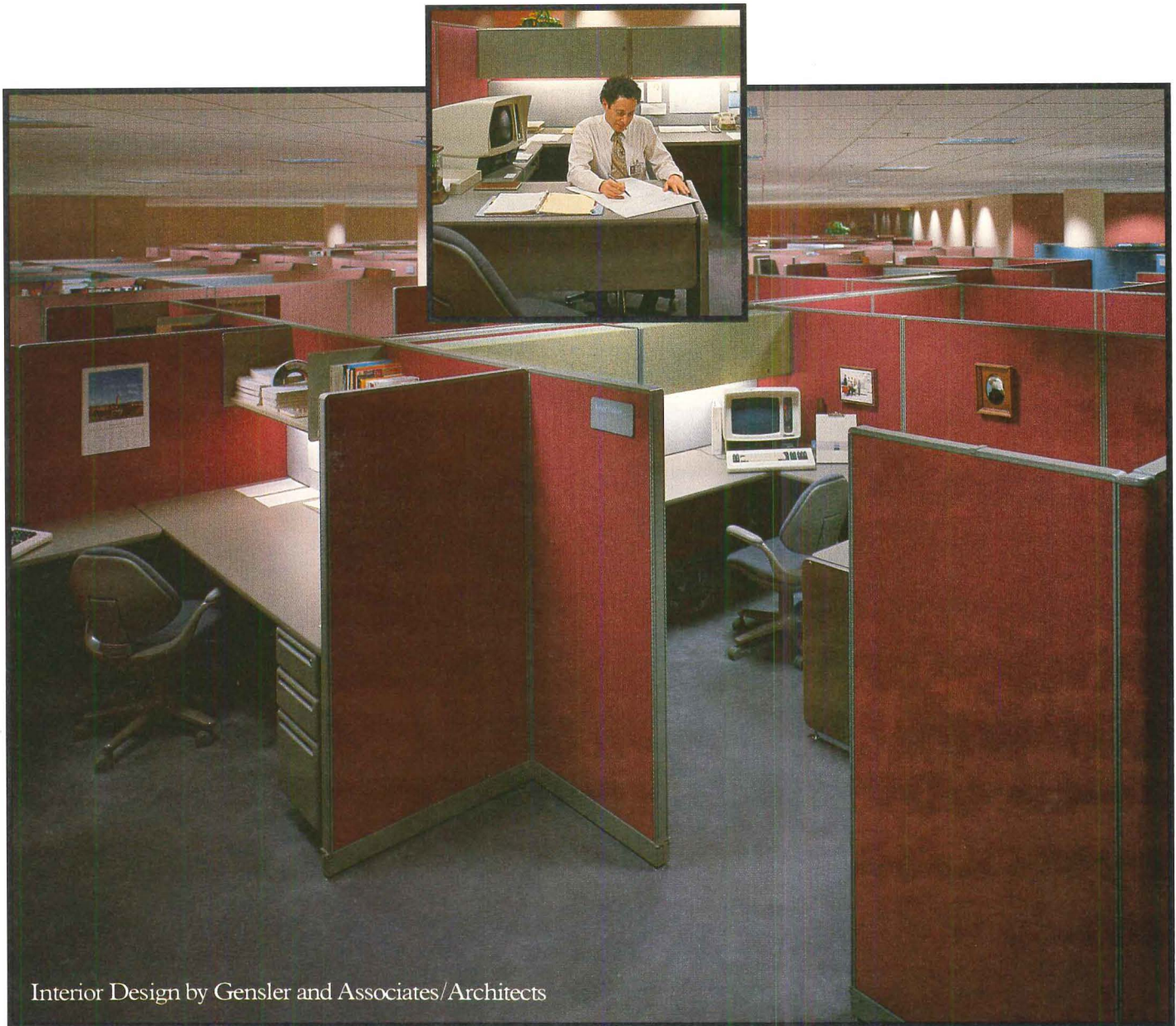
Often, too little recognition is given to the fact that client communication must be continuous, albeit modified, in order to assure that the "new" client does not become a "former" client after one project. In truth, a firm that fails to extend its fullest attention to each of its clients risks losing those clients to a competitor who is prepared to expend an even greater degree of energy to woo that client away.

In counseling numerous newly organized design firms, I am frequently asked how to build upon an existing client base. I often answer this question by referring to the way in which real-estate developers select and price a parcel of real estate by "location, location and location." For architects, engineers and all other professionals, the three essential criteria for clients' sustained enthusiasms are "service, service and service."

Much as there are specific reasons why a client selects one firm over another, there are good reasons why clients look elsewhere for future needs rather than merely returning to the designer who served them in the past. To prevent such a loss of business, it is important to



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understand the reasons why a client will continue to provide commissions to one design firm rather than go through the time-consuming effort of seeking out new firms for its work.

1. The client must believe that he or she is satisfied with the talents and services of the firm and that they were both timely and cost-effective.
2. A personal relationship coupled with mutual respect must have been nurtured that precludes any emotional need for the client to chance a change in selection of design firms.
3. The design firm must offer a special expertise essential to the client's business that cannot be easily replaced.
4. Or, simply, the client may be unaware of any other firm that can do the job better, faster or cheaper.

If one were to look closely at the above criteria, it is readily apparent that if the first three were addressed by the design professional through a conscious plan of action, there would be no logical reason for a client to seek out another firm on future work. It thus follows that those firms that want to establish a long-term client relationship will do everything possible to nurture a warm personal and business relationship that encourages candid interchanges that can adapt to changing situations over a period of time.

#### **Canny use of money and keeping clients posted contribute to satisfaction**

Building a close working relationship with a client must begin with the initial project. Every client who entrusts his or her financial assets to a designer is looking to maximize that investment. One of this country's largest private developers recently told me that the architects he will use on future projects are those who "spend my money as if it were their own."

Being alert to the most cost-effective ways of spending a client's money does not necessarily mean finding the cheapest way. Developers appreciate suggestions on how to achieve long-term cost savings, even at a greater, initial up-front cost. Staying abreast of such innovations thus becomes of paramount importance to the forward-thinking architect and engineer.

Another important element in building a long-term commitment from a client is to get the client into your office for a detailed explanation of how his

or her project will be handled. Walk the client through the different departments of your office and introduce those who are preparing schematic design drawings for a current work in progress. Show your client the difference between schematics and design development drawings; explain the detail required to ensure coordination of mechanical, electrical and structural drawings so that the working drawings will be ready for bid and ultimate construction.

It is startling to many architects and engineers to learn of the impact that can be made by providing such a tour to one's clientele. For far too long, architects have been unable to explain why they are entitled to their fees when clients believe they merely draw "pretty pictures." Sadly, many designers have failed to articulate to their clients the complicated role they play in the design/construction process.

By involving the client in the work of the design process, you demystify the work itself and it becomes more understandable and "valuable" in the eyes of the client; most importantly, it becomes a means to a larger end, i.e., the client now is a participant and thus is more willing to pay for services he has come to value.

Copies of sketches, drawings, and other instruments of service might regularly be sent to the client. Instead of shaking their heads with disinterest, most clients will place them on their desks, discuss them, and become even more enthusiastic over the evolving project. More importantly, those sketches and drawings should have the designer's identification to reinforce the role of the designer by continued presence in the client's office or home.

Too often, designers fail to recognize that the sketches and drawings they prepare are viewed by clients with great interest. In truth, these drawings are the first manifestation, the "oncoming of life," of the abstract concepts which the designer has been discussing for weeks and months. The excitement thus generated works to the benefit of the design professional.

A by-product of providing clients with drawings and sketches (all of which should include a copyright notice—see "Protecting Ownership and Use of Plans," ARCHITECTURAL RECORD January 1983, pp. 47-49) is that it is quite common for clients to

show them to friends or colleagues who will then be familiar with your work and the professional approach it exhibits. Thus, the standard operating procedure of your firm can be used to promote good will with existing clients and generate future business with potential new clients.

#### **After "service, service, service" come "follow-up, follow-up, follow-up"**

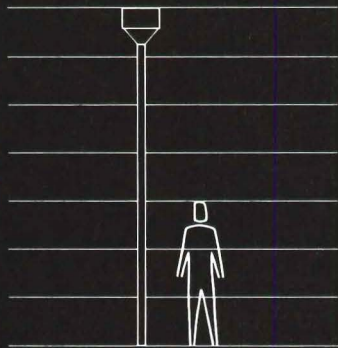
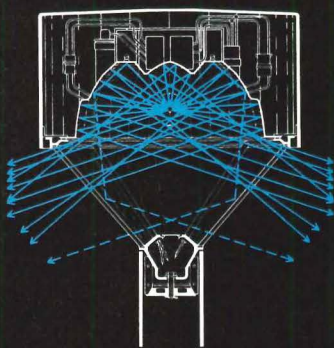
Even after a project has been completed, it is helpful to keep in contact with one's clients. Don't hesitate to send along articles on the project, if any. Related projects that were built in the client's vicinity which complement or reflect upon your project should also be sent along with an appropriate note of recognition.

Keep abreast of new business ventures your clients have developed and, if they relate to projects that are within the province of your firm, do not hesitate to have lunch with your client to discuss the prospects for development of these ideas. A sincere interest in the world of your client will enable you to better serve that client when you are called upon to perform your services.

Finally, when you receive recognition for other projects, win awards, or make news that is flattering to your firm, a pleasant announcement to your clients allows them to share your good fortune and the recognition that they too were wise enough to retain a designer who has been awarded an accolade for excellence.

In short, maintaining a long-term relationship with a client is not unlike developing a warm, working friendship—it requires a commonality of interest, a sincere mutuality of shared concerns and a respect for each other that will endure beyond any single project.





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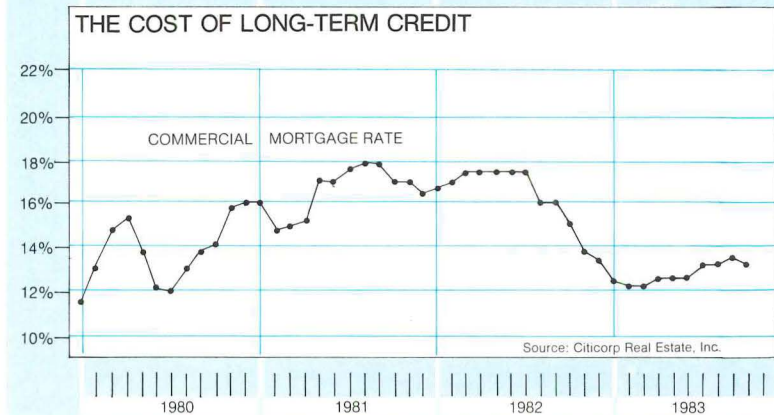
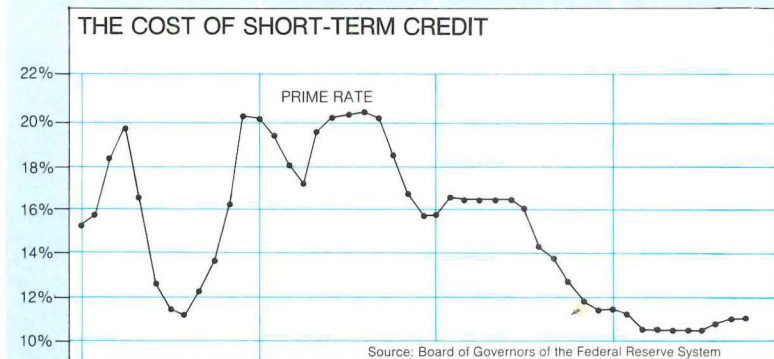
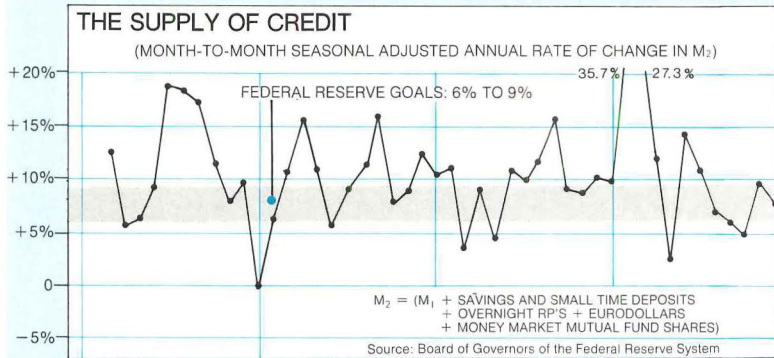
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# Economics: A healthy year for us all

By Phillip E. Kidd



Throughout 1983, the economic recovery progressed at a rate far more robust than had been thought possible. Significantly, that stunning performance has generated the momentum to keep the economy advancing, despite abnormally high interest rates, enormous Treasury borrowings, and sluggish money growth.

Entering 1983, monetary policy was in the midst of an aggressive easing. With money more available, nominal interest rates, mainly reflecting the decline in inflation over the previous year, had fallen precipitously from their exceptionally high mid-1982 levels. Credit-sensitive housing and automobile sales rapidly accelerated, while businesses started rebuilding inventories. More and more unemployed and new job entrants found work. Personal incomes rose, unleashing even more of consumers' pent-up demand for goods and services. Economic activity flourished without interrupting the downward drift of inflation. Nevertheless...

### Several long-term problems surfaced to cloud the upturn

The financial markets became increasingly alarmed that a continuation of substantial money acceleration would reignite inflation. Interest rates rose during the summer in response to those misgivings. In addition, the Federal Reserve nudged them even higher when it tightened monetary policy to calm the fears of institutions and investors. As these jitters quieted down, rates showed signs of dropping in early fall. Abruptly, rates were sent higher when Congress dawdled over raising the debt ceiling, forcing the Treasury to crowd into the money and bond markets to borrow sizable amounts in a six-week span during the fourth quarter.

Those rising interest rates arrested the startling ascent of housing and automobile sales and made businesses more cautious about enlarging inventories. In turn economic growth slowed in the second half, but still is expected to post an impressive 6.5 to 7 per cent real gain during the July-to-December period.

### Housing starts, and automobile sales

**sparked the 1983 recovery** Importantly, starts and sales only leveled off, but did not fall, in the face of those higher long-term rates during the second half. Both will move up under the encouragement of somewhat

lower rates this spring, as interest rates inch upward. Now, however, growth is occurring in other sectors, providing the needed thrust to keep the economy on the upswing.

Even though the deficit will be a little smaller than in 1983...

**Rising Federal expenditures will still be a major stimulus to economic activity** State and local governments, which through most of the early 1980s were curbing purchases and raising taxes to balance budgets, are currently experiencing improved revenue flows and expanding surpluses. They will spend these dollars to upgrade services and to begin modernizing roads, bridges, and water/sewer systems. That will furnish another lift to the economy.

In the private sector, as sales strengthened last year, manufacturers pulled more of their idle plant and equipment back into production. Slowly businesses began investing more in the latter part of 1983. With capacity utilization rates crossing over the 80 per cent barrier, manufacturers will increase investment steadily throughout 1984, reviving industrial building. In addition, this sector will benefit from the gradual improvement in exports, as the economies of our major trading partners recover.

**As more of the economy expands, credit demands will intensify** By the second quarter, interest rates will be feeling the pressure. However, as the economy continues to advance, employing more workers for longer hours and boosting personal income, domestic savings will rise. That will more than compensate for any drop off in the inflow of foreign savings, which was a vital source of funds in 1983. Moreover, monetary policy, after three quarters of firmness that yanked the money supply back within targets, is positioned for some degree of easing.

*Mr. Kidd is a prominent economic consultant and former director of Economics Research for the McGraw-Hill Information Systems Company.*





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ARCHITECTURAL RECORD



## Management: Reduce your liability exposure in contracts

*In this fourth part of a series, a manager from the CNA Insurance Companies offers a checklist of ways you can decrease your exposure*

By Michael Silchuck

*These recommendations have been developed by the research department of Victor O. Schinnerer and Company, Inc. Schinnerer is the underwriting manager of a design-professional liability program commended by the AIA and offered for more than 25 years by the Continental Casualty Company, one of the CNA Insurance Companies. The recommendations were derived from examination of actual contracts used by professionals insured in the CNA/Schinnerer program. C.K.H.*

As a design professional, your services embody certain performance expectations as expressed by clients and as determined by common-law legal standards. A California court, which ruled against an attempt to hold an engineer to a standard of strict liability, stated:

*"The services of experts are sought because of their special skills. They have a duty to exercise the ordinary skill and competence of members of their profession, and a failure to discharge that duty will subject them to liability for negligence. Those who hire such persons are not justified in expecting infallibility, but can expect only reasonable care and competence. They purchase service, not insurance."*

One will find such broad concepts behind every service contract between a professional and his client, according to Arthur T. Kornblut, in one of his many roles as consulting attorney to Schinnerer.

"Yet," states Kornblut, "much of the professional liability litigation in which architects and engineers find themselves today turns on the terms of their contracts rather than on general legal principles."

Concerned about the insurability of various contract provisions, many architects and engineers have submitted their contracts for review to the office for professional liability research at Schinnerer. From these, the contract office has identified a number of common problems and evolved the following recommendations:

### **Standard contracts should be used instead of nonstandard ones**

Excellent standard professional service contracts, available from the American Institute of Architects and the Engineers' Joint Contract Documents Committee, are the product of extensive deliberations among various professionals—architects,

engineers, owner's representatives, contractors, legal counsel and insurance experts—and reflect experience everyone benefits by.

When confronted by nonstandard contracts prepared by the client or his attorney, the design professional should attempt to convince the client that it would be to their mutual advantage to use the standard documents, incorporating whatever modifications are deemed appropriate for the project.

If the client insists on using a nonstandard contract, the design professional should ask his own legal counsel to perform a careful review of the client's document, and to compare and contrast its provisions with those found in the standard forms. In addition, insurance counsel should be sought if there are any questions about the insurability of nonstandard contract language under the terms and exclusions of the architect's or engineer's professional liability insurance policy. Nonstandard contracts should be looked at by everyone with the following points in mind:

### **All contract language must be clear and understandable and mean what's agreed on**

Quite often, nonstandard contract provisions lack clarity of purpose and intent and receive inadequate attention to grammar. Uncertain and expanded liability exposures result from unclear contract provisions, because the parties cannot fully comprehend their rights and responsibilities.

The following actual provision illustrates this problem:

*"The Architect shall not be liable...for defective workmanship, labor, installation or material that is the responsibility of the General Contractor, Bond Company...any subcontractor...or any other person, firm or corporation, unless the Architect is negligent as hereinbefore defined and said responsible person, firm or corporation to correct such defects in the building and/or pay all damages resulting therefrom, or if same is duly reported as required...above."*

Although this had been drafted by an attorney, there is no way that anyone, let alone the contract parties, can interpret what is intended.

When faced with unintelligible contract provisions, insist that they be redrafted. Regardless of who drafts the contract, each provision should be completely

comprehensible so that all rights, duties and obligations are clear to contract parties. Otherwise, if a dispute arises at some point in the future, a judge, jury or arbitration panel will be faced with the task of interpreting the contract provisions in light of the ensuing facts—and the result may be far different from what *anyone* thought was intended when the contract was signed.

Even something as basic as correct word usage can play an important role in this regard. In one contract reviewed by Schinnerer, an architect was required to perform certain services "on sight"—rather than "on site" as was intended—and this misspelling obviously changed the sense of the contract.

### **Make sure a clear definition of professional responsibilities is included**

In outlining the design professional's services, the contract should emphasize the distinction between the professional's services and the work to be performed by the contractor. The architect or engineer should not assume the contractor's responsibility for construction means, methods, techniques sequences or procedures.

A significant number of legal cases in recent years have involved suits by injured workmen brought against architects and engineers. Barred from suing their employers, who enjoy statutory immunity from litigation by virtue of the workers' compensation laws, these workers have filed against design professionals in the hope of recovering additional compensation for their injuries.

In many of these suits, the courts have found that contract language created a duty on the part of the architect or engineer running to the plaintiff workman—whether or not any such duty had been contemplated or intended when the contract was drafted. Problems of this sort can be avoided by including a disclaimer in the contract, as is found in the standard AIA and NSPE documents.

Job-site safety, therefore, should not be a responsibility assumed by the design professional. Safety is the responsibility of the contractor. Yet key phrases such as "supervision" and "right to stop work"—when included in the professional's contractual responsibilities—imply that the design professional has a responsibility to control the

construction operation, and thus has construction phase liability.

### **Do not overlook the obligations of the client/owner**

Every client has a responsible role in the design and construction process. A client should anticipate rather than avoid involvement in his project, as his investment is quite large. Among the client's obligations normally included in the contract are:

- Providing a program that states the project requirements and design objectives.
- Establishing the budget.
- Providing legal, insurance and accounting services insofar as they are needed to protect the client's interests.
- Retaining the services of surveyors and soils engineers (although occasionally these services are provided by consultants to the design professional).
- Being responsible for technical testing of the work required during or after construction.
- Making decisions during the design and construction process and giving approvals required at the end of each phase of the design professional's services.
- Paying for the services rendered.

### **Beware of contracts requiring "perfection," express guarantees or warranties**

In an extension of the principles of clear language discussed before, design professionals should recognize that nonstandard contracts often create severe liability exposure by the casual use of many common words. Although the law does not hold architects and engineers to a standard of perfection in performing professional services, applicable legal standards can be unintentionally but dramatically altered by the terms of the professional's contract.

Every word in a contract should be read and interpreted literally—and not according to the custom, usage or slang of the construction industry.

Therefore, architects and engineers should avoid contract terms that are superlative and absolute in their meaning—"highest quality," "most efficient/economical," "best," "assure compliance with (e.g.) OSHA, local codes," "as necessary" and so forth. Design professionals also should take care with express warranties (e.g., "the basement will not leak," "the foundation will never





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crack”), time limits (i.e., guaranteeing the final project completion date) and cost guarantees (e.g., “not to exceed \$2.5 million in total expenses”).

Consider the following example from a contract:

*“The Design Professional shall prepare complete drawings and specifications for the Project.”*

According to various dictionary definitions of “complete,” this contract requirement would obligate the architect or engineer to prepare drawings and specifications that were not lacking or incomplete in any respect; i.e., they must be perfect. Even though the law only requires design professionals to prepare drawings and specifications according to the profession’s ordinary standard of care—that is, without negligence—a court could interpret the above provision to mean that a substantially higher standard of performance had been agreed to by the parties.

To avoid this particular problem, the following could have been substituted:

*“The Design Professional shall prepare drawings and specifications setting forth in sufficient detail the requirements for constructing the Project.”*

It also is recommended that the design professional refer to the project specifications in the contract as “record drawings” and never uses the wording “as built.” This minor, but important, reference avoids future liability if there is deviation from the specs. It is the contractor’s responsibility to record such minor deviations on the project specs, and to notify the design professional of any design or material changes so that a clean set of “record drawings” may be prepared for the owner.

**Remember that contingencies breed contingencies; such clauses should be avoided**

Contingency clauses are often inserted into contracts when one party is uncertain about what his position will be at some point in the future. In design-service contracts, such clauses often relate to the client’s obligation to continue with the project or to pay for professional services rendered. If contingency clauses appear in a contract, recognize that the ability to enforce the contract when the unexpected occurs may be beyond the design professional’s control.

For example, the following is found in many nonstandard contracts:

*“It is further agreed that the Owner is not obligated for payment under the terms of this Agreement until Project financing has been arranged by the Owner.”*

As all activities regarding project financing are solely within the owner’s province, the owner controls whether or not he will ever be obligated to pay the design professional’s fee. This problem is particularly acute for design professionals retained for speculative projects, as the owner often wants to delay as long as possible all decisions that commit him to actually proceed with the project. If the client then refuses to pay for professional services, suits for payment of fees and countersuits for negligence often result.

**Be aware of incorporation by reference; include desired documents in the contract**

If a nonstandard contract includes references to any government regulations, local statutes and the like, the design professional should review all these documents and assure that exact copies of the documents are included as an appendix to the contract, even though this material has become part of the actual contract through “incorporation by reference,” whether or not it is attached.

The reason it is important to include the appropriate version of any referenced document is that many regulations or statutes are subject to frequent change (e.g., the recent revisions of Department of Energy guidelines and the Occupational Safety and Health Act). When the correct versions of referenced documents are initialed and dated by the contract parties and stapled to the contract, the design professional is held liable only for the dated version and not for any future amendments.

**Retain key rights regarding professional consultants; do not let them be pushed on you**

Another liability-prone feature of nonstandard contracts is found in provisions related to selecting consultants. Architects and engineers should recognize the inherent potential for liability when the client reserves the right, by contract or otherwise, to select the firms that must be retained as consultants by the prime design professional. The law can hold the prime professional contingently liable for the professional negligence of his consultants.

Thus, the prime professional

must be confident in the technical capabilities of each consultant and his ability to work with the other project members. If any consultant fails to perform properly, the prime professional should be able to terminate the consultant’s services because of the ultimate exposure to liability for any inadequate performance.

In addition to the right to select consultants, the prime professional should have the contractual right to hire and fire them. Of course, all consultants and subcontractors under the design professional’s control should have their own certificates of insurance with proper limits.

If the client insists on selecting the consultants, and the consultants are not fully acceptable to the prime professional or if he is unwilling to assume contingent liability for their performance, it may be appropriate to suggest that the client himself enter into direct contracts with those consultants. Then, it should become the client’s responsibility to see that their services are properly administered and coordinated. If it is not possible to utilize separate contracts, the prime professional should proceed only with a full awareness of his liability exposure.

**Use insurance exclusions in your policy checklist of what to watch out for**

Either prior to drafting a professional service contract or Altering one of the professional societies’ standard agreement forms, it’s important to become familiar with available professional liability insurance coverage. A copy of the exclusions contained in the professional liability insurance policy can be a convenient checklist for the professional service contract.

Except in rare cases, contract terms including items excluded from insurance coverage are not in either party’s best interest. For the design professional, such provisions could leave him without the proper insurance coverage in the event of a claim, and he then will have to assume personal responsibility to pay for the defense costs and any judgment rendered against him.

Some of the more frequent contract clauses that create liability insurance-coverage problems are:

- Requirements for certifications and other provisions that are, or could be interpreted as, express warranties or guarantees.

- Stringent provisions attempting to impose financial liability on the architect or engineer in the event construction costs exceed estimates provided by him.
- Hold harmless or indemnity provisions running to the owner.
- Requirements that the design professional give advice on insurance or surety bonds.
- Imposition of liquidated damages on the design professional.
- Establishment of deadline dates for performance.

In addition, contracts calling for the architect or engineer to participate in a joint venture, assume an equity interest in the project, or retain survey or subsurface soil consulting services create professional liability insurance problems. For each of these, competent insurance counsel is mandatory if the contract is to be prepared in a way that does not jeopardize insurance coverage.

While insurance is not a panacea for every ill that can befall a design professional or his client, it can provide a reasonable measure of financial protection to both parties in the event of an allegation of negligent professional performance. The proper preparation of the professional-service contract can do much to assure that the design professional limits his liability up front to only those areas that are appropriate, and that his insurance, to the extent of the coverage it does provide, will be available if needed.



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## Costs: To be a useful estimating tool, these cost indexes require knowing how to apply them

### Summary of Building Construction Costs



	Number of metro areas	Districts Eastern U.S.		
		7/83 to 10/83	10/82 to 10/83	1977* to 10/83
Metro NY-NJ .....	18	-0.16	5.20	1548.57
New England States.....	33	1.40	5.03	1537.58
Northeastern and North Central States.....	120	0.87	4.04	1586.04
Southeastern States .....	106	1.04	6.02	1629.40
<b>Average Eastern U.S.....</b>	<b>277</b>	<b>0.93</b>	<b>4.99</b>	<b>1594.42</b>



	Number of metro areas	Districts Western U.S.		
		7/83 to 10/83	10/82 to 10/83	1977* to 10/83
Mississippi River and West Central States .....	122	0.67	3.12	1577.80
Pacific Coast and Rocky Mountain States.....	106	1.11	3.58	1667.77
<b>Average Western U.S.....</b>	<b>228</b>	<b>0.88</b>	<b>3.34</b>	<b>1619.63</b>
<b>United States: Average.....</b>	<b>505</b>	<b>0.91</b>	<b>4.24</b>	<b>1605.80</b>

\* Using only cities with base year of 1977

Regular business first: Based on a survey by the McGraw-Hill Cost Information Systems Division for the period of July 1983 through September 1983, the following changes from the prior period are reported: Concrete costs are up 1.3 per cent; concrete block, up 1.4 per cent; plywood, up 1.1 per cent; lumber, down .3 per cent; gypsum board, up 8.6 per cent; asphalt shingles, down .08 per cent; reinforcing bars, up 1.8 per cent; structural steel, down .4 per cent; conduit, down .3 per cent; and copper, up .1 per cent.

Judging by the number of requests for information on the use of the cost indexes shown at left and below and appearing on these pages each quarter, it is once again useful to explain how they work.

The indexes are compiled by survey and reflect costs for buildings of all kinds, materials available from local suppliers and workers' locally prevailing wages. The carefully selected respondents are believed to be knowledgeable and reliable, but their accuracy and therefore the resulting indexes cannot be

guaranteed or warranted.

Further, these data are weighted to produce the cost of a "typical" building that is really a composite of residential and nonresidential construction. These factors do not lessen the use of this series, but should inject caution.

These indexes do exhibit considerable sensitivity because of the many cities polled; the inclusion of 10 widely used material prices and 20 basic labor rates and the formula by which they are weighted. Because they are based on the availability of supplies, labor conditions, contractor bidding practices, etc., they are broadly applicable.

To obtain the percentage increase or decrease in costs for any city, take the difference in points between the period you want to compare and the current period, and divide that by the earlier period. Multiply the resulting decimal quantity by 100 to obtain the percentage change.

*James Stewart  
Cost Information Systems  
McGraw-Hill Information  
Systems Company*

*An example:* If the index for one period was 1187.6 and the current index is 1537.2, the percentage increase is the following:

$$\frac{\text{Current index} - \text{earliest index}}{\text{Earliest index}} \times 100 = \text{per cent increase}$$

$$\frac{1537.2 - 1187.6}{1187.6} \times 100 = \frac{349.60}{1187.6} \times 100 = 0.290 \times 100 = 29 \text{ per cent}$$

### Historical Building Costs Indexes

#### Average of all Nonresidential Building Types, 21 Cities

1977 average for each city = 1000.0

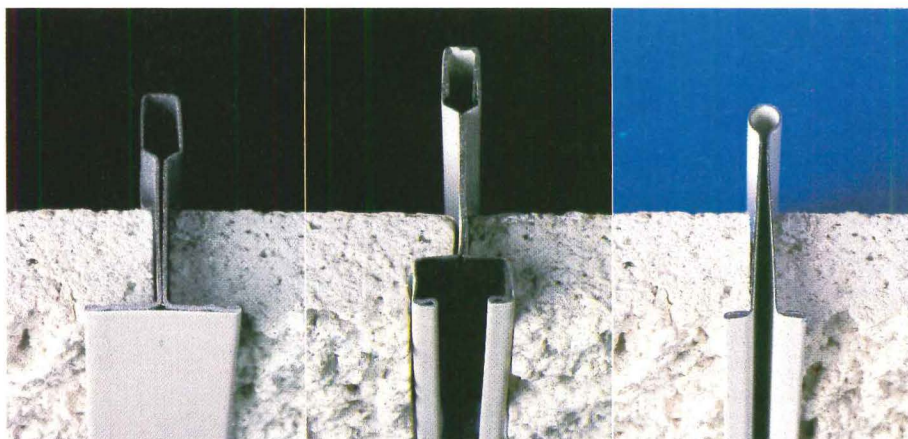
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Atlanta	1171.5	1712.6	1925.6	2098.6	2238.1	2090.6	2078.0	2208.8	2212.2	2302.0	2360.6	2503.5	2421.4	2478.5
Baltimore	1018.4	1107.7	1304.5	1446.5	1486.7	1600.5	1544.9	1567.8	1603.3	1615.9	1639.5	1683.8	1702.4	1705.0
Birmingham	1029.7	1142.4	1329.9	1407.2	1436.1	1463.1	1469.9	1502.5	1490.1	1478.2	1468.1	1491.0	1518.9	1540.0
Boston	1028.4	0998.6	1236.0	1283.7	1331.9	1413.5	1432.5	1463.5	1508.3	1495.3	1502.0	1553.7	1547.7	1557.1
Chicago	1007.7	1032.8	1199.7	1323.6	1315.8	1342.7	1344.7	1343.0	1376.5	1413.9	1425.8	1415.6	1433.3	1459.0
Cincinnati	0848.9	0991.0	1323.9	1385.2	1400.3	1400.7	1350.4	1353.5	1349.9	1361.5	1362.6	1376.8	1445.3	1459.1
Cleveland	1034.4	1040.8	1287.5	1388.2	1451.7	1454.2	1459.5	1449.4	1469.9	1511.4	1511.4	1462.1	1523.2	1521.0
Dallas	1042.4	1130.6	1431.9	1481.9	1685.0	1693.9	1750.6	1740.8	1765.0	1777.3	1834.3	1816.9	1847.8	1892.8
Denver	1038.8	1100.4	1495.6	1487.4	1522.2	1587.6	1632.2	1709.7	1724.0	1715.2	1679.1	1684.6	1745.9	1755.7
Detroit	1018.1	1087.3	1275.3	1447.4	1578.8	1579.6	1580.3	1589.8	1604.6	1627.1	1638.0	1649.5	1654.4	1652.9
Kansas City	1023.5	0951.5	1125.8	1233.2	1263.0	1262.8	1323.4	1284.3	1336.9	1384.5	1381.8	1347.4	1390.8	1400.6
Los Angeles	1022.5	1111.0	1255.3	1387.5	1457.2	1473.3	1474.3	1491.6	1507.0	1500.9	1503.3	1506.0	1506.1	1501.4
Miami	1004.5	1080.9	1330.1	1380.6	1395.0	1387.5	1369.1	1350.7	1357.5	1375.1	1392.1	1429.6	1458.9	1473.5
Minneapolis	1060.2	1196.8	1286.9	1327.7	1391.1	1433.2	1442.6	1450.8	1540.8	1572.8	1576.8	1586.2	1631.8	1632.5
New Orleans	1001.3	1138.8	1291.9	1505.7	1529.6	1560.4	1572.7	1573.2	1626.4	1631.3	1616.9	1618.0	1624.8	1631.0
New York	1005.4	1043.0	1247.1	1319.4	1326.2	1397.3	1419.2	1417.8	1472.6	1497.7	1491.8	1563.7	1623.1	1622.3
Philadelphia	1013.8	1074.2	1487.5	1539.5	1628.9	1634.2	1660.7	1676.9	1755.7	1762.5	1769.4	1754.9	1759.7	1815.9
Pittsburgh	1016.1	1015.0	1227.0	1341.7	1437.6	1450.3	1493.2	1526.7	1487.4	1458.4	1479.5	1486.7	1491.6	1488.8
St. Louis	1039.1	1198.8	1275.9	1320.0	1343.0	1379.2	1397.3	1399.5	1436.3	1433.8	1451.2	1453.5	1498.1	1508.6
San Francisco	1083.2	1326.8	1473.4	1644.8	1741.6	1763.9	1776.4	1777.0	1804.5	1813.8	1810.1	1814.1	1851.9	1856.8
Seattle	1142.5	1137.9	1373.4	1616.8	1672.3	1685.9	1814.9	1905.5	1968.8	1940.9	1962.7	1986.6	1982.7	1974.5

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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## Legal perspectives: Approving payments can be risky business

*The eminent attorney-architect explains why approving payments to contractors for materials they store off-site can create a serious problem*

By Arthur Kornblut, Esq.

"Stored materials" intended for construction projects create a special set of problems for the architect and his client. Under standard general conditions, the architect reviews the contractor's applications for payment, makes a judgment about the work done to date, and passes the payment application on to the owner with an approval for payment of the appropriate amount. Contractors, understandably, are inclined to request payment also for stored materials intended for the project.

The standard AIA General Conditions (subparagraph 9.3.2) states:

*Unless otherwise provided in the Contract Documents, payments will be made on account of stored materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conducted upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site.*

Subparagraph 9.3.3 provides for title passing to the owner when the owner makes payment or when the materials and equipment are incorporated into the construction, whichever occurs first. But...

### **Here's where the owner takes a risk by paying before delivery**

For the owner, making payment for materials stored off-site can create a substantial exposure. Even though with such payment title to the materials normally passes to the owner, the owner may be in no position to recover the materials if proper attention has not been paid to insurance, bonds, transportation requirements, protection while in storage, and identification of the owner's legal interest in the materials as would all be covered by on-site storage.

And, even when proper attention is paid to concerns that normally are recognized, other pitfalls exist which might not be properly anticipated and hence planned for.

### **A recent case shows how the design professional may get caught in the middle**

A case decided by a Federal court of appeals illustrates some of the risks associated with paying for materials stored off-site. (*The Travelers Indemnity Co. v. Ewing, Cole, Erdman & Eubank*, U.S. Court of Appeals, Third Circuit, June 22, 1983.) In this case, the architect was retained by a public agency in New Jersey to serve as the "executive architect" for a student dormitory project at a state university. The architect performed the normal range of professional services, including the preparation of the bidding documents.

The owner then awarded a contract to a manufacturer of prefabricated housing. The manufacturer proposed to manufacture the housing modules at its factory rather than use conventional on-site construction methods. After the units were produced, they were to be shipped to the site for assembly into dormitory facilities.

Following the award of contract, the architect authorized five progress payments to the contractor for materials purchased and work completed at the contractor's plant. After each request for payment, a representative of the architect visited the plant to conduct spot checks to determine if the materials existed, were segregated and identified as belonging to the owner, and were insured by reasonable precaution and care against theft, fire and vandalism.

After the fifth payment, the contractor went bankrupt. A trustee in bankruptcy was appointed who claimed title to all materials and work-in-progress at the contractor's plant, including those paid for by the owner in this case.

At the inception of the project, the contractor had purchased a payment and a performance bond from Travelers, the plaintiff in this action. After the declaration of bankruptcy, the owner requested Travelers to honor the performance bond.

When it was unable to successfully negotiate with the bankruptcy trustee to obtain the goods still at the contractor's plant, Travelers then arranged for another contractor to complete the project. It made no further effort to assert claims to the goods and work-in-progress at the bankrupt contractor's plant, apparently finding this the most expedient route.

### **Claims against the design professional may come as a complete surprise**

Upon completion of the project, Travelers, as the subrogee of the owner, brought suit against the architect, alleging that the architect had been negligent in permitting progress payments for off-site work and materials. (As a "subrogee," the bonding company steps into the shoes of the owner and can assert whatever claims the owner might have had. However, the subrogee's rights are no greater than the owner's would have been, and the architect can deal with the bonding company as though he still were dealing with the owner.)

The trial court concluded that the architect had been negligent because he had failed to inform the owner about "any method whereby it could exercise control over its property." The trial court noted that the architect could have suggested to the owner that the use of bonded warehouses would have increased the protection against the possibility of the contractor going bankrupt. The court found the value of the undelivered work and materials was \$441,874.

On appeal, the architect claimed the trial court made an error of law by holding the architect liable for not communicating information to a client, when there is no precedent for such a finding in similar or analogous circumstances and there was nothing to suggest such unusual facts as to merit special treatment in this case. There was no question that the architect did not inform the owner that it was taking a risk by paying for off-site work and materials or that there were certain legal mechanisms that could have reduced those risks.

The appellate court noted that the law does not prescribe the conduct expected of a person under any and all circumstances. Rather, it looks to what a reasonable person would have done in like circumstances. Where a professional is concerned, expert testimony is usually required to establish the standard of care.

The court agreed that there was precedent for holding an architect liable for failing to provide certain information to a client. But in those cases, the omitted information related to factors within the special knowledge of design professionals. In this case, there was nothing in New Jersey law, or even generally, to support a finding that an architect has a

responsibility to inform clients that there are legal mechanisms for reducing risks associated with the bankruptcy of a contractor.

### **The professional may not ultimately be held liable, but only after many headaches**

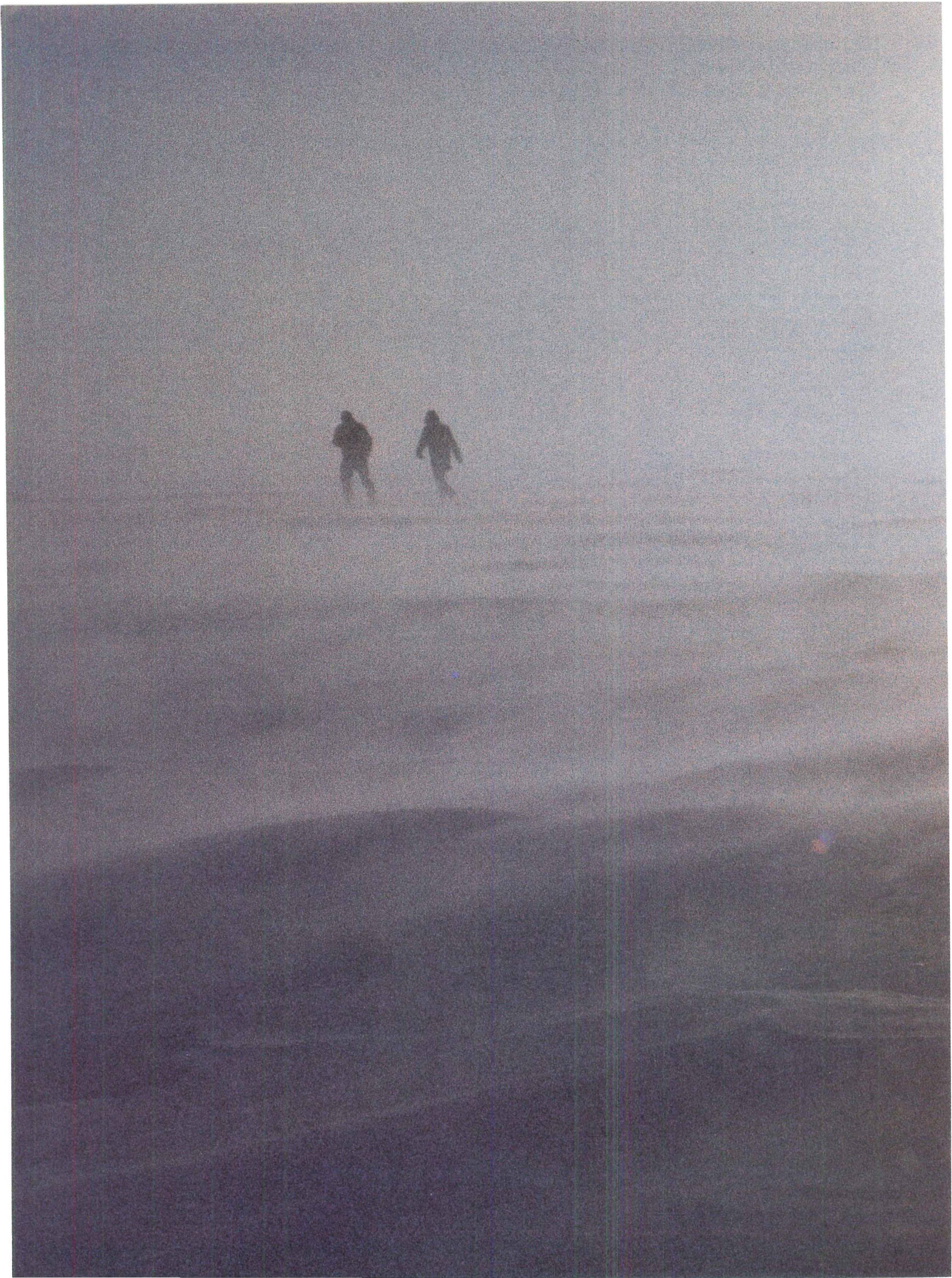
In a pointed conclusion, the court said: "This case did not involve an unsophisticated or helpless consumer, nor was the omitted information ever solicited. The (owner) is a government agency, and was represented throughout the relevant negotiations by a Deputy Attorney General of New Jersey, who had extensive experience in construction. . . . Neither the government attorney nor the (owner) ever indicated that they expected (the architect) to point out potential legal pitfalls in the proposed arrangement with the contractor, and it is far from clear why an architect would believe that it had a duty to inform the legal counsel of its client about such matters. It seems a particularly inefficient allocation of professional responsibilities to hold architects liable for not alerting lawyers to the legal ramifications of the bankruptcy of a contractor." The decision of the trial court was reversed.

The court recognized that architects have a duty to communicate information to their clients, but such information is limited to factors about which design professionals are expected to have knowledge (or unusual facts that warrant special treatment). The court would not, however, extend this general principle to hold an architect liable for failing to exercise caution in an area in which the owner's legal counsel should have taken cognizance.

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

*This article is published with the understanding that the publisher is not rendering legal services. If legal advice is required, the services of a competent professional should be sought.*







# Closing the gap on the North Slope.

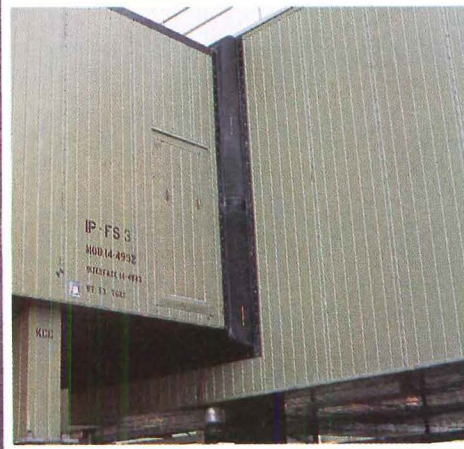
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## 1984: Architectural education's year of challenge

The mystique of teaching and learning architecture has always been a wondrous and debated proposition. Of all the vast quantities of skills, knowledge, and areas of understanding that must be imparted, which ones should be stressed—and what end result is most desired? The creative artist, the master builder, the dedicated servant of the public weal, a practical and successful businessman? Or a combination of all, and in what proportion? How, where and when should it be learned? Is there time enough in the few years of professional school to cover it all—or should some areas be left for the years of internship, or apprenticeship as it used to be called?

As noted, these questions and debates are not new. And there have been many answers and responses—from the Beaux Arts to the Bauhaus, Cranbrook, Taliesin, Schools of Engineering. And from the sometimes overly practical approaches of the Post World War II era to the social revolts of the '60s.

But there have been a couple of nagging constants in all the foment. Fledgling architectural graduates and hiring practitioners alike have felt a certain inadequacy in the learning and abilities that have been imparted. And there have been many graduates, sensing less than stellar design talents, left wondering what alternative paths are open to them in architecture. For design and creativity are universally conceded to be the dominant goals and requisites for significant achievement and recognition in architecture. But can it be taught—or simply nurtured and brought to flower when discovered? And are not other mentalities and motivations equally vital to good, sound and useful building? Are they being accommodated?

These quandries are probably endemic to a profession in which art is meant to serve. But right now, amidst all the brouhaha relayed by the media about the questionable state of education in general, it is only natural that architecture, in all its facets and related stringencies, come under renewed scrutiny. Considering the fact that we have now entered Orwell's targeted 1984, one can only regard an open, cooperative re-analysis as happy and healthy vis-à-vis his regimented prognostications.

As a result, a lot of significant changes affecting architectural education in one way or another have been brought about—and

more are under way, along with serious and considered thought about others that should be effected. And there seems to be a new and strong sense of cooperation among the major national organizations concerned with the development of an architect. It was extremely encouraging at the last NCARB convention in Philadelphia, to see (and hear addresses from) officials of the AIA, NAAB, ACSA and the student ASC/AIA. And to learn that there are regularly scheduled meetings of the "Five Presidents." This cooperation has helped bring about many new developments. Some of them are:

### There are new criteria for accreditation

At a time when there are more architectural students than ever before, some 94 accredited schools (and reportedly over 20 "waiting in the wings"), the National Architectural Accrediting Board has formulated a brand new set of "achievement-oriented performance criteria" for evaluating and accrediting architectural schools, based on what they are teaching their students. There are four basic areas covered: design; technical systems; practice; and history, human behavior and environment. The new criteria have been approved by the "five organizations" and the various state registration boards. And survey tests are currently being made at seven schools: Harvard, Mississippi State and the Universities of Cincinnati, Hawaii, North Carolina, Pennsylvania, and Wisconsin.

### The schools themselves are doing some rethinking

There have been numerous seminars and conferences fairly recently at a lot of schools—Harvard, University of Pennsylvania, MIT among them—on education and the future of the profession; and there are more to come—such as one at Penn State next spring on "The American Academy in Rome and its impact on architectural education." All impinge on this era of re-analysis. Many feel that today's students are more "business-career minded"—so some schools are adding or beefing-up courses on business and practice. The Association of Student Chapters/AIA shows signs of more involvement.

And, of course, there is the whole business of computers! In addition to a few schools that have long had architectural computer courses (such as

*Concurrent with today's ferment in design is new questioning about how to teach architecture—and what subjects, what goals—plus important changes in accrediting schools, internship, licensing and continuing education. RECORD launches this series to explore, report, and stir some healthy debate*

Cornell), many are quickly adding them (as at Mississippi State). And now there is a computers in architectural schools group, called "ACADIA," which reportedly already has some 60 school-members, and has generated numerous scholarly papers on how to use and teach the computer. But, lest all this lead to over-conformity, there are some strong voices amongst the Association of Collegiate Schools of Architecture urging care in preserving some vital diversity in educational approaches and schools. And all this interest is not just in the United States: The RIBA has launched a new quarterly, "Architectural Education," in Britain—covering such topics as education "After Beaux Arts" and "For Developing Countries."

### The Intern Development Program is strengthening

Long, perhaps, the weakest link in the process toward registration and becoming a full-fledged architect—added learning through internship—the 14 criteria of the formalized IDP program have reportedly now been made mandatory by nine states, with others to follow. In addition, some schools now include work in an architectural office as part of their teaching program; and some firms (such as SOM) have established their own intern programs, with partners canvassing and visiting schools for candidates. Prescribed work requirements for registration by the various state registration boards are, of course, about universal. But increased cooperation by practitioners to help the graduates is still needed.

### A new NCARB exam and grading is now accepted by all states

The National Council of Architectural Registration Boards has evolved a new licensing examination and grading system after some years of soul-searching debate, a survey of about 12,000 architects, and a round table of 40 major architectural clients to find what they expected of an architect. The exam was put into use in the most recent exams last year, and the results are being carefully analyzed. And an even more recent development is the addition of a mandatory requirement of an architectural degree from an accredited school. A special committee has been established to set up new "alternate education criteria" for those already in the pipeline or with special circumstances. And

reciprocity between the various states seems to be slowly but surely gaining.

### Continuing education and public education grow apace

There is a seemingly wild proliferation of seminars, panels, conventions, correspondence courses and books by all sorts of professional organizations, manufacturers and suppliers, and even entrepreneurs, to help fill the obvious need for information on new developments—especially in the areas of business practice and of computers. Some architectural schools are also setting up special programs for active practitioners—such as the "Architectural Extension" one at Oklahoma State.

Efforts to fill the similar need for educational programs aimed at public schools and the general public has been an off-and-on proposition. But there seem to be more and more newspaper and magazine articles about architecture—and even more architectural critics. And the national AIA and local chapters have on occasion done some quite innovative things—such as a recent tri-state "Architectural Drawings as Communication" competition held by the Memphis Chapter, and put on display with the cooperation of a local gallery for the general public and, best of all, with school children bussed to see it. This is all part of the needed educational scenario—not only for more and better clients, but to interest some of the better young minds in architecture.

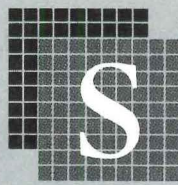
### In the months to come RECORD will cover all this

Although RECORD has long covered periodically the major concerns and developments in architectural education, starting this month on the following pages, we will present a monthly series of articles—both informational and philosophical—on all the areas noted above, and others as they arise. We start with a very thoughtful piece by Dean Copeland of the University of Pennsylvania, reminding us that education to be a concerned and whole person is an important corollary to that of a skilled professional. It is a fitting beginning to a series we first thought of as "What's Wrong With Architectural Education?" There is very much that is very right. I think it's one of the best types of education there is; if you have strong opinions pro or con, let us hear from you.  
*Herbert L. Smith, Jr.*



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## Architectural education: Balancing the practicalities with the humanities

By Lee G. Copeland



Dianne Felton

University faculties of professional schools share the goals of all educators to prepare students to assume their responsibilities in their communities. From the very beginning, and throughout their formal education, the child, youth and then young adult is provided with the learning environment for developing values, a sense of morality, the ability to decide between right and wrong and to make critical judgments of an increasingly knowledgeable and complex nature. The knowledge gained through education and the experience gained through socialization prepare the young student and future professional to fulfill the first of two major responsibilities. A generation ago the first responsibility was termed "being a good citizen," and report cards contained a space for grading our citizenship performance. As we matured we were taught to cooperate, to interact and work with others, and to be sensitive to the needs and values of others while at the same time developing our own identity and sense of place in our community. We were being prepared to contribute to our culture and to determine our own destiny.

The second responsibility is that of contributing one's expertise as a professional. Communities have always relied on having a varied and complete array of skills and experience available to ensure their well-being, viability and continuity. Each member contributes a particular expertise. Professional education, whether offered at the undergraduate or graduate level, should provide a curriculum that integrates general education and knowledge with training for a profession.

Students should be urged to build bridges between their liberal arts education, the values that they have developed throughout their earlier lives and

their newly acquired professions. It is important for them to associate their professional practice with their culture and its values, to interpret and respond to societal needs, and to achieve a fit between their professional actions and perception of a good society. Too often professional education is conceived of as highly specialized and focused. Students entering after two or four years of undergraduate studies are thought to have completed their liberal education and expected to focus entirely on training for their profession. On the contrary, it is important to provide the opportunity to continue to develop students' general knowledge while providing training. Both should be conceived of as a part of professional education.

Architectural education should provide a balance between training—that is the imparting of necessary skills—and the acquisition of knowledge, that component enabling the student to make proper use of the skills that she or he has acquired. I agree with the remark that Mies van der Rohe made that "... training has practical purposes in view, but education emphasizes values. It is the business of education to implant insight and responsibility in the developing professional."

The University of Pennsylvania, where I am Dean of the Graduate School of Fine Arts, was founded on an unusually easy and interactive relationship between training for the professions and liberal education. The University's founder, Benjamin Franklin, in his *Proposals Relating to the Education of Youth in Pennsylvania*, spoke to the necessity of combining both kinds of education in the University when he said: "... as to their studies, it would be well if they could be taught everything that is useful and everything that is ornamental, but art is long and their time is short. It is therefore proposed that they learn those things that are likely to be the most useful and the most ornamental, regard being had to the several professions for which they are intended." He also believed in economy of means and went on to say, "but while reading natural history, might not a little gardening, planting, grafting, and inoculating be taught and practiced?"

The development of the professional programs within the School depended on and

*An eminent educator stresses that an architect should be trained not only to be a skilled, reliable practitioner, but to be a creative, contributing and necessary member of society—and, conversely, that a liberal education should include an appreciation of architecture*

supported this premise. Initially training was offered to the undergraduates but later it was transferred to the graduate level. This concept applies to both. The bulletin of the School of Fine Arts of 1923 described the School as "... founded on the conception that art is essential to life; that in its various manifestations in poetry and music, architecture, painting and sculpture, it forms an integral part of the heritage of culture, the knowledge of which is essential to true education; that if this heritage is to be handed down to posterity as a living force the artist must be possessed of education no less than of technique." There is a warning that "on the other hand, it is too often true that the artist, regarding himself solely as a craftsman, neglects the claims of general education and so comes to lack those correctives of imagination and taste and the human sympathy, power of insight and intellectual grasp that come with mental discipline and breadth of knowledge." Therefore, in describing the scope of work within the School, "two types of instruction are offered, professional and general; the first providing vocational training combined with the essentials of a liberal education, and the second giving a liberal education in which the history and appreciation of art and its technical expression in drawing and design form the major interest."

Like many design and planning programs today, the school includes professional studies in planning, design and the fine arts in architecture, city and regional planning, energy management, government management, landscape architecture, urban design, painting, sculpture and printmaking. Our array of programs provides us with the opportunity and responsibility to develop interrelations between certain aspects of our disciplines, but we must also nurture the uniqueness of each of our programs, as their quality and rigor depend also on recognizing and supporting the special characteristics and needs of individual programs. While the School promotes a community of common concerns where appropriate, it also serves to clarify the focus, integrity and uniqueness of each discipline by providing an environment and organization for constructive debate and confrontation.

Like most graduate schools, we offer first professional degrees to students with undergraduate

liberal arts degrees and advanced masters and Ph.D degrees to those with undergraduate and graduate professional training. Our students arrive well educated in general, and with well-developed value systems, but they usually have very little understanding of the environment. While most are literate, few are able to visualize the world around them. This is usually true too in undergraduate professional programs. In general our students should develop a critical, educated eye and learn to see the environment. Our painting and sculpture faculty put this objective well, stating that their purpose is simply "... teaching people how to see" and that the works of their students "... have the general validity and the essential significance of vision informed by understanding and expressed with integrity." Hundreds of undergraduate liberal arts students take drawing, not to learn to draw per se, but to learn to see, though it is also a valuable means of communication.

To build on our students' previous education, encourage them to construct bridges between their past experiences and their professional training and extend their general knowledge while also developing skills in their chosen profession, I have proposed that we conceptualize our curriculum and organize our educational programs around three areas: knowledge, training and practice. Not all of our courses need fit into this organization or any one of the parts, but this provides a way of organizing our curriculum.

### Knowledge

This area provides the student with the opportunity to extend his knowledge while focusing on areas relevant to his profession. It involves learning about society and the environment, about the relationship between the natural and the built environment, about ways of knowing, representation and modeling in the environment, about theory building, and it includes learning from history.

One particular responsibility and characteristic of environmental design and planning schools as positioned within a larger university is that they must educate students to understand the environment, to gain knowledge about the ways and whys of the natural and built environment and the urban phenomenon, and to understand

Lee G. Copeland, FAIA, is Dean and Paley Professor of the Graduate School of Fine Arts of the University of Pennsylvania.



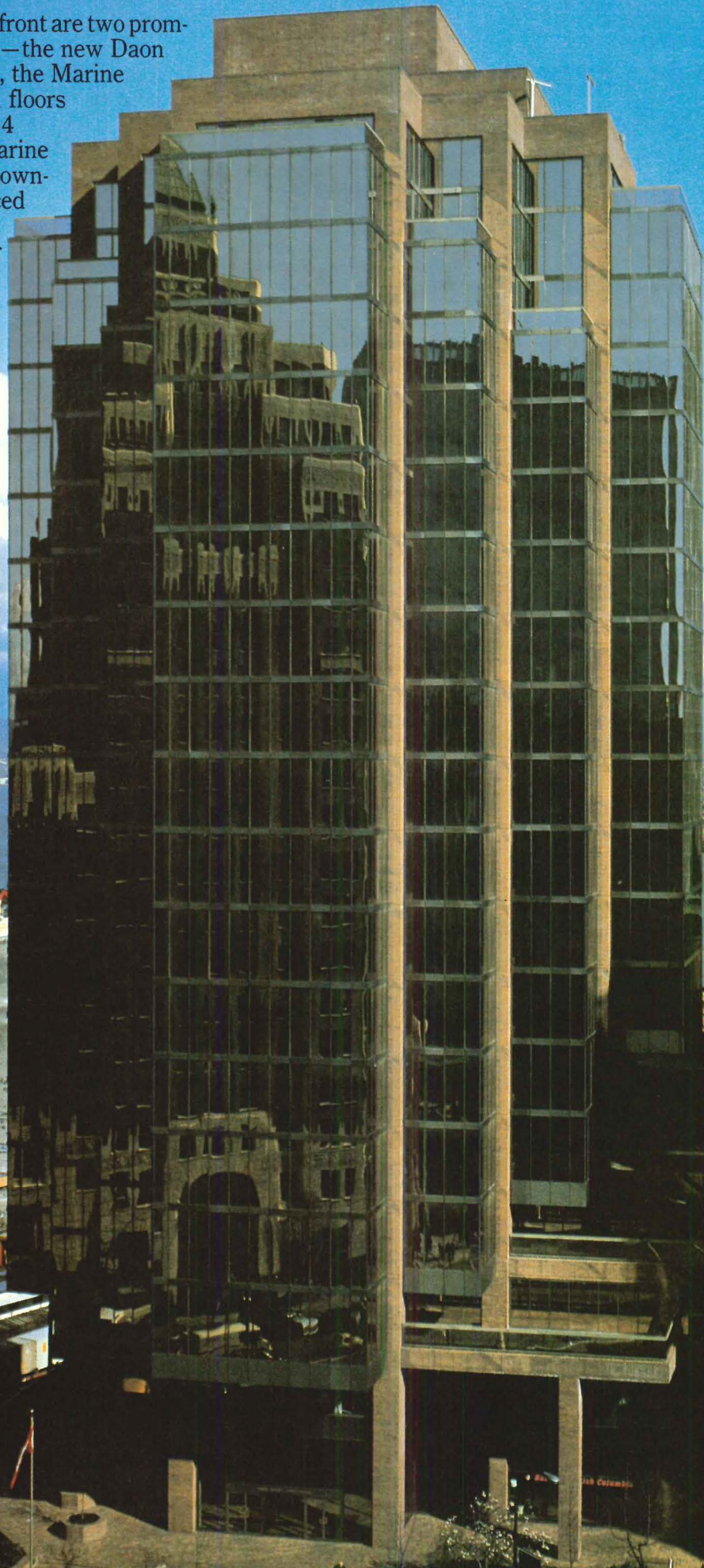
# Two office buildings. One new, one renewed. **ELEVATORS BY DOVER**

Rising above the Vancouver waterfront are two prominent Dover Elevator installations—the new Daon Centre and, mirrored in its facade, the Marine Building across the street. The 21 floors of the Daon Centre are served by 4 Gearless Dover elevators. The Marine Building, a 50-year landmark in downtown Vancouver, has been enhanced by a modernization program incorporating the advanced Dover Trafromatic 2000 I.C. computer control. For more information on Dover Elevators or Dover Modernization Programs, write Dover Corporation, Elevator Division, Dept. 680, P.O. Box 2177, Memphis, Tennessee 38101. In Canada: Dover Corporation (Canada) Limited, Elevator Division, 126 John Street, Toronto, Ontario M5V 2E3.

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the relationship and the interdependence between the environment and people. We want to understand how the lives of people and societies are facilitated and supported by the environment and how behavior affects the environment. This is a specialized area of knowledge that our graduates contribute as members of their community.

Students must gain knowledge of the resources or palette with which they will work. In landscape architecture resources include plant materials, the form and geology of the land and the ecology of the environment. In planning it includes the physical, economic, social and political structure of cities and regions. And in architecture the students should learn about materials, structural, hvac, and electrical systems, construction methods and the craft of making architecture. The application of this technical knowledge to developing design concepts, while taken for granted by the experienced architect, is a particularly difficult hurdle or association for students to make. They are able to conceive well-organized plans and develop "literary" concepts (assuming they are well-read) with symbolic, historic, metaphoric or semiotic basis, but they find it hard to perceive spatial relations and the potential determination of esthetic opportunities of the technology and craft of making buildings. The literary basis for design is an easy extension of their liberal arts education that they can apply early in their professional education with some confidence. Seeing and visualizing space and learning the resources applied to making architecture is a new experience unique to their professional training and requires time before enough knowledge is acquired to apply it to the design of architecture with confidence and understanding.

Additionally, one should develop an understanding and advocacy for quality. We educate our students not only to facilitate, but also to *enhance* the lives of people in communities. We strive to achieve a congruence between the activities to be housed, the attitudes of society and the form of the environment, and to extend the general state of our culture. Today, in this period of pluralism in design when no one dogma reigns, the opportunity to develop designs truly congruent with the people and activities they support, and to achieve a fit within their context whether

historical or contemporary, presents exciting opportunities and responsibilities. This attitude has supported the development of historic preservation in practice and education, and a richer, less abstract and more contextual approach to contemporary design. Romaldo Giurgola, a proponent of this attitude said: "A building is a fragment of the larger environment which includes other continuously growing structures and the natural landscape. As a meaningful fragment it should have its own inner order to be able to relate to others."

We should be attentive to beauty and esthetics as an integral part of our concerns for perceptible, rich, functional, comfortable and stimulating environments. With the increased concern for social utility, economics, and sophisticated, reliable and now energy-efficient technology, beauty and esthetics and the art of architecture have been submerged or taken for granted. Most recently, the backlash has catapulted formal design concepts and the art of architecture into too overriding a position in some instances. However, the architect's, landscape architect's, and urban designer's concern for beauty and esthetics is a distinguishing quality and the one that attracts most to practice these professions.

#### Training

We organize portions of our curriculum around training and the development of skills—skills aimed at the ability to define problems and opportunities and to create solutions. There is a strong emphasis on planning and design processes and methods of analysis and synthesis.

If I were to make a certain distinction when it comes to concern for processes and methods of analysis and synthesis, I would say that the design disciplines—architecture, landscape architecture, and urban design—tend to emphasize synthetic skills, while city and regional planning tends to place greater emphasis on analytic skills and on process. We must facilitate a greater interaction between analysis and synthesis in education and practice.

There has been an increasing concern for sharpening our analytical abilities over the past 20 years caused by the need for a greater understanding of the complexity of the issues we face in the environment. This was caused by our own sense of

responsibility and the fact that we were being held more accountable for our actions. Now we have developed a greater and more sophisticated understanding of the nature of our environment, our culture, and our society and its relationship to human activity. More recent major commitments to computing have increased our abilities and sophistication in this area substantially.

Another aspect of training is the nurturing of creativity in our students, a subjective and important skill critical to the practice of most professions, certainly to architecture. To be creative requires a mind that is disciplined, objective, rational and rigorous and also open, free, unrestricted, and intuitive. George Rouault said: "In truth I have painted by opening my eyes day and night on the perceptible world and also by closing them from time to time that I might better see the vision blossom and submit itself in orderly arrangement." To be objective, rational, and intuitive in creating requires making leaps of faith. Kenneth Boulding describes creativity in science as "... the product of organized fantasy about the real world."

An educational environment, where a variety of disciplines coexists and interacts, can contribute to the student's potential for creativity. It facilitates the development of minds that are enriched by exposure to a wide range of subjects and concerns and encourages one's thought processes to cross between fields of knowledge, to make bridges, to make connections, to perceive and create patterns, while also comprehending details and focusing on synthesis.

Certainly in a professional school, a school that is activist oriented, we must pay attention to processes and methods of analysis and synthesis. We should encourage students to engage in intuitive and patient searches on the one hand, and in rigorous and objective processes in methods in planning and design on the other. Attention to creativity and process become intermeshed.

#### Practice

The ways in which the knowledge acquired and the skills developed are brought to bear on addressing issues in the environment are through courses and activities that facilitate the synthesis of the two—that is, through practice. The issue of practice, the bringing together of

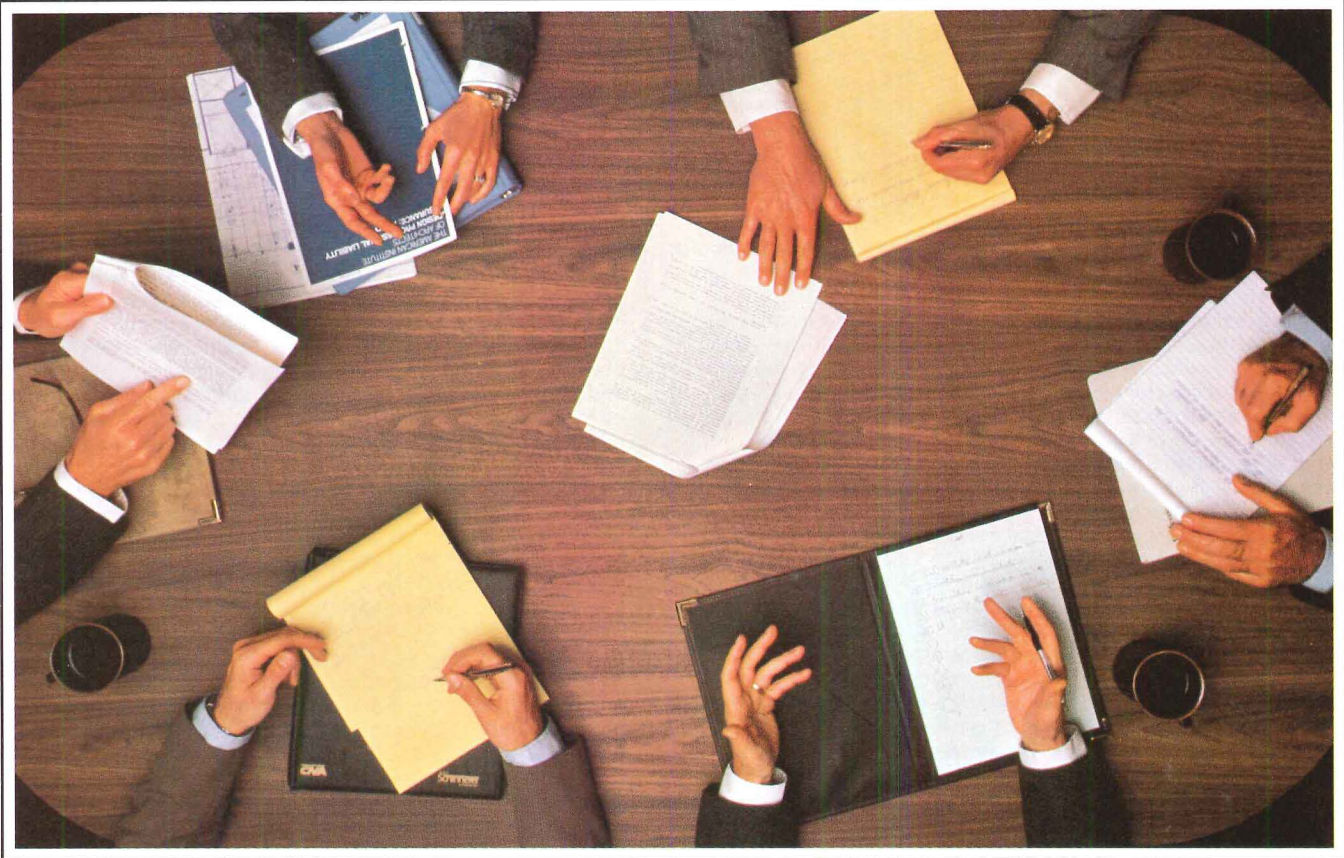
knowledge and training, is the purpose especially of planning and design studios. But it is also important in courses addressing case studies through thesis and independent studies, and through research activities where faculty and students work together to develop new knowledge, or to demonstrate the applicability of new theories to solving problems.

Historically, in architecture, the design studio has provided a vehicle in which the student's general knowledge and understanding of culture has been joined with his professional skills in creating proposals for fitting designs. Leichester B. Holland of the Class of 1904 in architecture at Penn wrote in the *Book of the School 1874-1934* that "... professional studies be not allowed to distort a balanced attention to community life and to intellectual and esthetic activities," and he went on to say that "the study of design inculcates the orderly intellectual technique of investigation, apprehension, analysis, logical deduction, and imaginative synthesis in the solution of all sorts of unfamiliar problems. It provides a repeated drill in philosophic exercise."

To sum up my philosophies—professional education should emphasize fundamentals, but above all it should strive to understand the humanistic commitment: a concern for creating plans, designs, buildings and environments that have as their primary purpose the support and enhancement of human aspirations, social cohesion, and individual behavior.



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## Condos-on-the-Charles



©Steve Rosenthal, photos

Located on 4.2 acres adjoining the John F. Kennedy School of Government at Harvard Square, Charles Square is one of the most ambitious development proposals in the history of Cambridge. The multiple-building, mixed-use complex has been designed in red-brick and granite to harmonize with the nearby architecture of Harvard and comprises 86 condominium



residences in six interconnected structures overlooking the Charles River. A 330-room luxury hotel faces Brattle Square, while 115,000 square feet of office space and a gallery of 30 retail shops and restaurants are all grouped around a landscaped courtyard that covers a 700-car garage. Architects for the project are Cambridge Seven Associates.

## Big doings in Dallas

Dubbed locally as “a celebration of art, history, and architecture,” The Crescent is the latest foray by Philip Johnson and John Burgee into the freewheeling Dallas construction scene. The design of the 1.6 million-square-foot office, hotel, and retail complex stems from “a conscious idea that Texas in the late 19th century was very glamorous,” according to Johnson. The development consequently features such architectural elements as crested slate mansard roofs, limestone facades, and lacy wrought-iron trim—details that may harken back to the *fin de siècle* elegance of Galveston or San Antonio, but in their lavish application and grandiose scale constitute a style that can only be called “Texan.” Shepherd & Boyd/USA is the associated architect.



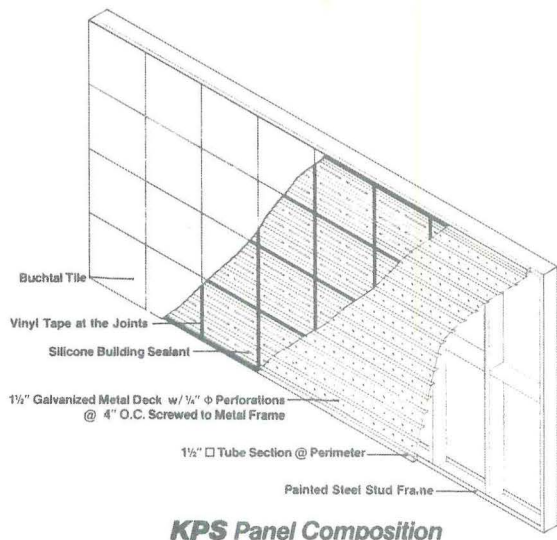


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## Competition calendar

- The Boston Redevelopment Authority is seeking entries in a competition to select a design for the reconstruction of Copley Square in the city's Back Bay. Cosponsored by the National Endowment for the Arts and the Copley Square Centennial Committee, the competition will award a \$30,000 cash prize to the winning firm or individual. Deadline for registration is January 20; deadline for submitting visual and written materials is February 3. Write Kenneth W. Paolini, Copley Square Design Competition, Boston Redevelopment Authority, One City Hall Square, Boston, Mass. 02201.
- The Butler Manufacturing Company has announced the first annual Butler Architectural Design Competition for architecture students in the United States and Canada. Entrants are sought to submit designs for a new town center complex using metal building systems. Winning students and their schools will receive cash awards totaling \$5,250. Deadline for entry is May 1. For further information contact the Butler Architectural Design Competition, P.O. Box 32314, Washington, D.C. 20007.
- The City of Louisville and the Iroquois Civic Club are sponsoring a national competition for the design of a new entrance to the city's Iroquois Park, originally laid out by Frederick Law Olmsted. Deadline for registration is March 15. For further information write or call the Louisville Community Design Center, 306 Speed Building, 333 Guthrie Green, Louisville, Ky. 40202 (502/589-0343).

## Coming full circle

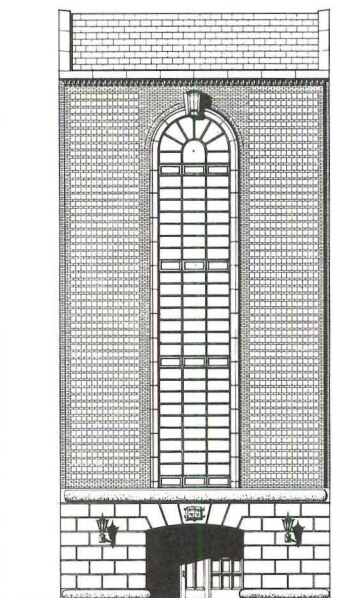
TampaSphere is a two-million-square-foot mixed-use project located midway between the city's downtown and Tampa International Airport. The geometry of the circle appears to have inspired such architectural features as the round end walls of five 21-story office and hotel towers, spiraling ramps that lead into a 6,000-car garage, and a distinctive ten-story glass barrel

vault over the 600-foot-long shopping arcade. Clad in alternating bands of green glass and precast panels of concrete and marble-quartz aggregate, the complex is a joint project of Skidmore, Owings & Merrill (New York office) and Robbins & Company. The first phase of construction is scheduled to begin in March, with occupancy set for October, 1985.

© Wolfgang Hoyt/ESTO photos



## A new Jewish center for Yale

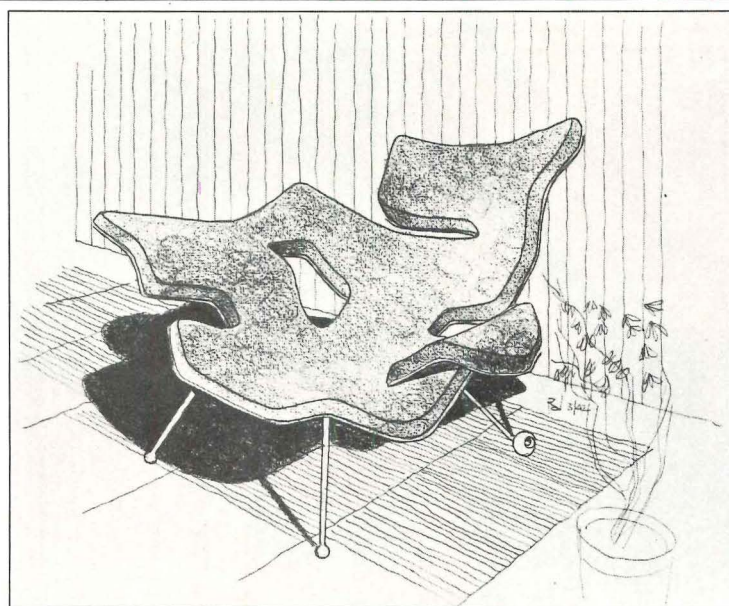


The Hillel Center at Yale University will include a five-story, classically inspired building and an existing Federal-style town house that will be retained as the rabbi's residence. The new structure is to be built on a tight 35-foot by 95-foot urban site across High Street from Louis Kahn's Center for British Art and will incorporate a library/living room, a multipurpose room, a dining facility with two kosher kitchens, a chapel, a cafe with adjoining terrace, seminar rooms, and administrative offices—all occupying 16,000 square feet of space. The design by Roth and Moore Architects features a one-story rusticated limestone base, alternating courses of 8-inch by 8-inch and modular brick, carved stone ornamental details, and a slate roof.

## Cranbrook: the first 25 years

The Cranbrook Academy of Art and its role in the development of modern design in America are explored for the first time in a major exhibition currently on display at the Detroit Institute of Arts. Organized jointly by the Institute and the Metropolitan Museum of Art in New York, "Design in America: The Cranbrook Vision 1925-1950" consists of some 240

architectural drawings, models, photographs, textiles, ceramics, furniture, metalwork, sculpture, and paintings that trace the influence of the Academy from its beginnings in the 1920s through the death in 1950 of Eliel Saarinen, the Finnish-born architect who founded the institution. Among the noted Cranbrook-trained designers whose work is on display are Ralph Rapson (his 1942 sketch for a lounge chair is illustrated right), Charles and Ray Eames, Florence Knoll, Harry Bertoia, Harry Weese, Carl Milles, and Jack Lenor Larson. The exhibit will be on view at the Detroit Institute through February 19 and at the Metropolitan from April 20 to June 17 before traveling to Helsinki, Paris, and London later in 1984-85.





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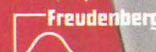
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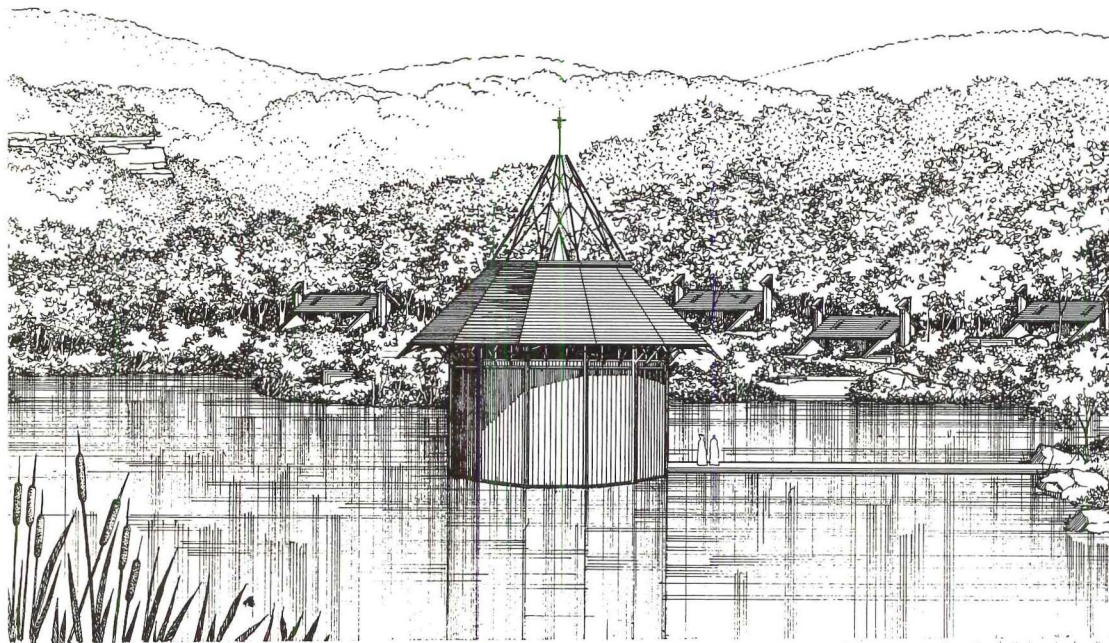


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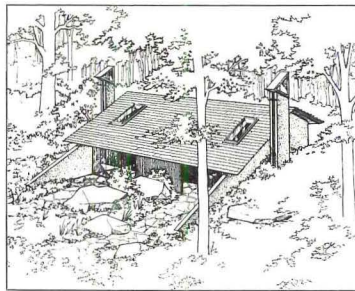
Circle 31 on inquiry card



## Arkansas arcadian



Although Fay Jones's much admired Thorncrown Chapel in the Ozarks is a hard act to follow (see RECORD, May 1981, pp. 88-93), the Arkansas architect appears to have come up with an equally striking design for a chapel and living quarters for the Little Portion Franciscan Hermitage, a secular order of Catholic monks. Situated in the center of a manmade lake near Eureka



Springs, the chapel is a 12-sided wood-and-glass building lighted by clerestory windows and a conical lantern over the central pulpit. Six concrete residential structures along the water's edge are built into the side of a hill to take advantage of the ground's stable temperatures—a bit of down-to-earth architectural pragmatism for an otherwise ethereal project.

## Derby doffed for a glass box



It is called, with characteristic southern California hyperbole, "the ultimate retail location in the world." But to anyone nostalgic for Hollywood's Golden Age, the corner of Wilshire Boulevard and Rodeo Drive will always be remembered as the site of the Brown Derby, for years a glamorous symbol of Beverly Hills, Hollywood, and the movie business lunch. No more.

The famous architectural hat has been razed to make way for a three-story retail structure sheathed in double-glazed tinted glass and aluminum panels that is called, with uncharacteristic southern California restraint, One Rodeo Drive. The 17,000-square-foot building will feature a two-story foyer clad in white marble and a rooftop garden "for special events, fashion shows,

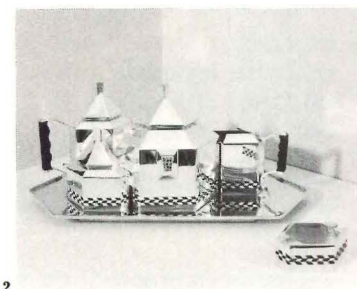
and high teas," according to its promoters, and will be, at a proposed rental charge of \$1 million a year, "the most expensive retail location in the West." Architects for the project are Lomax Rock Associates.

## A sterling proposal

"Architecture in Silver," an exhibition of tea and coffee services designed by 11 internationally known architects, is currently on view at the Max Protetch Gallery in New York and at the Renaissance Society in Chicago. Architects Michael Graves, Hans Hollein, Charles Jencks, Richard Meier, Alessandro Mendini (1), Paolo Portoghesi (2), Aldo Rossi (3), Stanley Tigerman, Oscar Tusquets, Robert Venturi, and Kazumasa Yamashita were commissioned by Alessi Fratelli, an Italian housewares manufacturer, to design the sterling services, each of which consists of a coffee pot, tea pot, creamer, sugar bowl, and tray. Ninety-nine numbered editions of each set will be handmade by Italian silversmiths and are for sale at prices from \$12,000 up. The exhibition is accompanied by an illustrated 92-page catalog and will remain on view in Chicago through February 5 and in New York through June 30. The show will also travel to the San Francisco Museum of Modern Art (February 17-April 11), the La Jolla Museum of Contemporary Art (April 28-June 3), and the Renwick Gallery in Washington, D.C. (mid August-mid November).



1



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3





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# Design awards/competitions: Owens-Corning Fiberglas Energy Conservation Awards

Jimmy Williams



1

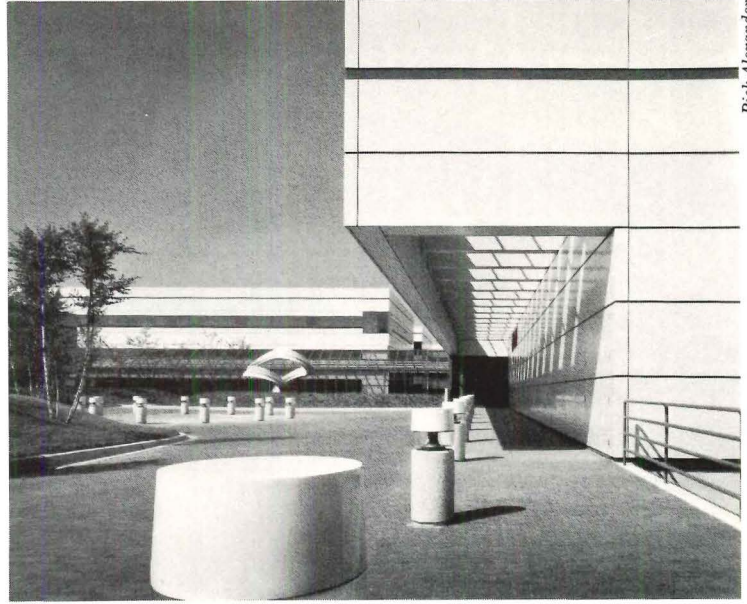
Radhazar Korub



3

**1. Chatham County Social Services Building, Pittsboro, North Carolina;** Burnstudio Architects. Designed in the form of a large gabled shed to blend in with nearby farm structures, this 9,600-square-foot county-owned facility was praised by the jury for such "human" qualities as interior courtyards, a central atrium that serves as a waiting room, and treelike structural steel columns. The building's energy-saving features also impressed the jury: A double envelope design provides heating and cooling only for the 40 individual offices, while ventilation of the larger structural shell is by means of exhaust fans in roof monitors that pull fresh air through intake louvers at the gable ends. By placing the facility's long axis on an east-west orientation, the

architect maximized solar gain to warm the large southern exposure during the winter. Daylighting and direct-gain heating are achieved through 1,100 square feet of skylights, 228 south-facing windows, and 53 clerestory openings in the roof monitors. Noted one juror, "The building's design creates a structure that could be comfortable no matter what the energy future is."  
**2. IBM Information Products Division, Charlotte, North Carolina;** Thompson, Ventulett, & Stainback, Architects. This ten-building manufacturing and research complex has consumed 40 per cent less energy annually than comparable IBM facilities that were built before the company made conservation a goal in 1973. Light-saving features head the list of



Rick Alexander

2



4

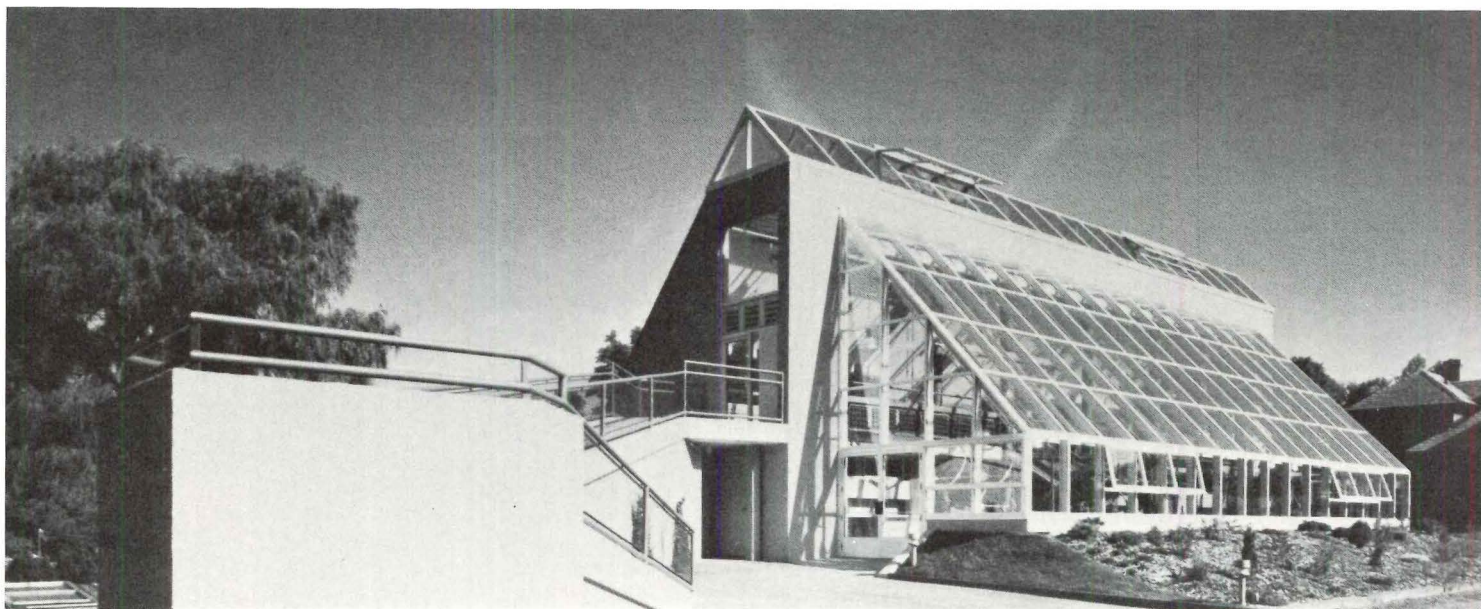
innovative technologies. A perimeter system of glass-enclosed corridors eliminates the need for artificial illumination in hallways except at night when lights are activated by photocells. The architects further reduced lighting costs by specifying high-pressure sodium lamps and by using reflective ceiling and wall paint. An energy management system consists of two computers that receive input from over 1,000 monitor points and ensure that lighting, air-handling units, chillers, and cooling towers operate efficiently. Finally, a fluidized-bed boiler system generates steam by burning virtually all available fuels—"anything from natural gas to garbage," noted one juror.  
**3. Carver-Hawkeye Arena, University of Iowa, Iowa City;** Caudill Rowlett Scott, Architects.

By choosing to build this 13,200-seat athletic facility into a natural ravine, the architects took advantage of the earth's insulating potential—a decision that is expected to conserve an estimated 7,900 gallons of oil per year. The jury praised this below-grade configuration as "an extremely logical and effective approach to utilizing stable ground temperatures." Placement of the structure's roof at the bottom of a lightweight steel, skew-chord truss reduces the interior volume and provides an additional saving of fuel. A 42-foot by 25-foot Teflon-coated fiberglass lantern in the roof emits natural illumination onto the arena's playing floor and creates a beacon signaling that an event is taking place.

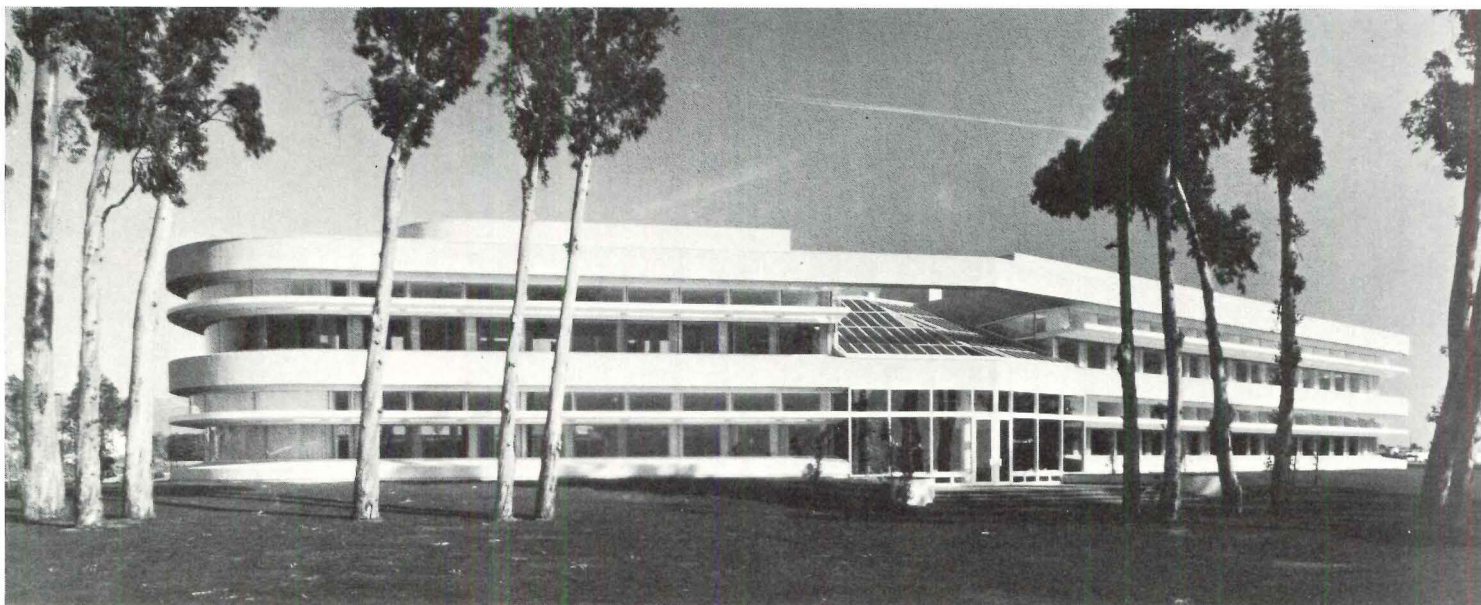


It was state-of-the-art energy considerations, the integration of mechanical and architectural design, and a harmonious relationship between the building and its environment that characterized the winners of the 1983 Owens-Corning Fiberglas Energy Conservation Awards, according to jury chairman Vivian E. Loftness. She added that the six cited designs illustrated below exemplify "the crucial balance of team decision making—the professional symbiosis of architecture, engineering, owner, site planning, interior design, construction and user

sensitivity." This year's jurors were Larry W. Bickle, Ph.D., president of The Bickle Group; Helmut Jahn, AIA, president of Murphy/Jahn; Ms. Loftness, principal at VLH Associates; George M. Notter, Jr., FAIA, president of Anderson Notter Finegold, Inc.; William Turnbull, Jr., FAIA, principal at MLTW/Turnbull Associates; August J. Verduyssen, P.E., chief mechanical engineer at Daniel, Mann, Johnson & Mendenhall; and Barry L. Wasserman, FAIA, former California State Architect.



Robert Perron



Michael Urbanek

**4. Burnet Civic Center, Burnet, Texas;** Lawrence W. Speck Associates, Architects. This 28,000-square-foot complex will house the City Hall, a recreation center, and the police and fire departments for a town of 4,500 near Austin. The jury was impressed by the way the structure responds stylistically to the community's indigenous architectural tradition while integrating a variety of natural cooling methods and modern mechanical principles that are expected to reduce energy costs. Because cooling needs will comprise 45 per cent of the center's total energy budget, the City Hall and council chambers face north to minimize exposure to the sun. Trees provide shading, while a deep arcade shelters the south facade. The passively cooled recreation area

is designed to catch breezes off a nearby creek and filter them through the building into clerestory vents. Six-inch-thick limestone walls further repel the sun's heat in summer and minimize thermal loss in winter. **5. Horticultural Education Center, New Canaan, Connecticut;** Buchanan/Watson, Architects. "This structure shows what can be done in an inhospitable climate with some careful energy considerations," observed one OCF juror. Taking into account New England's cold winters and hot summers, the architects integrated a variety of energy systems into the passively conditioned, 4,000-square-foot greenhouse and classroom facility, including different types of heat storage (concrete blocks and calcium chloride cells), aluminized night curtains, solar

hot water, and high levels of insulation. The greenhouse faces south and has 45-degree sloped glazing for maximum winter heating and light. A roof skylight adds illumination on cloudy days, and solar gain captured in the greenhouse heats the entire building. The whole energy program, in fact, is intended as an instructional laboratory for visitors to the center and is expected to reduce fuel consumption by 70 per cent. **6. Ventura Coastal Corporation, Ventura, California;** Rasmussen & Ellinwood, Architects. The energy-saving properties of daylighting dictated the architectural form of this 30,000-square-foot West Coast corporate headquarters. The challenge for the architects was to come up with a design that would

eliminate the need for any artificial daytime illumination and at the same time provide the shading mechanisms so essential in the hot southern California climate. The ingenious solution involved creating two different facades. Window overhangs on the south facade restrict heat gain, while light shelves placed above the line of sight direct daylight deep into the building. The upper portion of the facade's glass is clear, and the lower part is tinted—an arrangement that maximizes lighting and minimizes solar gain. The north facade, by contrast, has flush-mounted windows to increase exposure to the sky. The OCF jury praised the conception as "a pragmatic solution and a progressive example of energy-efficient design."

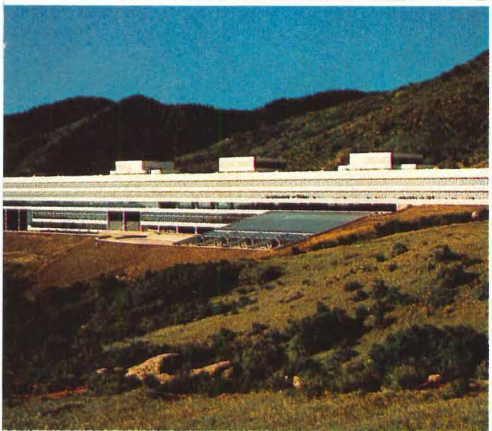
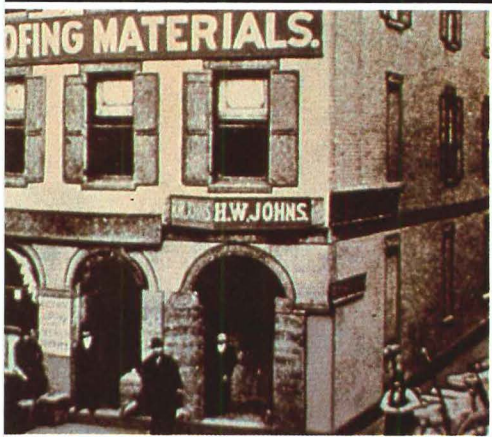


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# FIVE LEVELS IN 13 WEEKS



# The tall building artistically reconsidered: the search for a skyscraper style

By Ada Louise Huxtable

The skyscraper and the twentieth century are synonymous; the tall building is the landmark of our age. As a structural marvel that breaks the traditional limits on mankind's persistent ambition to build to the heavens, the skyscraper is this century's most stunning architectural phenomenon. It is certainly its most overwhelming architectural presence. Shaper of cities and fortunes, it is the dream, past and present, acknowledged or unacknowledged, of almost every architect. From the Tower of Babel onward, the fantasies of builders have been vertical rather than horizontal. Frank Lloyd Wright, caustic critic of cities, could still project a mile-high skyscraper; when the Futurists proclaimed an energetic new world it was in the form of streamlined, soaring towers. These flamboyant visions, full of pride and prejudice, have released architectural talents and egos from the rule of reason and responsibility.

But the question of how to design the tall building has never really been resolved; it continues to plague, disconcert, and confound theorists and practitioners alike. The answers were first sought in models of the past, which were later rejected and then still later rediscovered, carrying reputations up and down with vertiginous regularity. At any point in the cycle, the arguments have an air of messianic conviction fueled by equal amounts of innocence and ignorance. In the final analysis, the results are controlled less by any calculated intent than by those subtle manipulators of art and ideas—taste, fashion, and status.

The cycle of taste and the evaluation of the product are complicated further by the fact that architecture, like other arts, has not been free from the ideological politics, cliques, and skillful and often venomous *ad hominem* attacks that are a curious and constant part of the art world. This fact has never been more obvious than it is in architecture today. There is a kind of guerrilla intellectual

warfare operating from academia to the media, motivated by something that is unique to architecture—the direct connection between the bases of power and extremely lucrative work. Nowhere are the battlelines more clearly drawn than on the skyline. The modernist-postmodernist camps are in hand-to-hand, building-to-building, polemic-to-polemic combat on a huge scale, the postmodernists as intent on breaking rules and heads as on pursuing artistic frontiers. The script is familiar. Heroes are turned into villains, and the overthrow of the old regime is accompanied by the savaging of its leaders and the ravages of cultural revolution. The sound of smashing idols is everywhere.

All this is not news; the swings of art and taste are as certain as the seasons, and men with ideas who hope to change the world tend to behave no better than those who merely suffer the consequences. But in this hostile intellectual and artistic atmosphere, the skyscraper is being discussed and dissected with more intensity than at any time since the name was coined for the multistoried office building some time around 1890. The revisionists are busy rewriting history in terms of omission and rediscovery, which is fine, and they are also rewriting the rules of skyscraper design, which is not quite so acceptable or admirable. In the process, the right lessons are often being discarded for the wrong ones.

In its most familiar and exhilarating aspect, the skyscraper has been a celebration of modern building technology. But it is just as much a product of zoning and tax law, the real estate and money markets, code and client requirements, energy and esthetics, politics and speculation. Not least is the fact that it is the biggest investment game in town.

With all of this, and often in spite of it, the skyscraper is still an art form. The tall building has that in common with all major works of architecture consciously conceived in esthetic terms. Every radical advance or conservative retrenchment that has been proclaimed as the latest revelation of truth and beauty has actually been devoted to a single, unchanging, unifying idea and purpose: the search for a skyscraper style. The tall building has been designed well, and even brilliantly, in many different ways, and the exotic variety that marks the best of

the tall buildings is inconsistent and irreconcilable in theoretical or doctrinaire terms. There are not, and never have been, any immutable rules; there is more than one way to skin a skyscraper. Contrary to accepted opinion and the respected critical texts, there have been many appropriate and legitimate responses to the conflicting cultural forces of our time.

This reality—the doctrine of irreconcilability—has never been accepted. We are edging toward it with talk of diversity and pluralism. As time passes and towers multiply, it is increasingly clear that skyscraper design has been motivated, above all, by an unresolved search for style, which is its only esthetic consistency. No matter how revolutionary the rationale, how startling the claims of esthetic breakthrough, how great the debt to advances in engineering, or how many times the old is discarded for the new, the objective has been the same. Proclamations of innovation and reform and protestations of use and suitability have all served the same end. That there has been this overriding, esthetic preoccupation should not be surprising. Architecture is, admittedly, an extremely complex and pragmatic art, but it is an art nonetheless, and one which endures on its final

quality. Only when a building transcends its inconvenient marriage of esthetics and economics does it become convincing, and even great, architecture.

It is the rare architect who does not hope in his heart to design a great building and for whom the quest is not a quiet, consuming passion. Architects talk about little else to their peers; they seem obsessed with the esthetic implication of their designs in word and print. A good deal less is said about this in the client boardroom, where the architect tells it not the way it is but the way it sells. There are some extraordinary reasons given for some extraordinary stylistic flourishes. But because architecture is a practical art, and practical men pay the bills, the search for style has been rationalized and camouflaged, not only to suit the prevailing intellectual fashion but to provide client reassurance that nothing so arcane is influencing efficiency and the financial bottom line. It is the singular architect, in fact, someone like Philip Johnson, who can walk in and tell corporate directors that they are getting art and get away with it. But in his case personality and product together constitute the art form.

The architecture of the tall building has never been more on



"I suppose it's simply an idea whose time had come."

©1982 by Ada Louise Huxtable. Reprinted from *The New Criterion*. To be published in a fully illustrated edition by Pantheon Books, Inc., later this year. Mrs. Huxtable, former architecture critic and member of the editorial board of *The New York Times*, is a MacArthur Fellow.



people's minds, if one judges by public and press attention to the subject. Beyond esthetics, however, there are serious questions of cause and effect, propriety and place, structure and style, that are not being addressed. There are pivotal issues of enormous importance to the design of the tall building, both subtle and complex, from the humanitarian to the historical, that need careful scrutiny. There is an incredible default of critical appraisal where it counts, and where it hurts, in the lives of cities and people.

The most obvious blind spot comes in the failure to recognize the fact that the skyscraper itself—still on the rise and increasing spectacularly in number and size—may have overreached itself, and may even be nearing the end of the line. There is both irony and tragedy in the realization that this is happening at the same time that the question of design has been creatively re-opened by the loosening of modernist strictures, and at the moment when the exploration of the tall building's inherent power, drama, and beauty offers greater options than ever before. We are seeing some spectacular new building, but we are also seeing signs of a disturbing dead end in scale and impact, and a frivolous dead end in style. While the esthetic debate becomes more recondite and self-serving, the effect of the tall building on our overcrowded, malfunctioning, and deteriorating cities has become demonstrably destructive and dehumanizing.

Today architects are looking at some very big buildings in some very small ways. The larger the structure, the less inclination there seems to be to come to grips with the complexities of its condition and the dilemma it creates. It is no longer considered necessary to look beyond the street facade. The examples of history, respectable again after half a century of denial, are being mined for nostalgia, novelty, and innuendo. But history should teach reasonable and profound lessons about the uses of style; it should not be used to supply obscure allusions or decorative ready-mades. An increasingly limited preoccupation with surface appears to be coupled with a sheer, stubborn disregard for the people and the cities the structures serve. The awe and wonder that architects first felt about the technological breakthrough and the new

esthetic limits of the tall building, and their expressed desire to integrate these innovations into the social and urban fabric, have been replaced by a very narrow vision in which formal effect, novelty, and obsessive self-expression are primary concerns.

One does not expect the larger contextual vision from builders and bankers, for whom investment is primary. But one does expect it from architects, as part of a responsible design process. Certainly we have long passed the point where anyone believes that the architect can solve the ills of society or remake the environment, or even that he should try. But there is still a responsibility to incorporate into design solutions considerations of the real world and humanistic and environmental values and goals that go beyond scenographic fun and games. If the architect has erred in the past by claiming powers beyond his art, he has now reversed himself and is diminishing that art. He has no one to blame but himself if he finally makes his work seem marginal. The latest esthetic trend seems to be toward a kind of monster picturesqueness, an approach that subverts and denies the real scope and purpose of building. If it is possible to trivialize anything as large as the skyscraper, that process is taking place now. This default of intent and meaning diminishes all architecture in a very real sense.

But the most immediate casualty has been in critical standards of judgment. What is lost in the emphasis on architecture for art's sake are broad, objective criteria by which all styles and approaches must properly be judged. These are the enduring principles that relate the problem to the solution; what is involved is the creative fusion of structure and appearance in the service of utility and profit that has informed the best tall buildings.

That these principles of skyscraper design are being attacked as part of the well-publicized rejection of modern architecture is deeply disturbing, because they have been thought about carefully and well during the last hundred years, and they have a lot going for them as the appropriate and sometimes inspired translation of technology and market forces into art. A successful skyscraper solution, and the art of architecture itself, depend on how well the structural, utilitarian, environmental, and

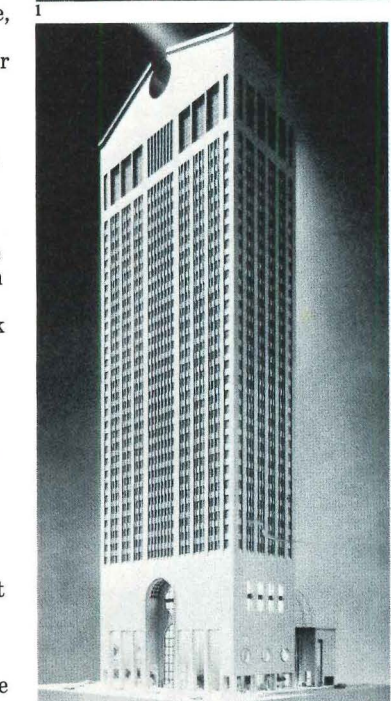
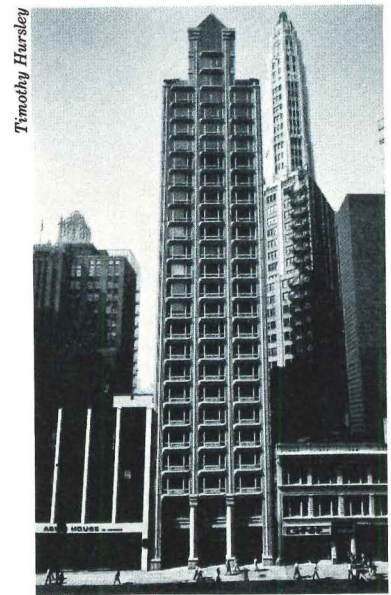
1. 320 North Michigan Building, Chicago, by Booth/Hansen & Associates  
2. AT&T Building, New York City, by Johnson/Burgee

public roles of the tall building are resolved. Style—any style—must be intrinsic to, and expressive of, these considerations. Architecture is, above all, an expressive art.

The success or failure of a building is ultimately measured by how well these factors have coalesced into a unified, expressive whole. When the result adds a special dimension to personal and urban experience, when that expressive object forever transforms the concept or vision of the environment, when it alters the popular received image, it is proper to say that a major architectural contribution has been made. The proof, of course, is that after certain buildings have appeared—the Parthenon, the Pazzi Chapel, the Villa Savoie—the world has been altered in a subtle and substantial way; cities never look the same again.

Surely that is true of the tall building; the skyscraper has totally changed the scale and appearance and concept of cities and the perceptions of people in them. The public has always loved these architectural aberrations—like freaks of all kinds. The title of the world's tallest building has a fleeting but special cachet; it is a favored setting for publicity stunts and self-celebrations, media events, and cinema mythology. But if the status and drama of the tall building, its engineering and architectural achievements, its embodiment of superlatives, are universally admired, the philosophical questions that it raises continue to be disturbing: its symbolism is complex, its role in the life of the city and the individual is vexing, and its impact is shattering. The skyscraper is Orwellian or Olympian, depending on how you look at it.

For the skyscraper is not only the building of the century, it is also the single work of architecture that can be studied as the embodiment and expression of much that makes the century what it is. Today's tall building is a puzzling and paradoxical package. Its standardized, characterless, impersonal space creates the recognizable, charismatic monuments and the enduring image of twentieth-century cities. For better or for worse, it is measure, parameter, or apotheosis of our consumer and corporate culture. No other building type incorporates so many of the forces of the modern world, or has been so expressive of changing tastes and practices.



It romanticizes power and the urban condition and celebrates leverage and cash flow. Its less romantic side effects are greed and chaos writ monastically large. The tall building probes our collective psyche as it probes the sky.

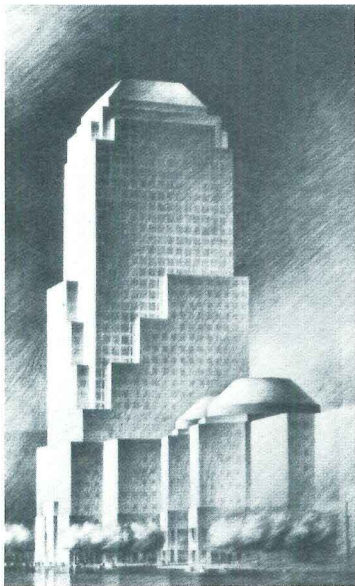
In sum, the skyscraper—in terms of size, structure and function, scale and symbolism, and, above all, human and urban impact—remains the single most challenging design problem of our time. The other definitive architectural challenge, housing, will continue to lack patronage and priorities because it answers to social rather than to business needs. The twentieth-century architect's most telling and lasting response to his age is the topless tower of trade.

The tall building today is also an enormous and cautionary symbol of the changes taking place at a rapid rate in the philosophy and practice of architecture, changes that have polarized the profession. It serves as both standard-bearer and whipping-boy for modernists and postmodernists of every persuasion. Today's skyscraper





3. PPG Building, Pittsburgh, by Johnson/Burgee  
4. Battery Park City, New York, Cesar Pelli & Associates



stands at a crossroads between a new and an old vision—between architecture as mission and architecture as style—in one of the most significant transitional periods in the history of art.

Louis Sullivan, whose early skyscraper solutions have still not been surpassed, discussed its esthetic and philosophical aspects in an 1896 article called “The Tall Office Building Artistically Considered.” Like the tall building itself, the essay is an uneasy synthesis of poetry and logic. But the questions Sullivan raised about the design of the tall building remain pertinent, unsettled—and unsettling—today. They are, in fact, more pressing than ever.

I have entitled this essay “The Tall Building Artistically Reconsidered” in homage to Sullivan, and because I believe the time has come for a critical reevaluation beyond what is currently passing by that name. The history of the skyscraper to date is incomplete and misleading. Like a Rashomon account, it has been told from a number of restricted and subjective points of view which still need to be brought together in a unified whole. Until now, the perception of the design development of the tall building has been tailored to suit those who have made taste and written history in this highly polemical century. We have the brilliant, insightful, but carefully selective version by Sigfried Giedion, in the mainstream of modernist

doctrine. Winston Weisman’s researches have dealt authoritatively with definition and chronology. The technology of the skyscraper has been thoroughly documented by Carl Condit. But the omissions are as important as the inclusions, and the story is just beginning to be rewritten, along with much nineteenth- and twentieth-century history. The result, however, is a new kind of imbalance that may be the normal price of radical revisionism, and even with the gaps being filled distortions continue. If the architectural deck has been stacked unfairly in the past, it is being shuffled and restacked just as erroneously now, with the “outs” replacing the “ins” and one set of preferences, or prejudices, being substituted for another.

Esthetic interpretations of the design of the tall building have always absorbed architects and critics. But the basic questions remain the same. How to clothe the new, naked skeleton? How to make this attenuated giant fit into existing architectural conventions? How to deal with a setting totally alien to its scale, structure, and use? The answers, then as now, have evolved as much from temperament as from art. From the start there were the conservatives who were sure that the only safe, sanctified solutions must come from tradition, and the radicals who believed that a leap of faith into the future must be made through a brave break with the past. Today, curiously enough, those roles have been reversed. Radicalism is represented by a respect for the past that was outlawed by the modern movement, a return to sources appearing in a number of idiosyncratic guises, while conservatism is marked by an adherence to the doctrine of established modernism.

By the turn of the century, the distinguished architecture critic Montgomery Schuyler was calling openly for “aberrations.” It was the “deviation from the customary structure or type,” he said, that would break new ground. Schuyler repeatedly attacked formulas derived from historical precedent as baseless or arbitrary; they followed assumptions that were true for masonry, he said, but false and obsolete for steel. The results were not solutions, in his reasoning, but evasions of the real nature and problem of the modern office building.

A more representative and conventional viewpoint was

offered to the 33rd convention of the American Institute of Architects meeting in Pittsburgh in 1899. In a paper called “The Legitimate Design of the Architectural Casing for Steel Skeleton Structures” a respected turn-of-the-century practitioner, C.H. Blackall, asked: “Should we break away from the precedents of the past...?” The answer, he said, “involves a consideration of what constitutes legitimate design. Illegitimacy, as we well know, is defined as unrecognized parentage... [The] most truly legitimate of all architectural design is the one which has survived, in its various modifications, through the wreck of the Roman Empire, the untoward influences of the Vandals and the Goths, and has come to us still intact in spirit after all scathing modern episodes... We are safer following pretty closely the line of Classic architecture and Italian Renaissance,” he concluded, “and there is more hope for a good copy than there is for a bad original.” So much for aberrations.

What Schuyler was attacking and Blackall was defending at that time was the increasingly popular idea that the tall building should be treated as a classical column, an analogy that yielded a tripartite division into base, shaft, and capital. To Schuyler this was the kind of “arbitrary assumption” that could “obstruct the detailed expression in design of structure and function.” But it had enormous appeal for Beaux Arts trained practitioners, and for all those who subscribed to the popular Aristotelian principle that a work of art should have a beginning, a middle, and an end. It evoked the mysteries of trinities in nature. It suggested golden proportions and the beauties of organic form. Blackall referred to the work of Louis Sullivan with faint praise and little sympathy as the “extreme impressionistic school.” To Schuyler, Sullivan’s buildings were the admirable aberrations that broke new ground. Sullivan himself, in “The Tall Office Building Artistically Considered,” took issue with the classicists. “Form ever follows function,” he wrote in a famous statement that has since been stripped and sanitized of all of Sullivan’s lyricism by the literalness of later generations. He spoke not of classical analogies but of the intrinsic and expressive relationships of form and structure in nature and in art.

Looking at the whole historical spectrum of skyscraper design, we can identify four significant phases: the functional, the eclectic, the modern, and the postmodern—the last more descriptive of the state of mind of its practitioners than of any real success in cutting the modernist umbilical cord. It is significant that all of the most important structural solutions came early in the development of the tall building, in a remarkably short space of time. Because these structures were concentrated in Chicago in the two decades at the end of the last century, other burgeoning cities quickly acknowledged the “Chicago style” in their commercial construction.

It has been customary, or one might say mandatory, in the right art history circles to draw a straight line from this early Chicago School to the fully developed modernism of the twentieth century, dismissing everything in between as unacceptable architectural behavior. This has consigned a large body of significant work to a kind of limbo. As a result, both our perception of the time frame within which important stylistic changes occurred and our evaluation of their worth has been faulty and self-serving. The eclectic and modern phases—or modernist, as the latter is now called—were actually of about the same duration, and both lasted much longer than the initial period of innovation. There was a significant, unacknowledged overlap, with the modern phase moving into ascendancy only after the Second World War.

The modernist skyscraper, however, has been endorsed by scholars and critics in terms of an “authenticity” that the eclectic work has been denied. That is a defensible, if currently unpopular, position. Style is creative change in response to cultural change; it is the way in which that culture expresses the conditions of a particular society and time. This creative process inevitably produces the most original and interesting results. Defining the creative force in these terms has worked very well for the rest of art history. An innovative talent will engage the imagination more than a polished practitioner of tradition, even when the experiments are flawed or the conventions are impeccable. It is the uneven frontiers of creativity, with their disturbing and energizing combination of brilliant insights and inevitable judgmental errors,



that reveal new aspects of humanity and the physical world and map new esthetic territory.

The problem of those buildings that espoused Classical or Gothic or Renaissance sources over "*l'esprit nouveau*" or "form follows function" is that they muddled the radical modernist line. The idea of esthetic coexistence had no meaning at all for the theorists of the early twentieth century, who were single-mindedly focused on sweeping revolution in everything from art to the human condition. We are only beginning to understand and accept the artistic and cultural complexity of a century that has been vastly oversimplified. We are shortchanging our own art when we deny its contrasts and contradictions. The search for consistency and conviction is one way of trying to pull back from the threat of chaos and the loss of traditional beliefs and values that characterize our time. And we fail to come to terms with the difficult meanings of this turbulence when we dismiss it with the bland put-down and cop-out of undifferentiated "pluralism."

Except for popular mythology and a totemic fascination with the skyscraper, its history has been too narrowly focused. There is general agreement on the significance of certain structures and events, such as those innovations that had their roots in many places and flowered in Chicago in the late nineteenth century. At that time, and in that place, a unique combination of industrialization, business, and real estate came together for the development of a new and distinctive building type: The American office building.

In the first, or what might be called the functional, phase of this new structural phenomenon, architecture was the servant of engineering. Rapid increases in building height were made possible by advances in fireproofing, metal framing, and the passenger elevator, as well as by less glamorous improvements in footings and foundations, plumbing, heating, lighting, and ventilation. Much larger buildings were encouraged by the rapid erection of the metal frame and curtain wall, the growth of cities and business, and the need and desire to house commercial operations that employed many people on increasingly congested and expensive urban sites. Essentially, the early skyscraper was an economic phenomenon in which business was the engine that drove innovation. The

patron was the investment banker and the muse was cost-efficiency. Design was tied to the business bottom line, and style was secondary to the primary factors of investment and use.

The structural systems devised were simple and replicable. Esthetic considerations became a subordinate function of the profitable development of land encouraged by advances in steel manufacture, skeleton construction, and mechanical services. No one was concerned with landmarks, or milestones, or icons, beyond the obvious identification of profit and prestige—least of all, with the stylistic resolution of a new building type. The priorities of the men who put up these buildings were economy, efficiency, size and speed. With the later emphasis on artificial light and climate control—both a function of cheap American energy—all serious limitations were eventually removed from how big the building could be and the way it could be designed.

The pragmatism that controlled this first phase of the American skyscraper is usually laid to the philistinism and hard-nosed economic practices of the late nineteenth-century Middlewestern entrepreneur. But enthusiasm for the new Chicago building was shared by bankers and businessmen from the cultural centers of the Eastern establishment, who also knew a good thing when they saw it.

These early structures are as handsome as they are utilitarian. They possess a great strength and clarity that gives them remarkable expressive power. We are as pleased by their art as their builders were by their technology. But we can also see that it is precisely the linkage between the two—art and technology—that is the secret of their distinctive and superior style.

In 1931, the building generally believed to be the first example of true skyscraper construction was demolished in Chicago. The Home Insurance Building of 1884-85, by William LeBaron Jenney was dismantled with great care by a special investigating committee of the Marshall Field estate, which determined that the building's claims of fathering the modern city were true; a metal skeleton frame supported both its inner weight and outer walls. That fact ascertained, the first building to reach for the sky bit the dust to make way for another—a gesture in the true Chicago spirit. From the Home Insurance Building on,

5. *Chicago Board of Trade Building*, by *Murphy/Jahn, Swanke Hayden Connell, Shaw Associates*  
6. *IBM Building, New York*, by *Edward L. Barnes and Associates*

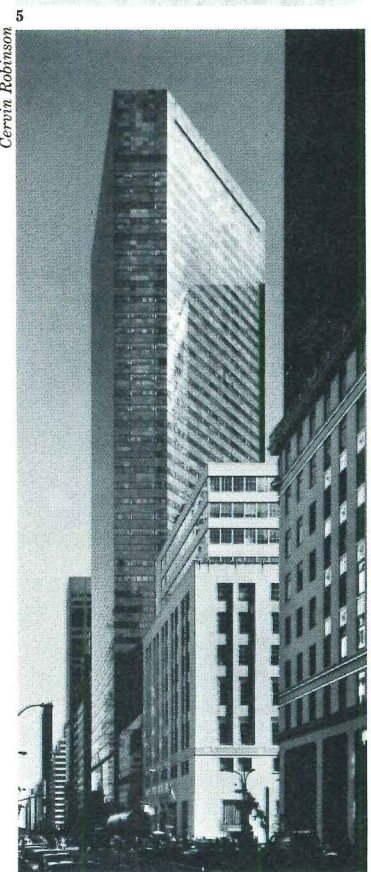
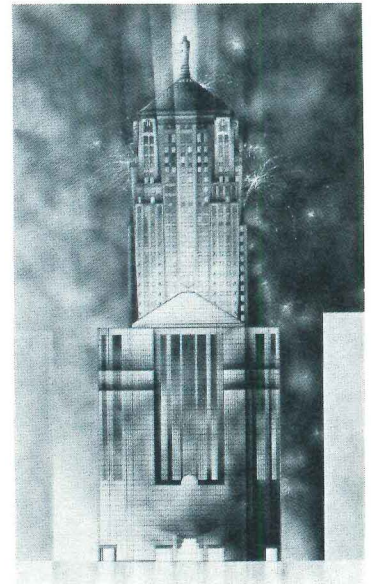
the height and appearance of the tall building were to be controlled only by engineering ingenuity and economic formulas.

But the design debate about the skyscraper's artistic problems grew as quickly as its size, and as soon led to the invocation of traditional models. The second phase of skyscraper design sought solutions through academic sources and historical precedents. This eclectic phase, which was fueled by the ascendancy of the Academy and the popularity of the Beaux Arts in this country, continued well into the twentieth century, until both debate and construction were stopped by the Great Depression.

The eclectic phase produced some of the skyscraper's most remarkable monuments. The raids on the past ranged from banal to brilliant; the Gothic reached for the heavens as never before; assorted versions of the Mausoleum of Halicarnassus, Greek temples, and Italian campanili raised their heads repeatedly in the sky. There were stretch-Renaissance palazzi and zoom-chateaux. The size and style of these buildings made them spectacular and recognizable monuments, but their unique and unreproducible features are their sophisticated scholarship and superbly executed detail. The best examples were skilled academic exercises adapted with great ingenuity, drama, and, occasionally, real beauty to the totally new needs and aspirations of the twentieth-century city. Although the elite position has been to act as if they are, at best, pardonable eccentricities, or, at worst, giant blots on the skyline, they took their place instantly in the history of architecture.

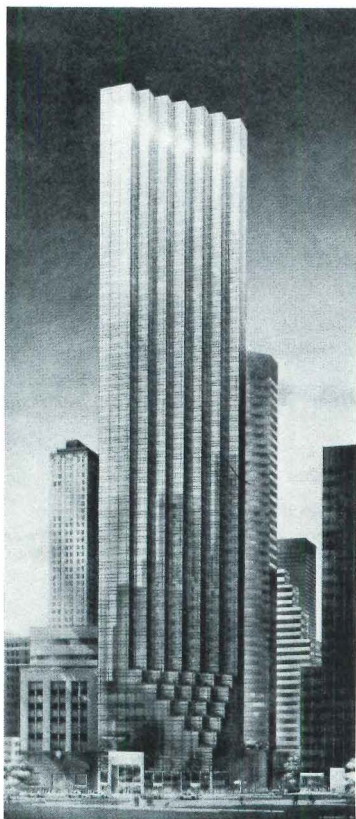
The modernists have always read the academic victory as an architectural defeat. The characteristic of the eclectic phase that seemed like the cardinal architectural sin was not that its practitioners failed to seek new forms, which was bad enough, but that they placed such heavy emphasis on romantic recall and ornamental embellishment. After a long, austere diet of rationalism, however, younger architects are again delighting in this exotic and exuberant excess and even an older generation is seeing these buildings with new eyes.

The tall building that was considered an exemplar of the eclectic mode at the end of the nineteenth century was Bruce Price's American Surety Building



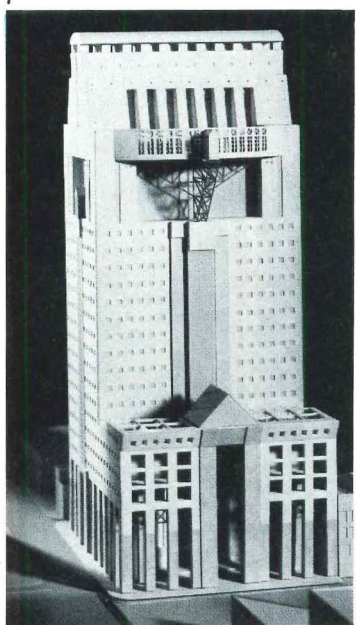
of 1894-96 in New York. Its classical, tripartite division was widely discussed and approved, and it easily drew as much attention as a trend-setter as some of today's more eccentric towers. It is still a substantial and handsome structure, recycled in 1975 by The Bank of Tokyo. In the 1890s, Louis Sullivan produced a series of masterful, original tall buildings, at first with his partner, Dankmar Adler, and later alone, that created what everyone was looking for: a skyscraper style. Running as a counter-current to the rushing rivers of eclecticism was Sullivan's less-than-popular insistence that form followed function, not academic precedent. He believed that the design of the skyscraper was the creative translation of structure and plan into appropriate cladding and ornament, and that the answers were not to be found in the rules and practice of the past.





7. *Trump Tower, New York, by Swanke Hayden Connell Architects*

8. *Humana Building, Louisville, Kentucky by Michael Graves*



8 The Wainwright Building of 1890-91 in St. Louis, the Guaranty Building of 1894-95 in Buffalo, and the Carson Pirie Scott Store of 1899-1901 in Chicago are among those structures that tell you exactly what they are. They are consummately elegant by virtue of their proportions, the simplicity and clarity of those relationships of structure and enclosure, and the skilled use of an extraordinary ornament. Far from de-emphasizing their height with academic stolidity, Sullivan delighted in celebrating their "loftiness," although they no longer seem high to us now. The tall building was not to be brought down to earth, he said, in another famous quotation; it was to be "a proud and soaring thing."

To this task, in the words of historian and critic Henry-Russell Hitchcock, Sullivan brought "a full, subtle

deployment of architectural resources." The rational simplicity of the early Chicago School had not ever been lost. But Sullivan carried the solution of the tall building to a more thoughtful and sensitive level of interpretation and embellishment, and a much more sophisticated kind of design. Montgomery Schuyler, in "The Skyscraper Up-to-Date," used Sullivan's Bayard Building of 1897-99 as an example of successful and appropriate tall-building design. The Bayard, originally the Condict Building, still stands on Bleeker Street in New York, its lower floors mutilated but the whole enduringly handsome. It has been renovated and advertised as "Louis Sullivan's only building in New York" after years of dingy, marginal existence.

"Everywhere the drapery of clay is a mere wrapping," Schuyler wrote when the Bayard Building was new, "which clings so closely to the frame as to reveal it, and even to emphasize it. The actual structure is left, or rather, is helped, to tell its own story. It is an attempt, and a very serious attempt, to found the architecture of a tall building upon the facts of the case. This is the thing itself." The decoration, Schuyler noted, was of a quality no other designer could have commanded, "and is responsible for much of the building's esthetic as distinguished from its scientific attractiveness." But it is the quality of the whole—that blend of the scientific and the esthetic—that Schuyler understood and that few designers have commanded as well. Sullivan raised the "facts of the case"—which so distinguished the early Chicago Skyscraper—to the status of art.

Louis Sullivan's achievement has never been discredited, but it has been misunderstood. The modernists looked at his work with a selective bias, carefully misreading his intentions, blind to the facts of the case. They accepted his science and rejected his esthetics. They could never come to terms with his florid romanticism, and the lushness his ornament, the more they averted their eyes. That ornament was not anachronistic or out of place in Sullivan's own work or time, but it was incompatible with the modernists' attempts to reshape history and art to their purified revolutionary doctrines. Sullivan reserved his esthetic options for subtler and more traditional things—the horizontal or vertical emphasis of the structural frame, for example—often achieving a

delicate and remarkable equilibrium reflecting the kind of visual and visceral balance of which art is made. But his designs were admired by the modernists only according to how literally, or "truthfully," their construction was revealed. He was denied his poetic license.

Sullivan was a difficult case, because no matter how much his critics condemned what they considered his decorative backsliding, the logic, beauty, and originality of his solution was always clear. Like the modernists, he dismissed historical models. In "The Tall Office Building Artistically Considered" he warned that the skyscraper should not "be made a field for the display of architectural knowledge in the encyclopedic sense." But while he rejected the idea of scholarly sources, he did not deny the traditional architectural values and relationships of the decorated form.

Sullivan's highly personal search was soon eclipsed by the academic avalanche. The successful eclectic skyscraper, however, never actually violated Sullivan's insistence that form follows function in the broader sense, or Schuyler's conviction that the design of the tall building must be founded on the facts of the case. These structures take learned liberties, but they are still recognizable as the thing itself. Their indulgence is academic, rather than poetic, license. Cass Gilbert's French Renaissance West Street Building of 1905 and Gothic Woolworth Building of 1913, both in New York, state the facts of the case with superb visual richness and a masterful handling of the special problems of unprecedented size. These and other examples deal, if not directly, at least metaphorically and ornamentally, with the difficult realities of structure and scale. Style, whatever its source, was used as an instrument for dramatizing the facts of the case.

By 1922, the famous international competition for the Chicago Tribune Tower demonstrated the full strength and range of the eclectic phase. This competition, which called for "the most beautiful and distinctive office building in the world" and drew more than 200 submissions from 23 countries, was one of those benchmark events in the arts: it crystallized a unique moment in architecture when the long, classical tradition was poised on the edge of the unknown abyss of modernism. The entries were a startling mix

of the adventurous and the *retardataire*, but what is particularly interesting is that so many of the designs were so very good; the massing, scale, and detail of the tall building were well understood in any number of guises.

The subsequent bitter debate between those who championed the Gothic revival of the winning tower by Howells and Hood against the romantic Finnish modernism of Eliel Saarinen's second prize design or the radical modernism of Walter Gropius's submission from the Bauhaus seems, in perspective, quite beside the point. Just as provocative today, and also impressive, are such less familiar entries as a surprising number of Dutch examples that fall stylistically between Berlage and De Stijl. There were even submissions of a type now called "commentary," for example Adolf Loos's enormous classical column, which could have been conscious, or unconscious, irony; for all we know—and some scholar surely does, or will—he may have been playing it straight.

The Tribune Tower competition has been held up by the modernists as a sad and ludicrous example of what went wrong with skyscraper design after Sullivan—a fall from esthetic grace. From today's perspective, however, it forms a remarkably accurate historical document of the state of the art of the skyscraper at the end of the first quarter of the twentieth century. What seemed improbable at that moment was that modernism was to supplant eclecticism as the architecture of the establishment in another twenty-five years. But the rout of tradition and the acceptance of the new was neither quick nor clear; the course of true modernism did not run as smoothly as historians have chosen to tell it. Until recently, it has been inadmissible in proper intellectual and artistic circles to point out that there was a "modern-modernistic" dichotomy rather than the direct revolutionary line to which all the faithful immediately adhered. The conventional and respectable architectural wisdom has treated this conflict as a split between good and bad design, between serious and frivolous art, between esthetic enlightenment and vestigial, uncomprehending vulgarity—in short, between virtue and sin.

The modern phase of skyscraper design actually embraced this dual esthetic in







two separate but parallel strains. "Modern" was radical, reductive, and reformist; "modernistic" was richly decorative and attached to conservative and hedonistic values. "Modern" was the austere, abstract, elite, avant-garde work of the European school of Gropius, Mies, and Le Corbusier, united in its early days under the rubric of the International Style.

"Modernistic" was neither pure nor revolutionary; it fused the ornamental and the exotic for what was really the last great decorative style. Derived from the luxurious, exotic combination of new and old materials and the traditional fine craftsmanship that characterized the products of the 1925 Paris Exposition des Arts Decoratives et Industrielles, "modernistic" was despised by the avant-garde as fussy, reactionary, and, of course, bourgeois-decadent. Now called Art Moderne or Deco, it is having a trendy revival, but "modernistic" was the name used at the time—innocently by its admirers and scathingly by its critics. The modern-modernistic split was more than style-deep, however; the reformers saw modern as both moral and beautiful; it held the promise of a better world through design. They considered the more fashionable modernistic as the betrayal of that promise and the denial of art as an instrument of social change.

Some of the century's most seductive skyscrapers are modernistic, including Holabird and Root's very beautiful drawings of executed and unexecuted work in Chicago, and a number of pre-Crash towers in New York's Financial District. Others, like Howells and Hood's *New York Daily News Building* of 1930, fell between modern and modernistic, confounding the critics, who prefer ideological tidiness. The style died with the Depression, when construction stopped after the completion of the Chrysler and Empire State buildings in 1930 and 1931. Rockefeller Center was its protracted swan song, and although the complex's modernistic detailing and debt to Beaux-Arts planning were ritually deplored until recently, this superior piece of urban design has taught important lessons about cities and style that are now universally acknowledged.

"True" modernism was pioneered by a handful of adherents to the radical, reductive International Style and its other European equivalents in

the 1920s. Its scope and history are still little known or understood in this country, where it arrived in a bowdlerized and amputated form in the famous Museum of Modern Art "Modern Architecture" show organized by Henry-Russell Hitchcock and Philip Johnson in 1932 and in their enormously influential book, *The International Style*. This limited esthetic version stripped the work of much of its cultural context and currency. Nor was much built in this genre in the United States. While there was a large body of significant work abroad dating from the immediate post-World War I period, only small, token structures appeared here, quite late, in the 1930s. At first, it was a showcase style of the avant-garde. Much later, in an even greater transformation, it became the architecture of the establishment. By mid-century, the revolutionary ideal and esthetic had been turned into slick, profitable formulas that had lost an enormous amount in the translation from the European originals to American commercial practice.

The leaders of early European modernism were architects of monumental and obsessive vision who rank high among the creative minds and talents of our time. Their artistic stature has much to do with the quality, importance, and influence of their work, and of the modern movement itself. In the final analysis, this will make the position of modernism stubbornly resistant to even the most assiduous downgrading.

The early modern, or International Style, skyscrapers are few in number; they required clients with cash, courage, and a highly developed sense of esthetic mission. Theoretically, the combination of form and function these buildings endorsed was supposed to be beyond style; actually, style was their most enduring product. The McGraw-Hill Building of 1931, constructed in midtown Manhattan by Hood, Godley and Foulhoux, is a notable example, and the Philadelphia Savings Fund Society Building of 1930-31, by Howe and Lescaze, is a total work of art. The descendants of these buildings are the largely unloved flat-tops and glass boxes—relieved by an occasional modern masterpiece—that make up the High Modern Corporate Style. This is the look that has shaped the skyline of the twentieth-century city and that is now under conspicuous attack.

Not all of those who took up

the cause of modern art in the 1920s were International Style party-liners. The influential critic Lewis Mumford expressed his opinions in some memorable columns in *The New Yorker* and ARCHITECTURAL RECORD. In 1928, he defined the new modern architecture in an ARCHITECTURAL RECORD article called "The Search for Something More." A building should be "the direct, economical expression of material and plan," he wrote. "The clear, lucid expression . . . of form-in-function is what constitutes the modern feeling." But, he added, going beyond the ritual revolutionary declarations, "there must be something more." That "something more" he described as a combination of structure and feeling. "It is by utilizing new methods of construction and embodying a new feeling that our modern architecture lives," and it is over the question of what this "something more" must consist of "that the new battle of the styles will be fought."

Significantly, Mumford's "something more" included ornament. Decoration was no "snare and smear" for him, as it was for others; he had generous words for such buildings as Ely Jacques Kahn's new skyscraper at Two Park Avenue with its brightly colored bands of geometric terra-cotta ornament, praising its integration of mass and decoration as "the boldest and clearest note among all our recent achievements in skyscraper architecture. . . [Here] structure and feeling are at last one."

But the battle of the styles that Mumford expected was never fought in the terms he anticipated. The search for "something more" became "less is more" by mid-century. When business and technology met in extraordinary conjunction in American cities after World War II, the architecture of this latest marriage of convenience—pragmatic, cost-cutting, market-oriented, riding the wave of a business boom—had interesting parallels with the first Chicago School. By one of those odd and fateful coincidences of art history, the modernism of "less is more" was also a simple and replicable style ideally suited for commercial use on a large scale. If its socio-esthetic ideals proved unrealizable, its design principles were ready-made for economic exploitation. Developers were able to knock them off with the same skill with which they manipulated land and law.

These big buildings have taught us hard lessons. They

range from the corruption of art and ideas to unprecedented problems in the construction of cities. Such problems, however, owe as much to investment patterns and social upheaval as to esthetic decisions. But the minimalism of the modernist esthetic lends itself to a subtle, ascetic beauty or to the cheapest corner-cutting, and since the latter has been the easiest and most profitable route for the builder, an elegant, reductive vocabulary was quickly reduced to a bottom-line banality that its creators never dreamed of. Unfortunately, the loss was of exactly that critical quality of detail, material, and execution on which the modern style depends.

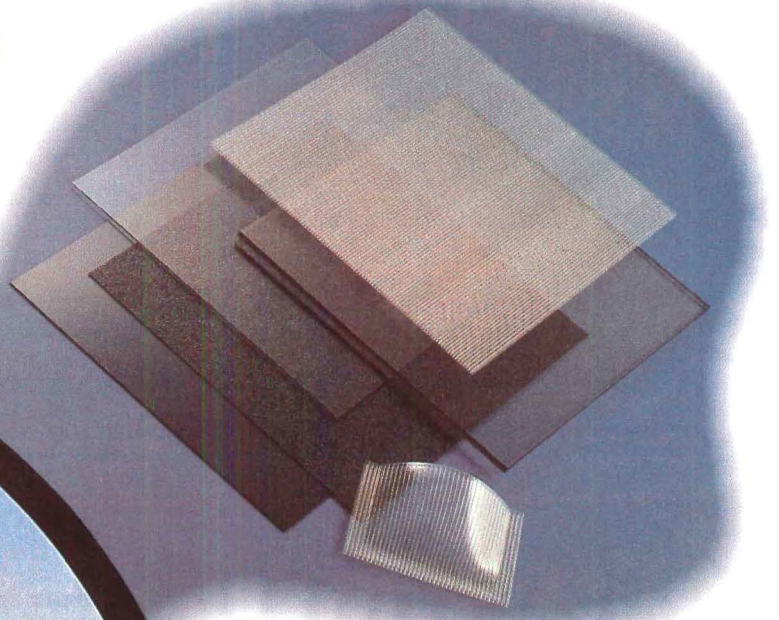
It is indisputable now that modern architecture aimed too high and promised too much; as with much else, a naive and generous optimism gave way to a disillusioned cynicism that has been characteristic of this century, conditioned by its cataclysmic changes. Still, to dismiss modernism for its flaws is like discarding the plays of Shakespeare for their bowdlerized versions and bad performances. Most of these buildings, too, will have their revisionist judgments in the future.

For the uncorrupted source of this brand of modernism one must go back to the pioneer tall building projects by Mies van der Rohe in Berlin just after the First World War. Anyone who denies the significance or splendor of Mies's seminal designs for the skyscraper not only fails to see these buildings in context but seriously shortchanges art and history. A particular esthetic vision is a function of a particular time and place—but this work transcends both. The prismatic glass tower scheme of 1919 for the Friedrichstrasse, always shown in abstract isolation, is as responsive to its site as to an ideal vision; the curved glass tower project of 1920-21 is a consummate esthetic statement of intent and ideal. Here is the quintessential twentieth-century tension between art and technology, between dream and reality; these tall buildings sum up the architectural drama, beauty, and innovative genius of our time. Structure in its most pure and perfect form was enclosed in a sheer curtain of shaped and shimmering glass for a breathtakingly transparent geometry.

Alas, this was a superb skin-and-bones abstraction that reality never could deliver. Mies



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was a great enough artist to come close a number of times; he produced buildings of sustained beauty and elegance. But like Sullivan, Mies has been misunderstood. It has been popular to point knowingly to piers that never reach the ground and corner details that deliberately short-circuit literal structural truth as proof that his functionalism was faulty. Today's critics are quick to attack the fallacy of his search for universal solutions; his ideal space and modular systems are seen ironically, as a hopeless Procrustean bed. They deny him his poetic license.

But if the lyricism was lost, a vernacular was gained. I have never shared the view of critics who claim that the glass box is an icy curse visited upon us by the distortion of Mies's "failed" vision. The failed vision is theirs. The Miesian skyscraper is a superb vernacular, probably the handsomest and most useful set of architectural conventions since the Georgian row house. Its rejection is ludicrous and unrealistic. The Miesian esthetic has produced an eminently suitable twentieth-century vernacular style for this century's unique and overpowering scale—a fact that has yet to be fully realized or appreciated by critics or historians. Vernacular art grows out of the high art of the time and is applied to its common needs and purposes. As with all vernacular architecture, it is the standardization and anonymity of forms reduced to a rational, useful simplicity—here the sleek, reflective surfaces and facets of glass, mirror, and metal that have universal application and appeal. The result is as right for today's cities as Georgian detail was for the scale and purposes of the eighteenth century. This vernacular accommodates inhuman size, mass, and bulk with an appropriate and saving simplicity. Glass towers, whatever their drawbacks—and most of their faults are independent of esthetics—make a magnificent street architecture.

The offspring of those two Mies drawings are legion. The standard for quality and consistency was set by the work of the firm of Skidmore, Owings and Merrill, which became the chief interpreters of the Miesian esthetic and the most prestigious practitioners of the High Modern Corporate Style. These are the skyscrapers of the Fortune 500—suave, skilled variations on the themes of structural rationalism, machine-age luxury, and

institutional status. They are the buildings that symbolize the state of the skyscraper art at mid-century—a quarter-century after the Chicago Tribune Tower competition—and in the decades that followed. These skyscrapers are long on understated splendor and structural panache but short on poetic license.

While business and builders were busy exploiting the modern style, another, more subtle, kind of exploitation was being carried out by the architects themselves. Straining at the straitjacket of rigid modernist principles, while giving lip service to them, they found ways to stretch the rules. The sacred dictum that form follows function was being turned into the pursuit of form for its own sake. Structure became sculpture; sometimes the whole building was transformed into a sculptural or decorative object. Or it was conceived as a provocative, abstract play of light, planes, and reflections, a trick done with mirrors, as the glass box gave way to the mirror glass building, a development of considerable esthetic subtlety and intricacy.

The modern skyscraper, once devoted to a Euclidian simplicity, began to display a far more complex geometry. Very quietly, the rules of rational cause and effect were reversed, and structure became a tool for creating abstract, idiosyncratic, and arbitrary form. Function followed form. Less became quite a lot more. The results ranged from macho contortions to sophisticated experiments aimed at the expansion of the relationships of function and form. Architects were clearly moving to a new phase of design.

In the best of these transitional skyscrapers, Schuyler's "scientific" and "esthetic" criteria and Mumford's "structure and feeling" were, and are, still working together. Some of the most successful explorations that pushed the frontiers of modernism were carried out early by Philip Johnson, always the leader in the search for the new, before he moved on to a questionable historicism. (It is not the historicism one questions but the architectural results.) The IDS Center in Minneapolis and the Pennzoil Building in Houston, both the work of the Johnson/Burgee firm, fused outer form and inner space in a most provocative way, in the vanguard of a new skyscraper esthetic. We are able to see and understand and marvel at the synthesis of structure and style

in these designs, and even the deliberate bravura with which one controls the other; there is enormous architectural power in the way technical components are utilized for esthetic effect. This, too, is poetic license, but it is never unrelated to the facts of the case.

In 1974, Arthur Drexler, director of Architecture and Design at the Museum of Modern Art, dedicated a landmark show to some of the more dramatic distortions of the facts of the case; called "Transformations in Modern Architecture," it demonstrated how a once radical, functionalist rationale had been warped into a new and disturbing formalism. The show's most provocative aspect was that no judgments were made; all examples, from sensitive inquiries to pointless exhibitionism, were shown as a seamless iconographical phenomenon, and there was a high quotient of the perfectly awful. Not surprisingly, the exhibition was extremely controversial.

From the 1960s on, the tenets of modernism were being manipulated to ever greater extremes, until they finally approached a point of rupture where the rules no longer held at all. The commercial debasement of Mies's elegant minimalism was bearing a bitter and boring fruit of abuse and abysmal mediocrity. The sins of modernism are many, as any reader of popular books and articles must know by now, but modernism's real failure has been lost in the avalanche of accusations and confessions. In the end, its ultimate and unforgivable sin was the loss of style.

Together, these factors have led to the fourth, or current, phase of skyscraper design, called postmodern. The most conspicuous and questionable characteristic of this development is the renunciation and devaluation of everything the modernists believed in and built—a familiar phenomenon in the history of changing values and institutions, from art to politics. Its most encouraging aspects are the rediscovery of history and the continuum and context of the city, and the recognition of the values of diversity. The postmodernists want everything back that the modernists discarded—history, ornament, context, contrast, variety, symbolism, imagery, and metaphor. And they are off pursuing these things, like Stephen Leacock's legendary

horseman, in every direction at once.

Above all, postmodernism is a freewheeling, unfettered, and unapologetic exploration of style. The fact that style is paramount, beyond all other expressed concerns and aspirations, is the source of both its strengths and weaknesses. The exploration of style can, and does, enlarge the boundaries of art. But in architecture it also creates a special danger; style detached from the conditions and considerations upon which the art of building rests can reduce architecture to something less than its proper role and definition, including its best practice and necessary attachment to reality. This emphasis not only affects the use and value of architecture to society, it ultimately and tragically diminishes it as an art.

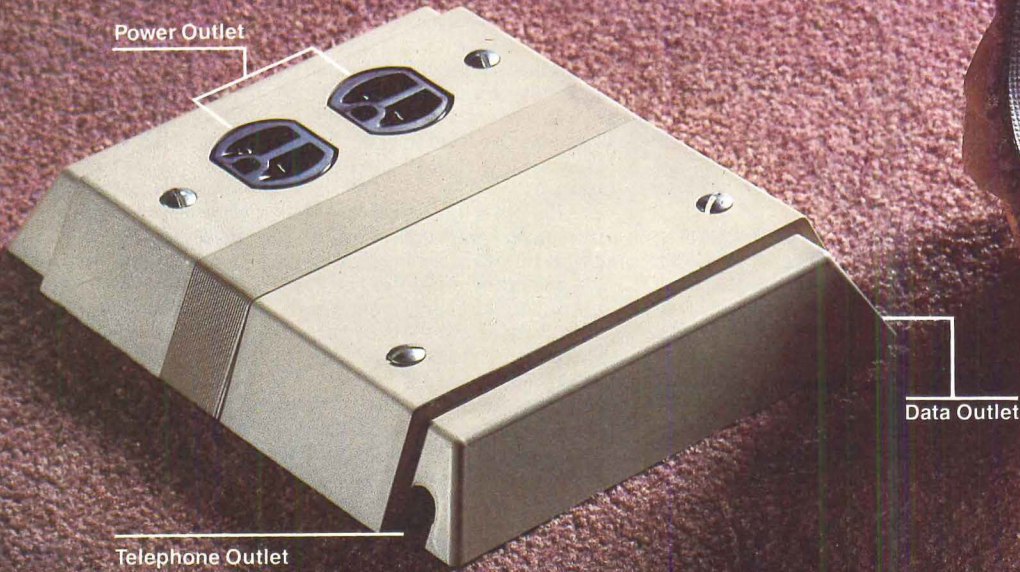
Assessments of modernist failures, deserved and undeserved, have been used as the springboard out of the old and into the new, and as justification for the renunciation of the sociological and planning commitments of earlier generations. There are no forbidden routes to style for the postmodernists; everything, past and present, is looked at from the limited perspective of style, and everything is seen as a legitimate source of design. Today's architects are busy overcompensating for decades of sensory deprivation. But above all they are preoccupied with making reputations and images. For many it is no longer considered important, or even necessary, to relate those images to the facts of the case.

Some departures explore history in a scholarly and straightforward way; others are a willful pursuit of those aspects of traditional practice banished by the modernists. Historical sources are used for a personal and even perverse isolation of stylish elements. Those elements are detached from their context and meaning to serve as independent vehicles of ideas or decoration—a practice, unfortunately, that works much better in theory. Postmodernist neo-historicism ranges from Alan Greenberg's literate and literal use of a classical vocabulary for the sanctification of today's cash-and-carry lifestyle to the dreamlike montages of evocations and references that form the private architectural mythology of Michael Graves.

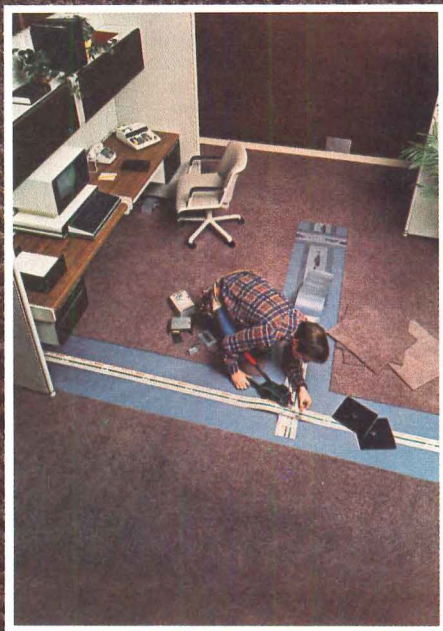
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preferably those brutally deposed by the modern movement, and to the rediscovery of periods and practitioners that were declared the enemy by its leaders. The singling out of the skilled, academic designs that Sir Edwin Lutyens produced for the British establishment in the early years of this century, for example, has become noticeably obsessive and redundant. A highly arbitrary return to history, often inadequately digested and purposefully misconstrued, is commonly coupled with a warped and disingenuous view of the errors of the modern movement, which, in any event, is considered hopelessly misguided and old hat.

This process only repeats history, of course; the modernists' well-publicized lack of esteem and understanding for the Victorian Age led to the uncomprehending loss of many of its monuments and documents, and to the difficult problems of assessment and appreciation that face scholars now. That same danger is very real and disheartening for the survival of the monuments and documents of the twentieth century. For those of us who are more concerned with history than with polemics, or perhaps one should say the history of polemics, the esthetic significance of the moment is marred by the sabotage of self-serving shortsightedness.

One interesting and insidious aspect of the postmodernists' use of the past is a current phenomenon that goes considerably beyond its architectural manifestation. Today's preferred styles are more than the customary reversals of taste of a transitional period. They seem to express a social and political neo-conservatism that goes beyond the admiration of more conventional and traditional esthetic values to a kind of longing for the traditional social order and practices those values have served. This attitude runs from simple nostalgia for a more gracious and well-embellished era to something somewhat nastier—a parvenu old-tie, antiliberal snobbism of the new, and young, far Right. But postmodern radicalism is an odd creature; its practitioners tend to be architectural monarchists, regardless of background or training, with the legendary preference for cake over bread.

The leader of the skyscraper division of this kind of postmodern eclecticism is acknowledged to be Philip Johnson, a man whose social and esthetic credentials are

impeccable and whose mercurial pursuit of a fast-moving avant-garde keeps the profession on its toes—or, at least, off balance—much of the time. His own work has moved from a sculptural abstraction to a picturesque eclecticism in which absolutely anything that can be copied or adapted goes, as long as it offers a constantly changing spectrum of sensations to an extraordinarily keen, responsive, and easily bored sensibility and mind.

The Johnson/Burgee firm, from which Johnson has recently officially retired (although he will continue to act as consultant), offers a wide choice in its skyscraper line: the notorious Chippendale model for AT&T in New York, which made the cover of *Time*, has been followed by medieval battlements in Lower Manhattan; a pinnacled mirror-Gothic high-rise is nearing completion for PPG Industries in Pittsburgh; a curvilinear modernistic tower is rising aggressively in San Francisco; and an angled modernistic tower serves as Transco's headquarters in Houston, where Republicbank will be served by a gargantuan gingerbread guild hall.

Instead of cookie-cutter modern, we are getting cookie-jar monuments. All are eye-catching and mind-boggling, and all raise serious architectural issues, as is clearly the intention. But this work is no more than clever costume design or scenography; it is much too facile and empty to be called architecture at all. Even more curious than Philip Johnson's present production is the esthetic opportunism of this early and ardent champion of the modern movement's revolutionary morality. These buildings embrace the kind of style that Le Corbusier condemned as "the feather on a woman's head" in *Vers Une Architecture*, the slim volume of 1923 that was a battle cry for a generation that hoped to change the world. If irony is what the postmodernists want there is plenty of it around; not least are these immense, stand-up architectural jokes that have much more to do with fashion than with style, in which the joke is turned on the client and the rest of us. This is a high-building act that manipulates art, history, and the environment for very high stakes and a very dubious product.

Still another aspect of postmodernism is far less of a break with modernism than an extension of it—it might more

correctly be called neo-modernism. Like neo-classicism, it reworks an established vocabulary. This trend emphasizes a geometric abstraction based on the esthetics and details of early modernism; it manipulates these details with as much regard for sentiment as for abstraction, but even more significantly, its practitioners are moving the use of these elements to a handling and perception of space far beyond earlier modernist practice. The complex uses of transparency and reflection, an increasing ambiguity of open and closed elements, a layering of levels, combine for a conceptual and physical breakthrough with enormous esthetic consequences. This can be seen and experienced in Richard Meier's carefully selected elements of the early modernist vocabulary, which advance that vocabulary through a new interpretation to a new kind of art. Similarly nostalgic reference are used in a hard-edged and highly sophisticated way by Gwathmey-Siegel Associates. Among the most complex and virtuosic interpretations is the intensely individual, trend-setting work of the Japanese architect Arata Isozaki.

Interestingly enough, this development is less a continuous and natural evolution of modernism than the result of a younger generation's fascination with the formal elements of early modernism as it looks back at it as an historical phenomenon. They see its vintage components as a set of appealing forms and symbols that intrigue them far more than the message those forms were originally meant to convey.

Perhaps what is most significant for architecture today is the fact that virtually everything is seen as history now—even that most recent event of the historical past, the modern movement. Distance has lent not only enchantment but also a totally changed vision and point of view. Until recently, the architecture of the twentieth century was conceived as something that existed only in, and of, the present, for the future. The new attitude turns its back on the present, and even on the immediate past, as if that aberrant revolution called modernism had never occurred. It is this abrupt change of position that is the most important, and radical, aspect of current philosophy and practice.

The fallacy of this attitude is the belief that something new

can be created by rejecting those conditions and contributions that are necessary for the transformation of any art form. An even more basic fallacy is the idea that those elements can be rejected by choice, or at all. There is absolutely no way to purge today's building of the revolutions in thought, design, and technology that are intrinsic to the modern movement; they are embedded in the way buildings are constructed and used for contemporary life. Denouncing them will not remove them from either history or reality. The most impressive and valid developments in the architecture of the present moment are those that build on the unique achievements of the twentieth century rather than attempt to deny them; the best work is that which carries modernism to revealing and greatly enriched new dimensions. References to the past, or the incorporation of a new and more permissive architectural vocabulary, simply make the challenge, and the potential, greater.

There are hazards involved, however; the pursuit of what is essentially a formal approach can lead to some exquisite dead ends. The theoretical projects of Peter Eisenman, for example, have the precise and immutable elegance of mathematical equations whose intractable perfection is highly resistant to the realities of living. The challenge is building them as something more than abstractions; the danger is the suggestion that abstractions are enough. The formal fantasies of John Hejduk are pure poetic license, combining literary and esthetic references in a haunting series of lyrical images. These exercises are often so uniquely beautiful, extraordinarily moving, and intellectually seductive that their execution is almost beside the point. Both represent exceptional talents, devoted to the exploration of the limits of architectural response. We do not live by buildings alone.

Neo-modernism is producing some of the finest construction of the 1980s. Cesar Pelli's glass-skinned skyscrapers carry Mies's glass towers to a more highly developed version of this consummate example of twentieth-century building technology. Unlike those who consider the curtain wall no more than the plain or fancy wrapper of packaged commercial space, Pelli sees it as a vehicle for expressive architectural detailing. Design solutions are



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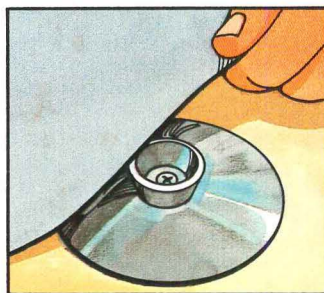
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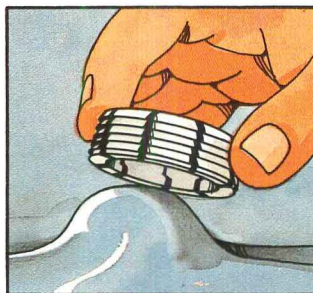
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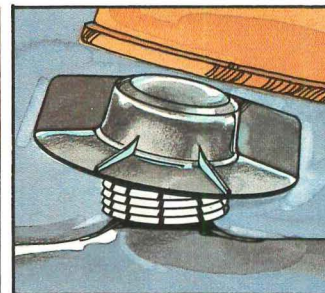
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better, he believes, when they are consistent with the way something is actually built, and those ideas that are common to a time, he feels, provide the best opportunities for art. Pelli consistently proves his case by designing some extraordinarily sensitive skyscraper skins. If he cannot make excessive size or bulk acceptable, he ameliorates it by turning oversized towers into objects of remarkable refinement and beauty. He divides, frames, and color-codes the thin, light, vitreous wall that is part of the modern technical miracle of skyscraper engineering; he treats it as a taut, enveloping membrane or as a smooth aggregate of discreetly designed panels and subtly graded parts. For the towers of New York's Battery Park City—which will be the city's most monumental building group—Pelli's skins are a graduated mix of masonry and mirror glass designed to recall and relate to the existing Manhattan conventions of street scale and architectural detail at their lower levels, while they become dazzling compositions above.

This is Sullivan "up-to-date," as Montgomery Schuyler would have put it. The finesse and expertise of Pelli's intricate, reflective expressions of use and context would have intrigued and pleased Schuyler. Since the 1960s these solutions have been increasingly liberated by changing architectural attitudes. But Pelli's considerable poetic art is still based on the facts of the case. In none of this work is structure ever divorced from style, as in so much of postmodernism; it is treated both as a generator of architectural form and as a source of architecturally self-sustaining elements to be explored, in turn, for their own formalist esthetic. At the same time the solution never defaults on a meticulous and vigorous reference to an architectonic rationale.

The work of Foster Associates is another striking example of the esthetics of structure. Technology is, in fact, Norman Foster's particular expressive tool: the sheer, illusory glass wall of the Willis Faber building in Ipswich, England, is a skillful play on the effects of reflection and dematerialization; the drama of the giant truss is celebrated in the Sainsbury Center; the braced wall theatrically defines a new skyscraper in Hong Kong. Building components are treated with jewel-like precision to become their own, polished end. The limited rules of modernism's

use of technology are exploded for a much freer approach to design.

The current multiplicity of routes to a more expressive architecture is being called a pluralistic phenomenon, but it is only so in a superficial sense. There is less of a real diversity of styles than a diversity of means to the same end. No matter how dissimilar the source or the inspiration, all of the design elements employed are removed from their original context and purpose to exist on their own as discrete, independent forms, or as pure stylistic devices. This is true whether these elements are classical columns or industrial components. And it is this fact that unites and characterizes as a single esthetic product the work of those engaged in today's stridently competitive dialectics, no matter how much they may divide and protest.

Some very talented architects seem to delight in inviting the dangers inherent in this approach. Helmut Jahn, of the Chicago firm of Murphy Jahn, is pushing the frontiers of expression hard—moving from the sleek exploitation of building technology, which he does with almost sleight-of-hand ease, to an increasing interest in eclectic or abstract images. In his project for an addition to the Chicago Board of Trade, Jahn pays homage to Holabird and Root's original modernistic structure, combining cultural and technical references in a way that would have been impossible not too long ago. His drawing carries the eclectic image of the earlier building to a stunning, space-age romanticism. One of Jahn's latest projects, for a South African skyscraper, reaches a pinnacle of radical, sculptural abstraction. This design comes full circle by turning rational and modernist geometry into extreme romantic expressionism; Jahn has entered the realm of architecture for art's sake with a vengeance.

All of these buildings take enormous risks. Judgment of their success in terms of use, esthetics, and environmental relationships will have to wait for their completion. But the new freedom that Jahn and others are utilizing has created an unparalleled opportunity and a moment of dramatic promise and challenge. The critical question, however, and the bottom line, is what kind of architecture is being produced. Unfortunately, there seems to be little interest in answering it. Either out of genuine enthusiasm or a need to be with, and of, the new in art,

few commentators are analyzing or evaluating the results with much critical objectivity. This, also, is not new; the role of club member or camp follower has always been more attractive than being considered out of it or incapable of understanding the new vision and values. And as has happened with so much of the art of our time, architectural criticism is becoming a game in itself, with an increasingly inaccessible language and a growing detachment from the built object. The buildings can hardly be seen for the words. Publicity is more important than the product.

The modernists, in their own day, were equal offenders, of course, although the language employed was usually more righteous than silly or smart. A great deal of uninspired, extremely ordinary, and very bad building was praised or excused by those who professed to be critics because it followed the right—or the fashionable—rules. Apologists operated in the guise of analysts, and still do. Lessons that should have been learned early by astute observers were glossed over or ignored. This has finally caused the delayed backlash to modernism that is unfortunately sweeping good and bad into the same discard heap. And the same kind of over-publicized underachievement is being touted as trend-setting today.

It is hard not to see some of the most aggressively promoted examples of postmodernism, hailed widely as architectural breakthroughs, as surprisingly thin and inconsequential buildings. A do-it-yourself, kit-of-parts eclecticism turns the promise of revived grandeur into a paper-dollhouse architecture of plastic and plywood pilasters, and pediments, and sheet-rock cut-outs. There is too much that is too cute, pretending to be erudite or clever. Personal stylistic statements are preferred to optimum solutions.

The conflict between function and expression is not new either; this is a legitimate, historic condition of architecture, and the manner in which the necessary equilibrium is achieved is intrinsic to the quality of the result. But the trade-off today is increasingly unbalanced, and the "architectural celebration of the mixed metaphor," as the critic John Pastier has put it, is a distinctly mixed bag. "Although its aims of richness, esthetic freedom, symbolic meaning and historic reference are all laudable in the abstract," Pastier

has written, "the concrete products of the postmodernist sensibility tend to be caricatures of old architecture or disingenuously superficial essays." The most generous evaluation of much of this work is to call it transitional, hoping that it will go where it is headed quickly. It is hard to take these architects as seriously as they take themselves.

What is significant, and disturbing, is the fact that the most questionable hallmarks of this particular kind of building are characteristic of much culture and the process that passes for education today. A narrow, narcissistic intelligence and sensibility, even among the exceptionally gifted, seeks easy effects and instant gratification in the naive belief that shattering discoveries are being made. There is an exaggerated sense of uniqueness and an adolescent wit. Unexceptional personal preoccupations are offered as epochal creative advances; shallow observations are touted as profound, and small ironies are passed off as cosmic wisdom. This seems to be the intellectual distemper of our times.

But architecture is not trivia, and it is more than skin-deep. To give appropriate form to structure, plan, purpose, and place, and to do so with dignity and expressive content, is a good deal more than the fulfillment of a passing fancy. The art of building is the difficult act of design that turns physical needs and realities into an esthetic experience of personal and universal value. The success or failure of a building is measurable by these constant factors that operate within any style, and that transcend it.

The special factors that control the design of the skyscraper have been investigated in a recently completed five-volume monograph called *The Planning and Design of Tall Buildings*, published by The Council on Tall Buildings and Urban Habitat of the American Society of Civil Engineers. This ambitious study deals with everything from philosophy to engineering stability. Inevitably the technology of the skyscraper is the most evident of these special features; height is primarily a function of technology. The engineering development of the tall building is one of the truly remarkable chapters in the history of architecture, and it has been well documented in the standard texts. Structure is what the tall building is about, even if



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this seems like belaboring the obvious; as its basic fact and most critical element, it is structure that is at the heart of the tall building's design. It becomes the architect's most powerful expressive tool, by the very nature of the constructive art.

But structural innovation and esthetic preference can expand choices only as long as the real estate and investment numbers work out. Today's large commercial structures, like those that came before them, are essentially an economic formula. The modern office building has been standardized as a central service core surrounded by 15,000 to 25,000 square feet of space, or multiples of those figures. This standard has been set by business itself as the optimum working floor area for the large corporation. The tower shape is also dictated by the investor's belief that ground floor retail space is best concentrated for the largest possible captive working population that can be channeled through it each day. Even the tall building's almost uniform four- or five-foot design module has evolved out of another economic consideration, the minimum office size.

Since almost anything is possible technologically today—the architect designs and the engineer makes it stand up—even the basic structure is subject to economic determination. Within these market calculations the modern skyscraper is squeezed into the mold made by zoning laws and building codes. Ultimately, the design of the tall building is a product of investment economics and urban politics.

But there are other, less pragmatic factors that influence the decision to build tall, of which much is usually made. The desire to convey image, status, power, and prestige, to signal economic or cultural dominance, is universally acknowledged. Not least—although it is seldom discussed in the corridors of corporate or political power—is the architect's desire to create a museum-worthy object, usually against considerable odds; it is the artist's ego-play against the builder's. The drive for immortality, or at least for the accolades of the art establishment, is always present. There is, finally, in the words of The Council on Tall Buildings, the basic human desire "to build to the very limits of strength and knowledge...to achieve the limits of the achievable." This is the ultimate, eternal, and irresistible

challenge.

The catalyst and unifying force for all of these conflicting concerns has been the search for style. The enormous rational and romantic diversity of skyscraper design makes this increasingly clear. It has not been the race for height that architects have cared about nearly as much as finding suitable and memorable ways to enclose the structure that makes that height possible. In an article that appeared almost forty years ago in *The Architectural Forum*, the editors made the telling observation that the structural principles of the tall building, developed by the turn of the century, have remained essentially unchanged. That fact, they noted with acerbic disapproval, "throws into harsh relief the vacillations of the facades."

Ah, those vacillating facades, shivering in the hard, cold light of structural reason and editorial censure. But if we look at those vacillations without prejudice or prejudgment, they tell us more about architecture than many people really want to know, or the experts find acceptable. The variety of those facades gives the lie to ideologues, who like their style straight, conforming neatly to the party line. The variety makes pluralism a fact, not just a passing fancy. The facades separate the artists from the hacks, the radicals from the conservatives, and the poets from the hired guns. They show us that the history of the skyscraper, which is also the history of this century—and which is like so much of that history—is a search for identity.

In the end, however, a building is only as good as its resolution of the complex structural, social, and symbolic factors involved. Style is the result of the architect's most concentrated and comprehensive efforts to resolve those often irreconcilable factors in an expressive synthesis at the level of art. But he has never had an easy job or a clearly defined role in dealing with the tall building. The choice has been between two conflicting courses. He could either proclaim his power, and his right, to turn the engineer's and the economist's calculations into an art form that carries the special freight of responsiveness to people and the environment, or he could disclaim any power to do anything about these controlling factors at all.

Most architects have opted for the first course; those who simply settled for being the developer's drafting arm have

traditionally been scorned. But today attitudes toward skyscraper design are changing in a way that is profoundly disturbing. It has become fashionable for the architect to profess that he is unable to affect the basic building package. Many postmodernists prefer to consider the skyscraper just that—an enormous package that can be decorated for status, symbolism and style. This is done, as a rule, through a hierarchy of historical symbols, an elite checklist of esthetic references. Released from any other concerns about the behemoth he is designing, the architect plays to the press and his peers. He is free to be erudite, nostalgic, or droll, and, if he can carry it off, fashionably outrageous. The layman may not always recognize the source, but it is clear that the architect is a very clever fellow. Whether this attitude toward design is a breakthrough or an abdication is open to serious debate. But to say that the skyscraper is no more than a package of standardized space to be gift-wrapped to the architect's or the client's taste is to make architecture less than an art or a profession.

There are some who believe that the skyscraper has reached the end of the line; that it has become too large, too frivolous, too destructive of people or places. Although it remains the most stunning architectural challenge of our time, one can no longer escape or deny the fact that the newest towers, larger and more impressive and more over-reaching than ever, are just as stunning exercises in the violation of cities. One cannot turn one's back on the fact that the skyscraper is being so patently and flagrantly abused, and is so abusive of everything around it.

Cities like New York, synonymous with the big building, encourage their own exploitation. In recent years, New York has been aiding and abetting more massive construction than that which sparked the horrified reaction that led to the original zoning law of 1916. The revision of that law in 1960 led to unprecedented building size and encouraged the tall tower surrounded by open space, an ideal that had long been the modernists' dream. A series of innovative bonuses and special permits were devised for the provision of public features such as plazas and arcades. This kind of incentive zoning, which had many admirable urbanistic objectives, including the preservation of theaters and

neighborhoods, was skillfully manipulated by builders and their lawyers. Its subjective, permissive approach encouraged speculation, which led to inflated land values, which, in turn, required ever larger structures; this was followed by claims of economic hardship due to high land prices and requests for variances for still larger buildings. It was catch-22 at the highest exploitative level.

Recent downzoning in midtown Manhattan has been aimed at correcting the most obvious abuses, but even with the cutbacks the buildings still allowed are bigger than those permitted by earlier laws. And the revisions often rely on a clever shuffle of sun and shadow criteria using calculations so complex that only a computer can deal with them. In a kind of fast-building monte, or architectural shell game, being played from New York's East to West Sides, the offending densities are shifted from one part of town to another, while residential neighborhoods, still over-zoned, remain open season for developers. The destructive aspects of this kind of zoning have no computer calculations, only human ones.

Do the arguments of economic development justify this degree of overbuilding? Is there a line where economic destiny can no longer be distinguished from pure greed? Is the famous skyline enough? At what point do the urban and cultural assets that are the city's great draw lose out to a painful and abrasive environment? At what moment does the city cross that line where it ceases to be magnificent and becomes unsupportable? Can a city invite its own decline?

Finally, how much, if any of this, must the architect answer for? New York's bumper crop of new skyscrapers vie with each other in the uniqueness of their design, as well as their shattering scale. Other cities follow where New York leads in architectural excess. After many years of New York-watching, and many battles with developers dedicated to the lowest formula of commercial design, one must come to the reluctant conclusion that at this level of overbuilding and its attendant problems esthetics cancel out. Architecture simply doesn't count.

As an observer and critic devoted to the quality of art and life, I never thought that I would make that statement. It is particularly ironic to have to make it now, in view of the fact that these blockbusters are



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among the best of the breed ever built in New York. With pitifully few exceptions in the past, New York's skyscrapers have never reached for anything but money. Many of these new buildings are the work of architects of reputation. But to anyone who believes that functions of density and amenity are germane to the art of architecture—that what buildings do is as critical as how they look—these structures make architecture unimportant and even meaningless. And the effete stylistic debates about them make architecture ludicrous. To judge these buildings in esthetic terms is absurd.

In New York, the impact of these concentrated super-skyscrapers on street scale and sunlight, on the city's antiquated support systems, circulation, and infrastructure, on its already tenuous livability, overrides any esthetic. As bulk and density increase, avenues darken and close in; shadows lengthen and downdrafts multiply; winter sun becomes a fleeting penetration of cold canyons at midday, leaving neither warmth nor cheer. The city's oppressive impersonality increases, while services suffer and civility diminishes; amenities disappear or are traded off for questionable substitutes.

Architecture, in this context, is only a game architects play. Art becomes worthless in a city brutalized by over-development.

The last to know, or admit this, are the architects themselves. They are offering us a select-a-style skyline, as if that were the only thing that mattered. They keep company with city officials who see nothing but the beauties of the tax base and lawyers devoted to the esthetics of the legal loophole. Developers are congenitally incapable of thinking of anything except the art of maximized profit; it is only New York's boom-and-bust construction cycles that have traditionally kept them from destroying both the goose and the golden egg.

Meanwhile, the architects are having a wonderful time re-arranging the deck chairs on the *Titanic*. Some, of course, are building these behemoths, and others are composing panegyrics to the latest fashion in historical allusionism, as they previously composed them to the most recent technological innovation. Pick your rationale; it really doesn't matter for these cash-flow monuments.

The evidence is overwhelming in the rebuilding of Madison Avenue between Fiftieth and Sixtieth streets, where an appalling concentration of new super-skyscrapers makes pre-1916 Wall Street and post-World War II midtown look picturesque. It also makes the city's zoning look like a bad joke. This is exactly the kind of construction, with its deleterious side effects, that zoning was devised to prevent, and the realization of what the New York zoning has

wrought is the motivation for the recent midtown revisions.

Philip Johnson is right when he says that the controversial pediment-top of his AT&T Building between Fifty-fifth and Fifty-sixth streets is unimportant; what counts is the way the structure's enormous bulk and pretentious, overblown detail have finally shaped up as a heavy-handed assault on the avenue. This building cannot even be seen by the person on the street below it, short of his lying down in a hole bored in the base of a building across the way. Its block-long, crushing descent to the sidewalk is relentlessly brutal; not only does its size flout the urban and civic intent of restrictive zoning, but its siting fails utterly to provide the sight lines essential to a work of architecture. This fact is not redeemed by an imperial colonnade at ground level or by oversized oculi that make the understanding of the subtle and powerful uses of the void in a solid wall of Renaissance and classical masters all too clear by contrast. These are just big holes.

The necessary metamorphosis of borrowed, mannerist parts into a convincing whole never takes place; even at this scale the facade between pediment and arcade is dull and ordinary; the skyscraper thuds rather than soars. The postmodernist historical references add up to a kind of architectural malapropism at drop-dead scale. Now in all-too-solid stone and steel, the building has even lost its original, anti-modernist shock value. It has turned out to be ponderously pedestrian.

The IBM Building on the next block, between Fifty-sixth and Fifty-seventh streets, by Edward L. Barnes and Associates, is built to the same preposterous scale. But here the architect has attempted to accommodate the impossible and the undesirable with notable skill, something that gives Barnes the dubious distinction of at least trying to do the wrong thing right. IBM's taut, refined skin of granite and glass upstages AT&T like a suave fashion model next to a fussy dowager in a homemade dress. The extravagantly cantilevered corner that frees the sidewalk and the diagonal slice that reveals the sky and slims the building's huge bulk afford some *trompe l'oeil* relief from its overwhelming mass.

The difference in the two buildings—IBM is by far the better one—is the demonstrable way in which the design process gives meaning to idea and purpose. AT&T's ideas are as thin as its borrowed symbols are large; this super-pastiche relates to nothing except its own overbearing aspirations. Although IBM is plainer, it is richer in its concern with urban relationships and its immediate world; it sets up tensions and responses of far greater architectural inferences and

rewards. The choice of modernist or postmodernist vocabulary is quite beside the point; what matters is making architecture out of it, and whether architecture applies here at all.

One block west, Der Scutt has created the gigantic Trump Tower, a soaring, faceted form that destroys the scale and ambience of Fifth Avenue. This dubious achievement has already been demonstrated by Olympic Tower, one of the first structures to zap the avenue by taking advantage of the massive zoning packages that could be put together by an astute builder. Trump Tower might be an interesting design somewhere else; here it is totally out of place. Its destructive effect on Fifth Avenue's cool, limestone tradition is magnified by bronze mirror glass. Fifth Avenue's worldly elegance is beautifully epitomized by that earlier Fifth Avenue skyscraper complex, Rockefeller Center. Trump and his architect should have looked south.

What all of these oversized buildings in close proximity will contribute to density and gridlock is anyone's guess. But their damage to the city's comfort and character, their threat to its convenience, mobility, and existential pleasures, is already apparent. The zoning trade-off for so much increased bulk and height is the windswept plaza and the public passageway; some add to the city, some do not. These spaces occasionally ameliorate the disadvantages of high density, but they never justify it; they range from the highly debatable asset of a fancier building lobby, a few of which really offer pleasant places to sit, to generously landscaped street plazas. IBM's space-frame enclosure and planting could be the optimum example of the latter, but the tubing of the frame has turned out to be heavy and gross; the lacy delicacy suggested by earlier models and renderings is lacking in execution. And with AT&T looming across the street, the carefully chosen trees may never see the sun. The zoning "trade-offs" have become their own reward. The balance between the mandated amenity and sanctioned overbuilding operates with the kind of grotesque logic with which compromises of public purpose are lobbied through the urban political shoals.

Admittedly, the tall building works dramatically well for business and its satellite services; to deny this fact and its corollary, that the development of the skyscraper has logically served these characteristically twentieth-century needs, is to miss the real nature of our civilization and of the most conspicuous architecture of our time. The validity of the symbolism of the tall building for its age is intrinsic to its powerful

imagery. What is lacking is realistic understanding of, or even more important, a proper concern for the physical connections and limitations of a built environment on this scale. Architectural concentrations of such size require a proper municipal infrastructure and support services, including adequate transportation; they also need the kind of practical and conceptual planning that is every much out of fashion right now. And while today's tolerance of incremental change and variety is a desirable and necessary urban insight—modernism's blindness on this score is one of its most vulnerable points—the current trendy ad-hoc-ism is not enough. There is no benign contextualism in the development world; there is only aggressive and exploitative change.

As for the stylistic changes with which everyone is so intrigued today, Montgomery Schuyler's observation of 1899 is still valid. "It all depends," he wrote, "on whether the departure is a mere caprice of the designer, or an attempt to come closer to reason and reality." Today's architecture is moving dangerously close to mere caprice. But the design process is also becoming much more diverse and open, with all that that implies of creativity and abuse. Today there are equal opportunities for poetic license and architectural malpractice. With this new freedom, the possibilities for good and bad building are as spectacular as some of the new structures.

But the need for evaluation is also greater than ever; never has the role of the critic been more important. And never have Schuyler's "reason and reality" been in shorter supply. Significant architectural change, those real revolutions of perception and practice that are high points of human experience—and that are the real sources of style—are being subverted by a public and profession more addicted to publicity and novelty than to reason and reality. A lot of fashionable intellectual underbrush that needs clearing out is hopelessly confusing the rational priorities of a utilitarian structural art.

In the meantime, our old cities are savage and deteriorating, and our new cities are ignoring the lessons of the past and the needs of the future, even as familiar problems begin to sabotage their brief, utopian image. While this urban script is played out, the search for the ultimate skyscraper goes on. The fact that the focus and objective of the search are narrowing as the size and impact of these buildings increase to record new levels is a serious cause for unease—for cities and for architecture alike. At worst, overbuilding will make urban life unbearable. At best, we will go out in a blaze of style.

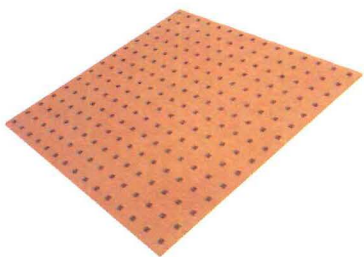


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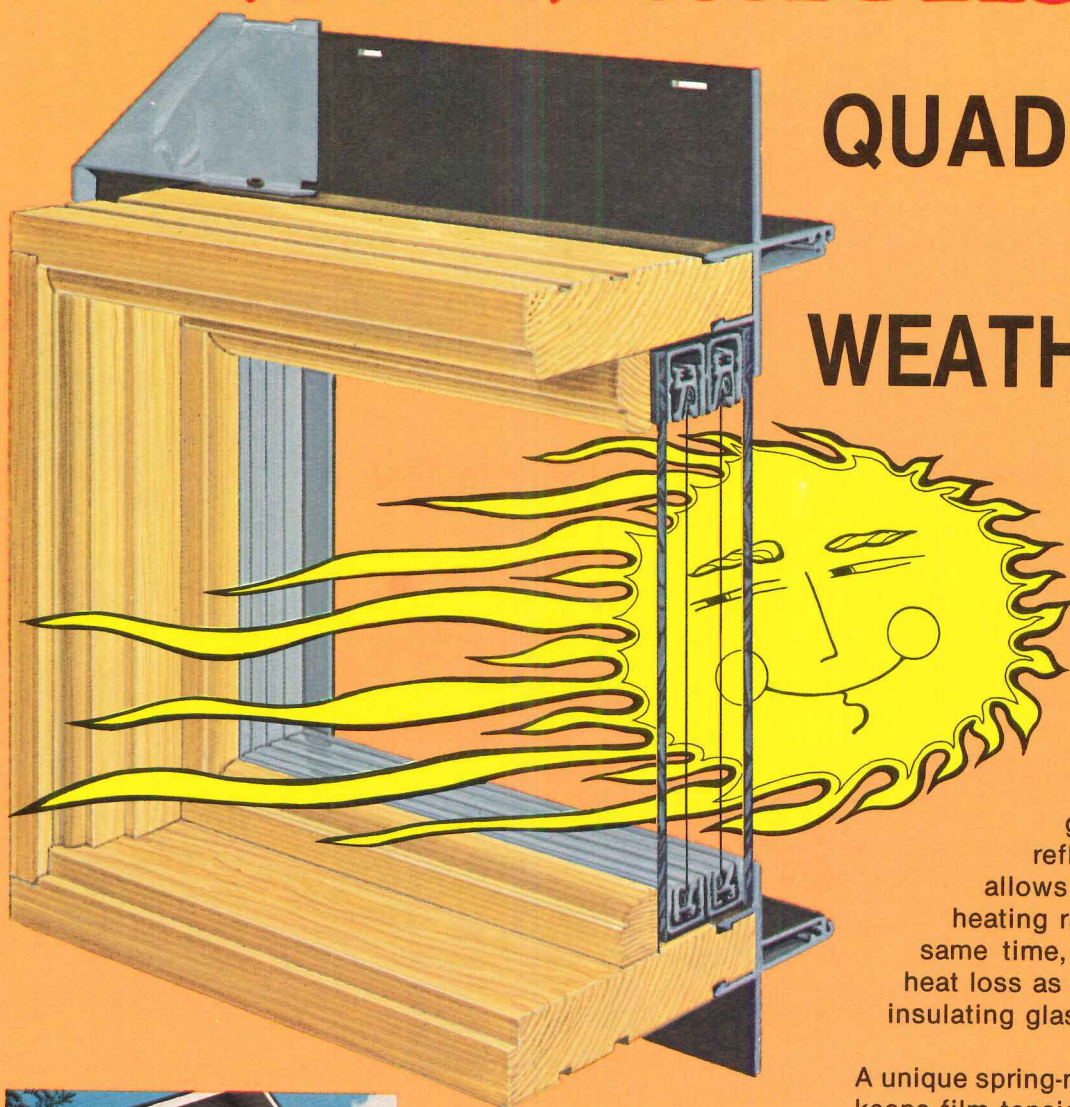
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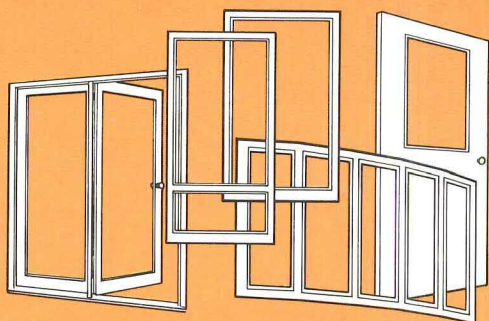
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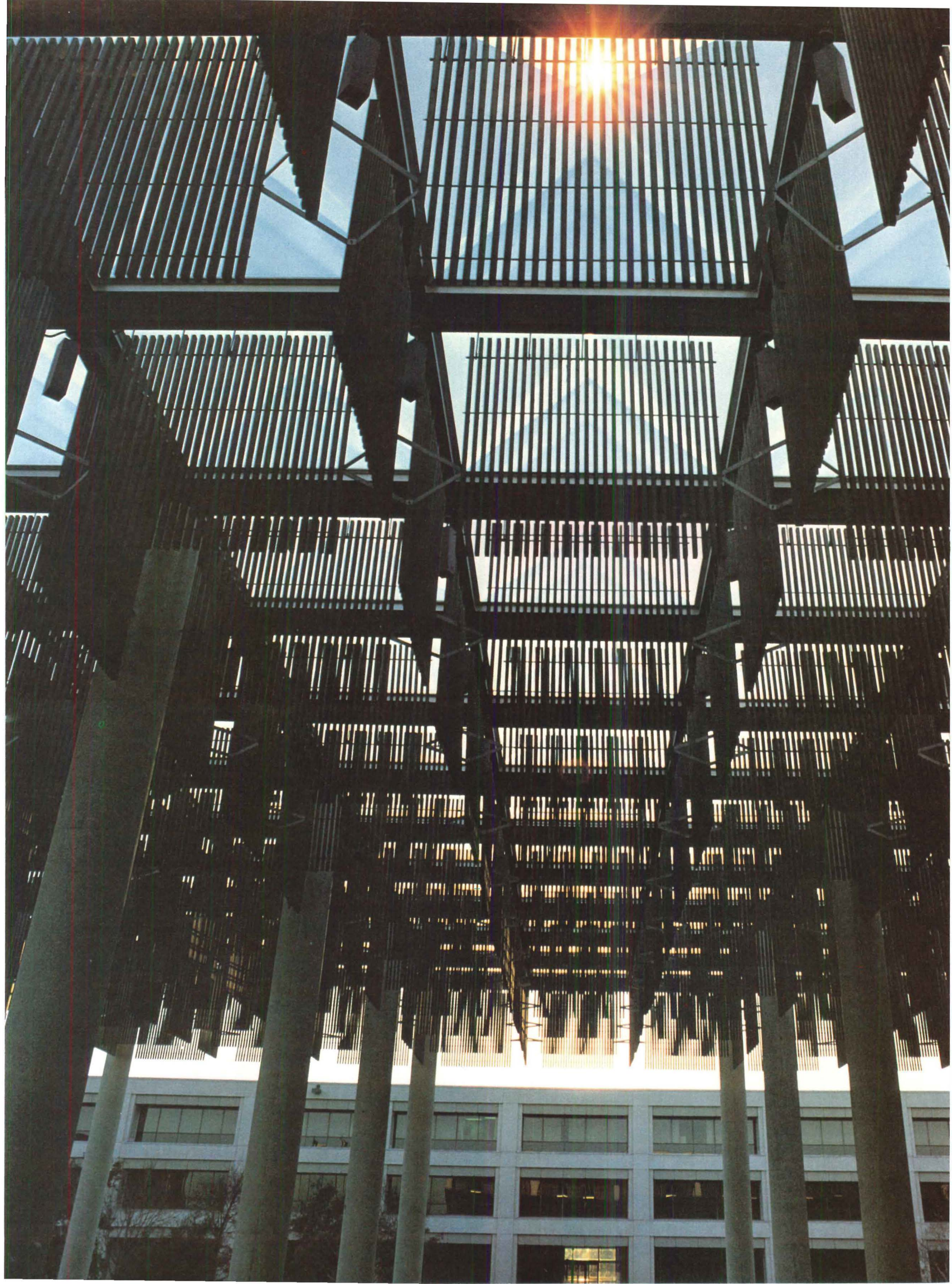
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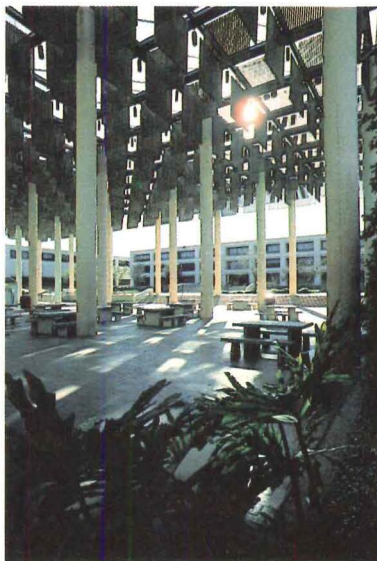
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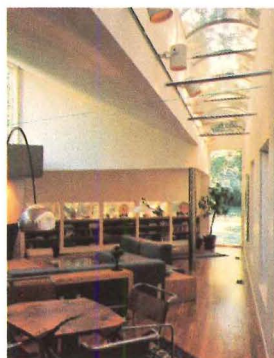


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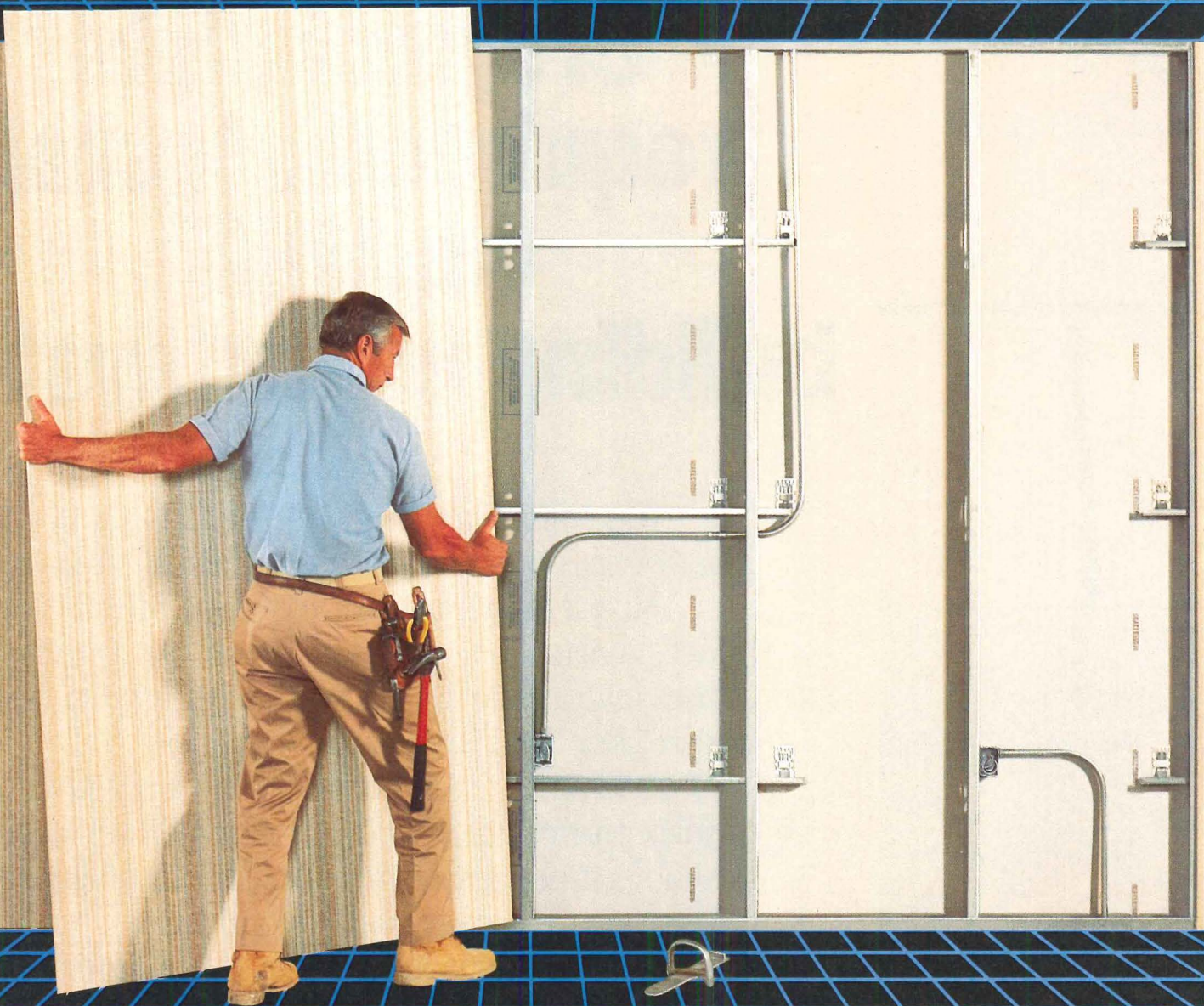
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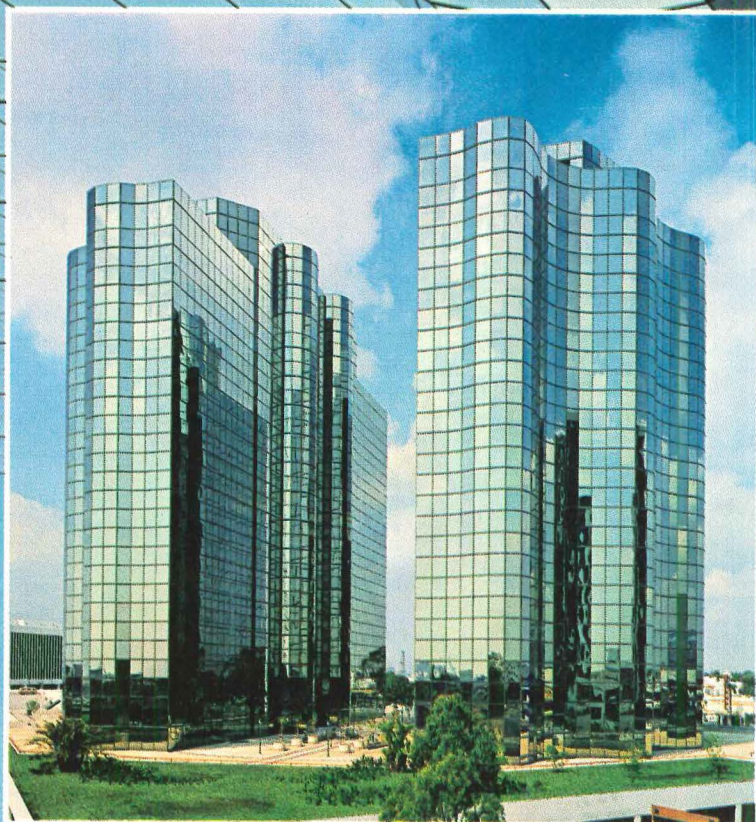
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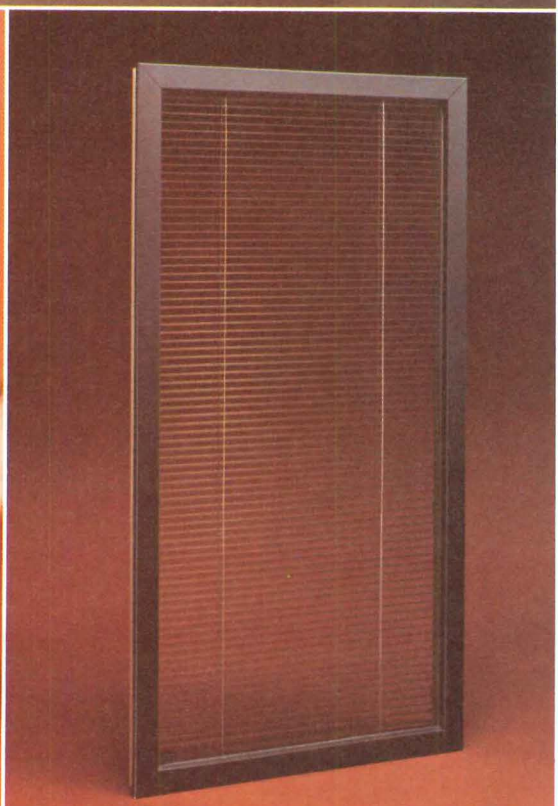
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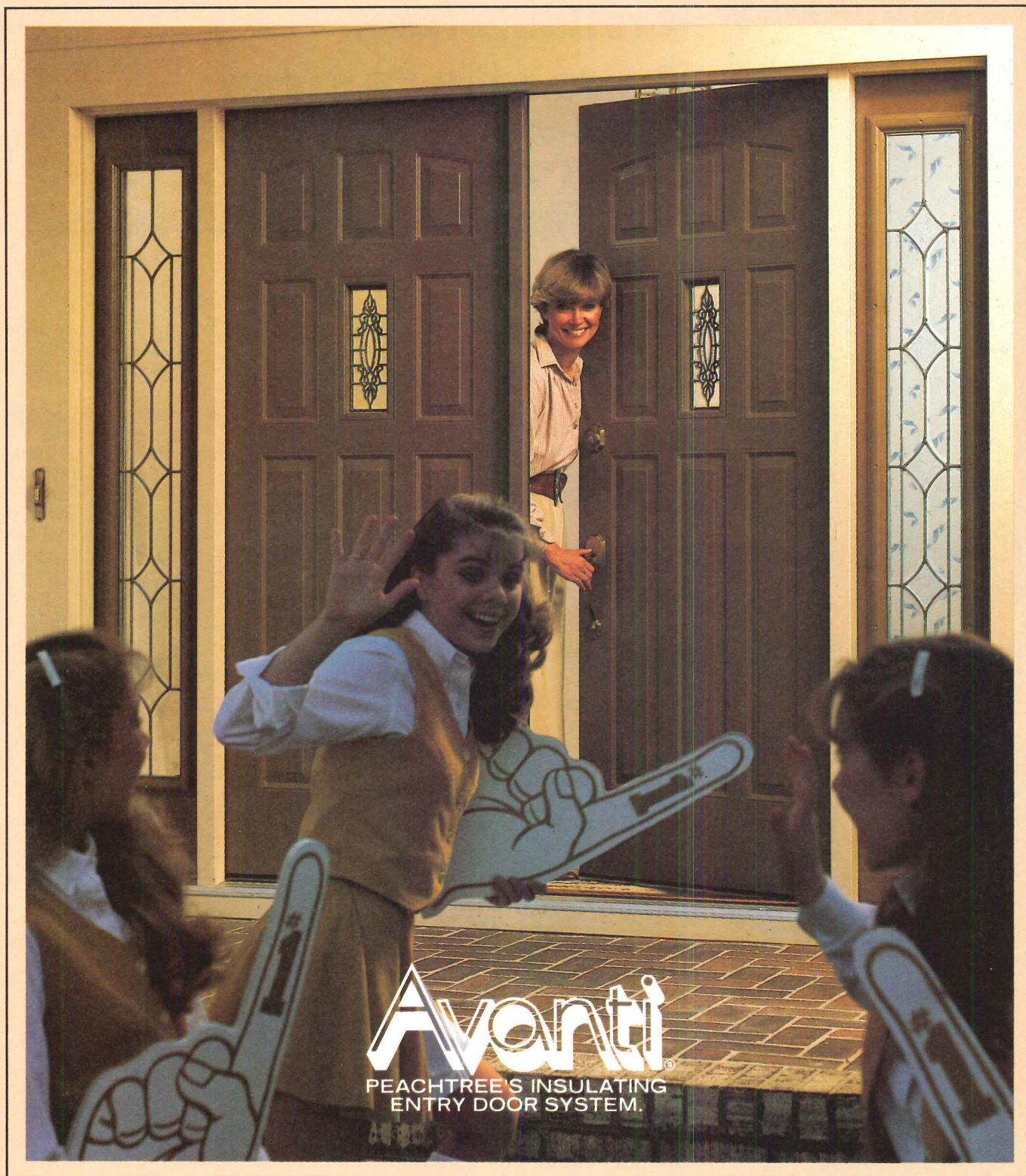


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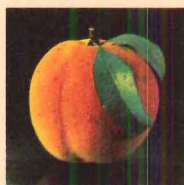
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# Profiting from the past

From city boutique to suburban mall, the Ghost of Christmas Just Past pursues us into the new year. What better time than this season of post-holiday sales, and bills come due, to reflect on the role of shopping in our lives. For many consumers, the selection of merchandise is a creative act, the only process through which they design their own environment, choosing the colors, textures, and shapes that surround them. Buying and selling are social exchanges, too, and it is no wonder that the shopping center has become the forum, the town common, and the Main Street of modern America.

From the architect's vantage point, design for retail use has never been more attractive. Once the uncoveted domain of a few specialists, dismissed as hacks by "serious" professionals, retail commissions are now eagerly sought by many. Financial incentives in an uncertain economy have no doubt affected this change of attitude, but so has the enthusiasm for applied ornament, stylistic diversity, interior design, and yes, fashion—perennial concerns of the shopkeeper—that marks the work of so many contemporary architects.

The architect's current preoccupation with context and history also meshes neatly with the retailer's growing interest in mixed-use projects and recycling. Merchants today not only see the romance and prestige of distinguished older buildings as valuable "image"—they also appreciate a solid commodity of proven worth, especially as eligible sites for development become ever more scarce in populous areas.

If there is a single common theme that connects the very different ventures included in this Building Types Study, it is the marketability of America's architectural "back stock." The incentives for the entrepreneurs behind our examples range from the obvious dollars and cents to the less readily quantifiable returns of urban renewal and landmark preservation. The public's gain is clear, for each of these projects has created a place where people like to gather—even if they're "just looking." *Douglas Brenner*



# Down to the sea in shops

South Street Seaport  
New York City

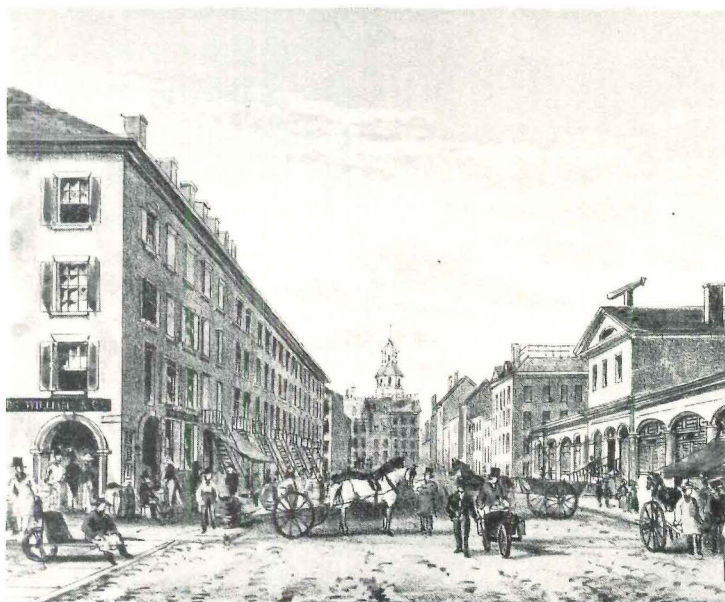
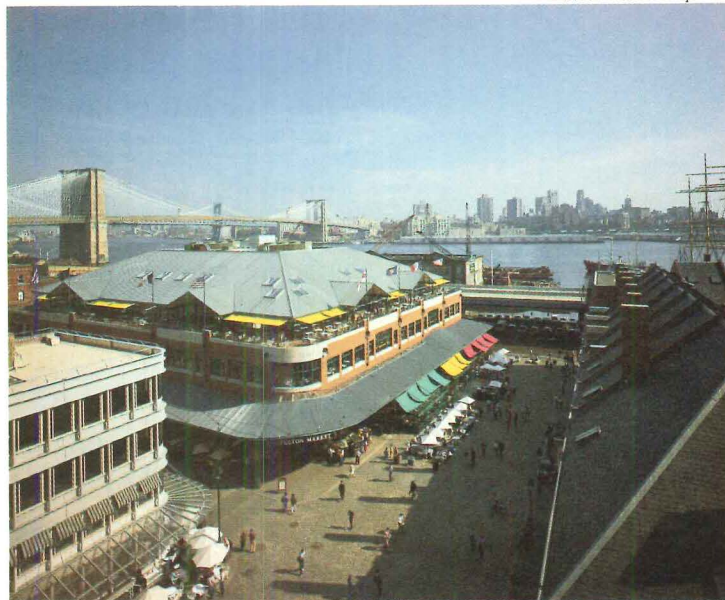
It is debatable whether one should include New York City's South Street Seaport in a collection of retail buildings, even though the \$351-million waterfront development inaugurated last summer includes over 111,000 square feet of shops and restaurants—with more on the boards. One could no less accurately categorize the entire 11-block enclave near the southern tip of Manhattan as an historic district, a mixed-use complex of museum, wholesale and retail trade, offices, and apartments—or even as the newest kind of urban park. In any case, buying and selling have been the lifeblood of the seaport since it rose from mud and land fill in the 18th century, and it is the realities of the marketplace that, in large part, have governed its fate ever since. Until the Civil War, the South Street harbor was the center of New York's flourishing maritime commerce. Merchants surveyed their empires from counting houses such as the row on Fulton Street built by Peter Schermerhorn in 1811 (at left in lithograph below; see pages 100-101), and tall ships lined the nearby wharves. Ferry service to Brooklyn started in 1814, and the first Fulton Market, a general emporium for provisions and drygoods, opened in 1822 (at right in lithograph). The port's prosperity began to wane in the 1860s as steamships replaced clippers, and trade shifted to deep-water piers on the Hudson River. The subsequent decline of South Street excluded this area from further large-scale development, preserving it as a rare assemblage of low-rise 18th- and 19th-century architecture in the shadow of downtown skyscrapers.

In the 1960s, a Lower Manhattan building boom threatened to engulf these precious relics, impelling the rescue campaign of a group called the Friends of South Street Seaport. Their foundation in 1967 of the nonprofit South Street Seaport Museum launched a major effort to acquire historic buildings and ships, and make their significance known to a wider public. Among the Museum's early achievements were official New York City landmark designation of the 11-block Historic District, inclusion of the Seaport on the National Register of Historic Places, and the assembly of one of this country's most extensive collections of old ships. Even with a membership that grew to 10,000, and the arrival of a

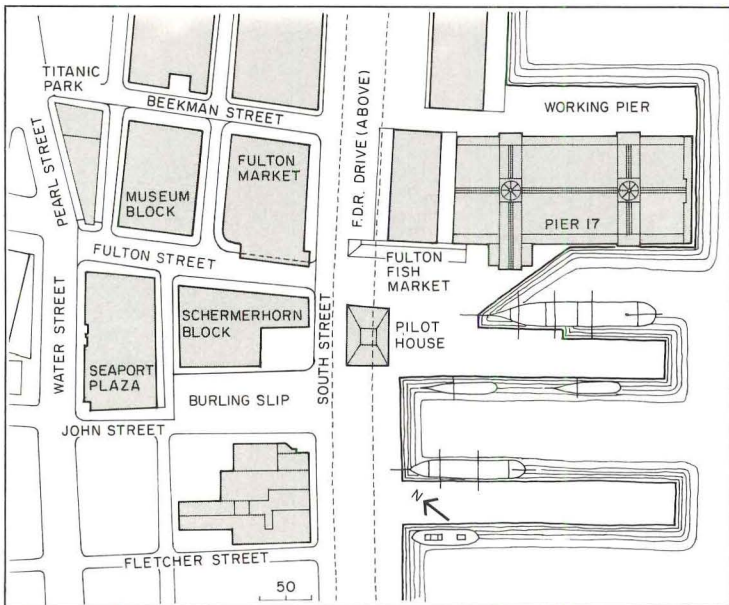
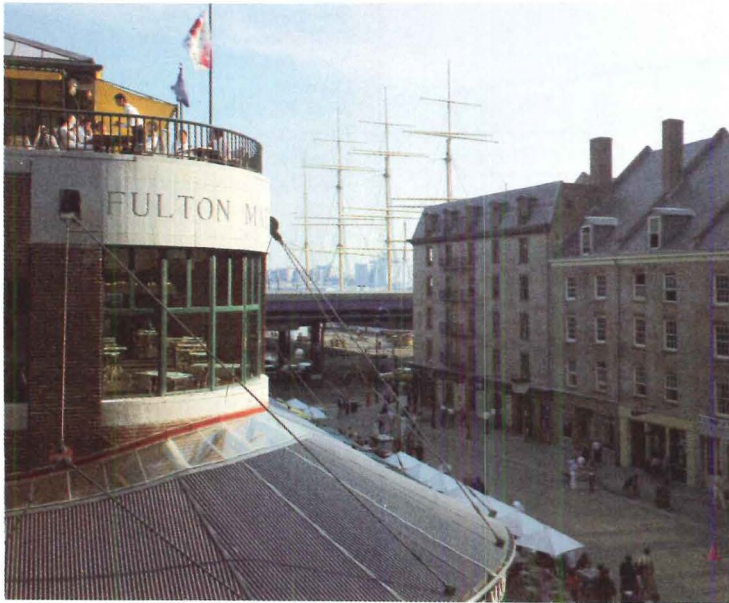
million visitors a year, it was apparent that major new funding sources were essential for continued survival of the Seaport, restoration of its properties, and expansion of its cultural programs. In 1976, the Museum asked The Rouse Company, the developers of Boston's Faneuil Hall Marketplace (RECORD, December 1977), to assess the feasibility of retail installations at the Seaport. A series of studies culminated in the 1980 Seaport Development Plan, prepared by the Museum and Rouse, with assistance from the City and State of New York. A year later, the project received a \$20.45 million UDAG for improvements to the historic district's infrastructure, rehabilitation of the Museum's buildings, and construction of a new pier platform. The New York City Board of Estimate subsequently approved a lease agreement between the City and the Museum and, in turn, a sublease between the Museum and The Rouse Company.

The Seaport master plan devised by Benjamin Thompson & Associates (also the architects of Faneuil Hall Marketplace and Harborplace, a later Rouse Company development in Baltimore; RECORD, October 1980) outlined an intricate patchwork of buildings, ownership, and uses. This densely woven fabric comprises the so-called Museum Block, a cluster of 18th- and 19th-century commercial buildings restored by Beyer Blinder Belle, Architects & Planners, and infill designed by the same firm (photo center right); the new Fulton Market (upper right), a retail complex designed by BTA; the wholesale Fulton Fish Market, built in 1907, and its fish stall annex, incorporated into the South Street side of the new Fulton Market; the State-owned Schermerhorn Row Block (opposite top), restored by Jan Hird Pokorny, Architects & Planners; adaptation of Piers 16 and 18 for outdoor Museum functions, and construction of Pier 17, now underway, for retail and restaurant use; and the 34-story Seaport Plaza, a privately owned office tower with two retail levels at its base. Converted to a pedestrian thoroughfare, Fulton Street serves as the primary circulation spine, linking South Street to the neighboring business district, and joining the Seaport's landward components to the waterfront beyond an elevated expressway. Pier 17 and the ships

©Steve Rosenthal photos







moored nearby are year-round magnets drawing visitors down to the strand. (Still under review is a proposed pilot house under the expressway which would also animate the water's edge.) A later phase of improvements, to be developed and operated by the Museum, would restore another group of old commercial buildings to the northeast of Beekman Street. This development would combine retail, restaurant, office, and museum functions.

An undertaking of this scope, with such complicated boundaries of jurisdiction, and such diverse physical components, inevitably provokes controversy. New Yorkers with a sentimental bent, who had treasured the unrestored Seaport like a dusty trunk in the family attic, have been saddened to find ramshackle buildings done up with fresh paint, scrubbed brick, and Laura Ashley prints (even if the fish market aroma is intact). Schermerhorn Row has been the main focus for this disappointment. For example, critics have accused the restoration architects of sandblasting the patina off old brick. In fact, Jan Pokorny and his team washed the facades with water. Much of the "newness" of the masonry comes from repointing required by project engineers. Critics also take Pokorny to task for homogenizing a picturesquely varied aggregate of individual structures (photos overleaf). This censure ignores the fact that the architect was engaged to restore the historic character of a group of buildings designed as a single composition. Convinced that the salient architectural aspect of the Row was the formal coherence of the block-long hip-roofed Federal-style terrace, Pokorny initially proposed removing a mansard-roofed story added to the South Street corner building in 1868, as well as a 1930s flat-roofed attic on Fulton Street, and restoring arched doorways, shutters, and even exterior wooden stairs, in order to return the block to its original appearance. Pokorny's client insisted, however, that the mansard and other later 19th-century alterations represented an important phase in the development of the Seaport and must be preserved. Hence, it was decided that the entire group of buildings should be restored to their post-Civil War condition, which meant that Greek Revival and Victorian storefronts that had obliterated ground-floor Federal archways would also be

retained (somewhat arbitrarily, the 1930s addition was deemed unworthy, on historic and esthetic grounds). Pokorny has nevertheless succeeded in part of his scheme, having won permission to restore a badly altered building on the South Street side of the block to its early 19th-century form.

No less problematic than the restoration of Schermerhorn Row was the design of infill buildings. All parties involved in the Seaport project agreed that these addenda, while compatible in scale and materials to existing structures, should not be "Williamsburg" reproductions of antique prototypes. "This isn't a stage set," says Christopher J. Lowery, president of the Museum. "We deliberately didn't put a bubble around this place or hide it in a marble columned temple. It's a thriving part of New York City."

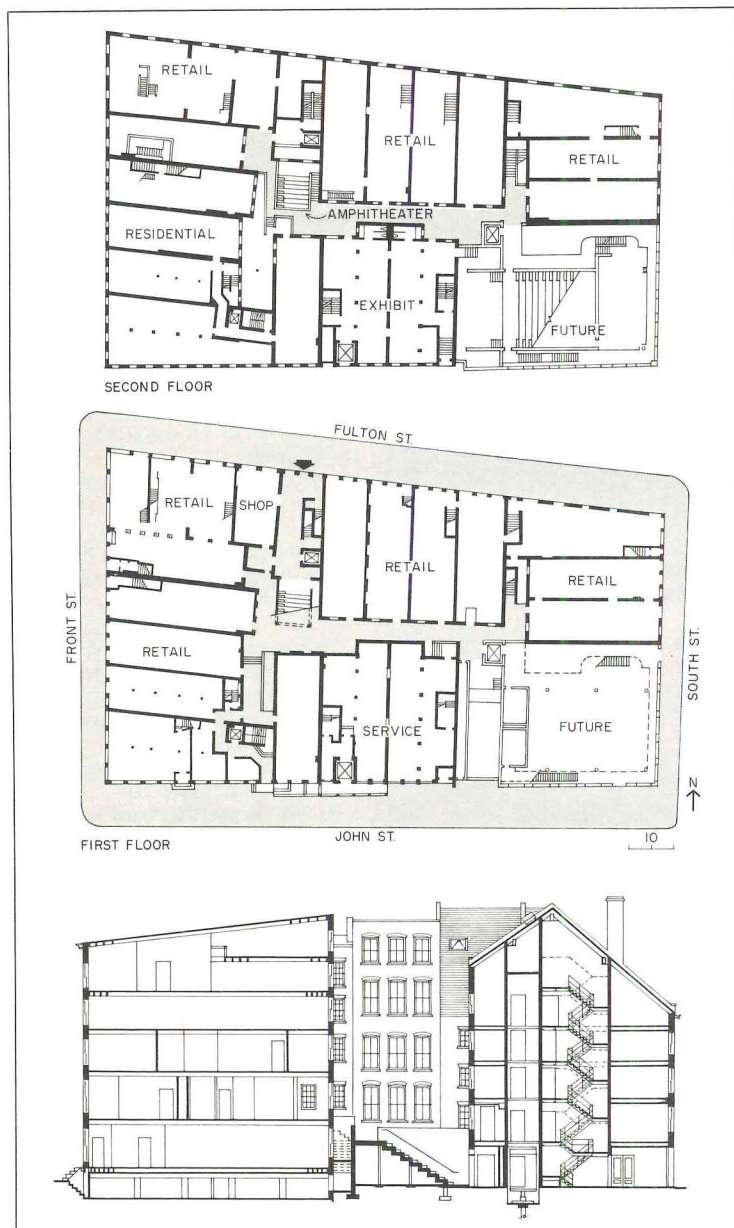
Even though the Seaport master plan has closed off Fulton Street and several cross streets to vehicles, the new stone-paved precinct creates the rare (for Manhattan) amenities of a lively pedestrian plaza overlooked by restaurants and cafes, and direct access to the waterfront. Schermerhorn Row, the Museum Block, and Fulton Market frame what is in effect no longer a street, but a public square, at once imposing and hospitable. (It is particularly unfortunate that one gatepost to this agreeable piazza should be the 34-story granite-clad shaft of Seaport Plaza which, despite perfunctory gestures towards contextualism at its base, seems to enforce a division between the waterfront and the rest of Manhattan.) Some visitors complain that only the towering masts of the vessels docked at South Street keep the Museum from disappearing amidst the profusion of retail merchandise and food. To some extent, this is exactly what the Museum hoped for, since it has striven to bring back the hustle and bustle of commerce that pervaded the old port and its markets. South Street Seaport is intentionally not the sort of museum whose collection can be confined to galleries. Christopher Lowery observes, "Museum development hasn't kept pace with retail—but we anticipated this, and it is only a temporary condition. We decided when we set out that the preservation of the *place* should build a foundation for the museum's growth. Once all of our own projected facilities are in place, the retail element will simply enhance its historic context."



Schermerhorn Row Block  
 South Street Seaport  
 New York City  
 Jan Hird Pokorny, Architects & Planners

Providing 32,000 square feet of retail space was one of the simplest tasks Jan Pokorny faced in his restoration of Schermerhorn Row and the other buildings that make up the block south of Fulton Street. From the outset of Pokorny's involvement in the \$5.8-million project nine years ago, when his firm was hired to reconstruct and stabilize only the facades of the block, this undertaking posed a formidable technical challenge—beyond the thorny methodological issues discussed on page 99. Work began with an exhaustive graphic survey and inventory of existing conditions, recording the many changes wrought by subsidence of 18th-century land fill, structural failure, and successive architectural alterations. Seven test borings investigated the underpinnings of the Row, a stone-and-log substructure on plank spread footings. Happily, submersion in salt water had “pickled” the timbers, preserving them in sound condition. Handmade water-struck bricks, brownstone trim, and roof slates were assessed for replacement. Chemical analysis of old mortar revealed that 19th-century masons had used a lime compound that gave remarkably well during settling. Pokorny's team then located brickyards and quarries that could supply similar materials for reconstruction (the surrogates for now unobtainable brownstone were English sandstone and cast stone). Facades were washed gently with water and repointed (Pokorny affirms that exposure to city air will soon put back their patina). Inside the Row, the architects found ancient floor joists, attic framing, and even scraps of wallpaper. Hoist wheels, for hauling goods to storage lofts, still survived in several garrets.

Given the later 19th century as the historic moment to which the block was to be restored, Pokorny and his staff used photogrammetry to trace detailed elevations. Since few Victorian storefronts survived, the architects resorted in many cases to “modern referential” installations that echo the proportions of period models without imitating specific ornamental details. Behind the reconstituted facades is a complex interlocking of functions: museum, shops, restaurants, a pub, offices, and housing for residents whose tenancy predated construction. The vacant southeast corner of the block has been designated as the site for a major museum facility.



Schermerhorn Row Block  
 South Street Seaport  
 New York City

**Owner:**  
 New York State Office of Parks and Recreation

**Client:**  
 New York State Urban Development Corporation

**Architects:**  
 Jan Hird Pokorny, Architects & Planners—Jan Hird Pokorny, principal-in-charge; Robert Motzkin, project director; Bjorg Bastiansen, Susan Chin, Bernard Doyle, Dale Frens, William Foulks, David Barabas, project team

**Associated architects:**  
 Cabrera/Barricklo (storefront contract documents)

**Engineers:**  
 Spiegel & Zamecnik, Inc. (structural); John L. Altieri, P.E. (mechanical/electrical)

**Consultant:**  
 The Nielsen-Wurster Group, Inc. (cost estimate)

**Construction manager:**  
 E.W. Howell Company







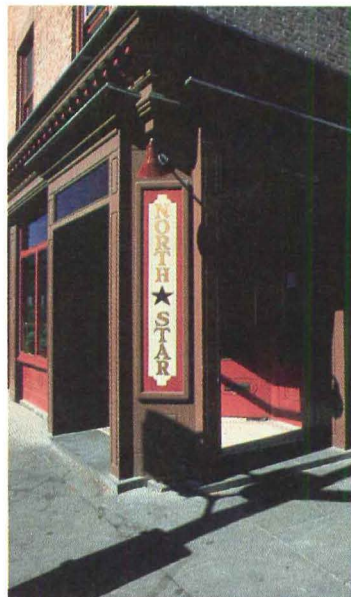
The "before" view of Schermerhorn Row (left) shows the accretions and losses that transfigured the classical symmetry of the 12-building Federal terrace. As shown in the lithograph on page 98, the facades originally had arched doors at ground level that vanished as storefronts were remodeled. Jan Pokorny's team discovered a fragment of one 1811 arch, which they "completed" in bronze (photo

bottom left). Another find was a piece of early 19th-century wooden gutter, with wrought-iron brackets still in place. Missing chimneys that had blown down were rebuilt with high-tensile mortar (facsimiles of old tie rods were put back between the stacks). The same caliber of painstaking research and resourcefulness distinguished Pokorny's approach to the rest of the block, which includes buildings

of various styles (e.g. the Front Street elevation, opposite). Utilities were introduced through a rear courtyard under a paved deck and amphitheater. For the museum infill project at the southeast corner of the block, Pokorny has proposed a modern structure whose massing would approximate that of counting houses similar to Schermerhorn Row that formerly graced this site.



Robert Motzkin photos





Museum Block  
 South Street Seaport  
 New York City  
 Beyer Blinder Belle,  
 Architects & Planners

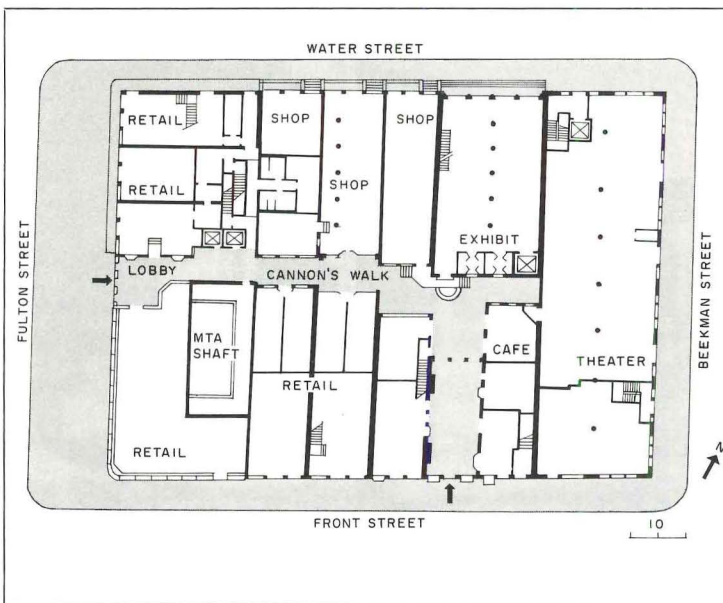
The exhibition on view in the Seaport Gallery at 213-215 Water Street is called "The Secrets of South Street." It is a title that might well be applied to the Museum Block, which contains several of the Seaport's most intriguing architectural puzzles. As an artifact, the block encompasses a varied assortment of specimens, the oldest of which is 207 Front Street (partially visible at right in photo opposite top left), a shop and residence built in 1797 that now houses part of the Museum offices. The block also includes Greek Revival storefronts (207-211 Water Street, now a museum store and printing shop), fish dealers' lofts turned into a multimedia theater, an 1868 warehouse with limestone carved to resemble cast iron ornament (213-215 Water Street) and, no less curious, a 1983 steel-frame structure designed by Beyer Blinder Belle that mimics Victorian ironwork in its own way (photo above right; see pages 114-117).

Beyer Blinder Belle's role in the Museum Block began with a contract to restore the exteriors of the 13-building cluster and subsequently expanded to include the design and construction of infill to mask a subway ventilation shaft on the then vacant corner of Fulton and Front streets. Besides covering exterior restoration, a \$4-million grant from the Federal Economic Development Administration allowed for basic rehabilitation to prepare interiors for improvement by the Museum and tenants. In later phases of the project, the architects received commissions from The Rouse Company for retail spaces, and from the Museum, for its own shops and offices.

Serendipity supplied the premise for Beyer Blinder Belle's most original contributions to the complex: the Bogardus Building and Cannon's Walk, a crooked alleyway of shops (photos opposite). The architects carved this meandering court out of a jumble of sheds and back yards, but rather than tidying up the resulting passage, they glorified what John Beyer calls its "leftover quality." The leavings are not only a picturesque hodgepodge of materials, unmatched windows, and crazed wall surfaces, but the fortuitous traces of new construction work, too. Here one can savor the gritty charm of the found object and the romance of exploration that has always lured the adventurous to waterfront byways.



Paul Warchol photos



Museum Block  
 South Street Seaport  
 New York City

**Owners:**

South Street Seaport Museum, lessee from the City of New York

**Architects:**

Beyer Blinder Belle, Architects & Planners— John H. Beyer, partner-in-charge; James Marston Fitch, director of historic preservation; John H. Stubbs, project director, restoration; Thomas P. McGinty, project director, Cannon's Walk; Pat Mulberry, director, museum shops; Robert T. Bayley, construction manager, museum shops; Peter Dewitt, project designer

**Engineers:**

George Langer, P.E. (mechanical/electrical); Stanley H. Goldstein, P.E. (structural)

**Consultants:**

Robert E. Meadows (1977 facade restoration); Howard Brandston (lighting); Sussman & Prejza (graphics and signage)

**General contractors:**

Gramercy Contractors, Inc.

**Canopy:**

Tishman Construction Corporation of New York

Gianni's, the restaurant that occupies two levels of the Bogardus Building, at the corner of Fulton and Front streets, offers northern Italian food and an excellent view of the passing scene. Visitors in search of more thrilling spectacle can walk north on Front Street to the Trans-Lux Seaport Theater (design of which was not included in Beyer Blinder Belle's contract). Housed in the former Inter-City Fish Building, the theater regularly presents "South Street Venture," a multimedia extravaganza that recreates sights and sounds of the seafaring past. "If you didn't lose your life on board," says the advertisement, "you might lose your soul in port." Now, it is one's money that is most imperiled, in cozy shop interiors such as the Museum-run Edmund M. Blunt Book & Chart Store (above), designed by Beyer Blinder Belle.

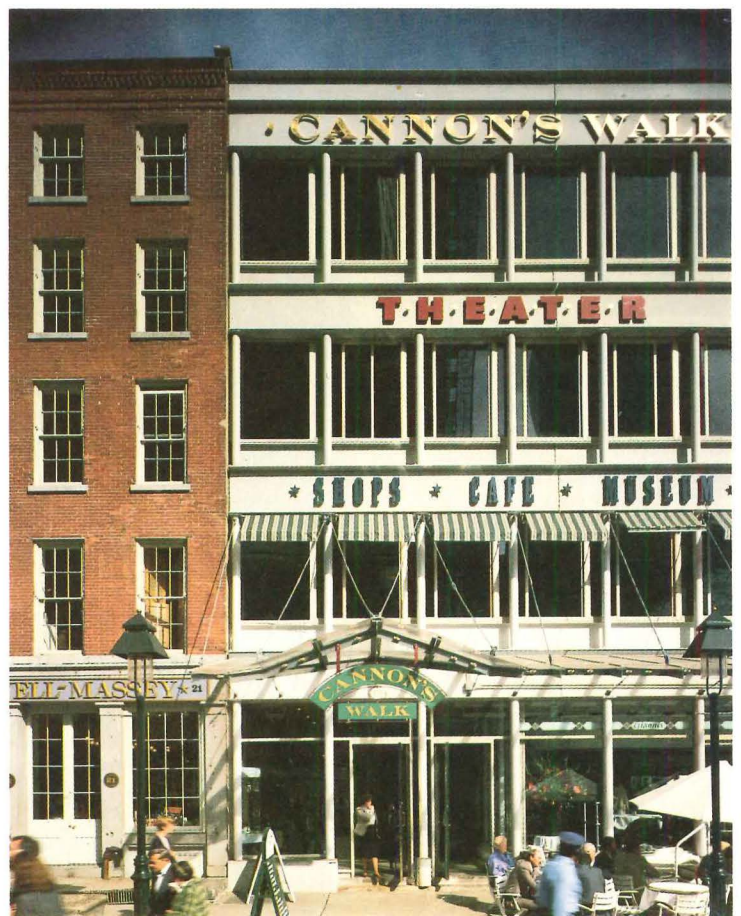
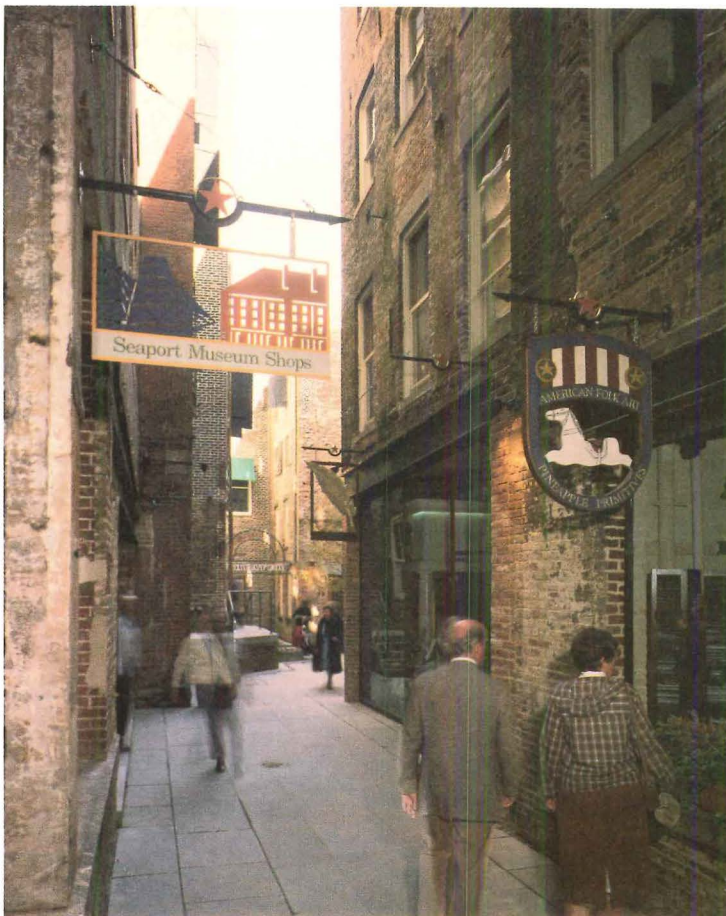
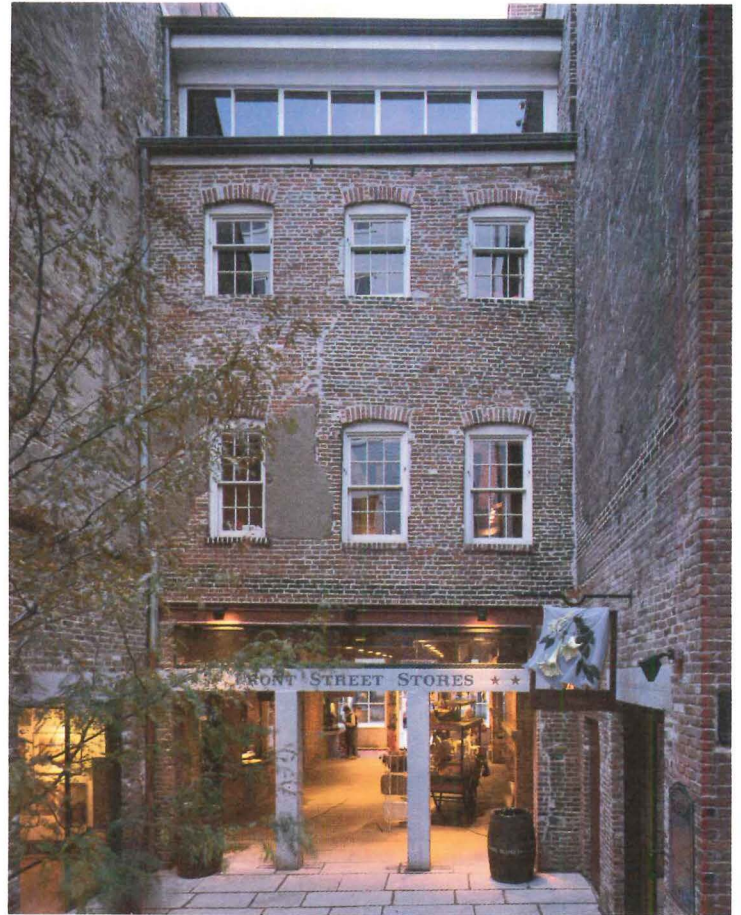
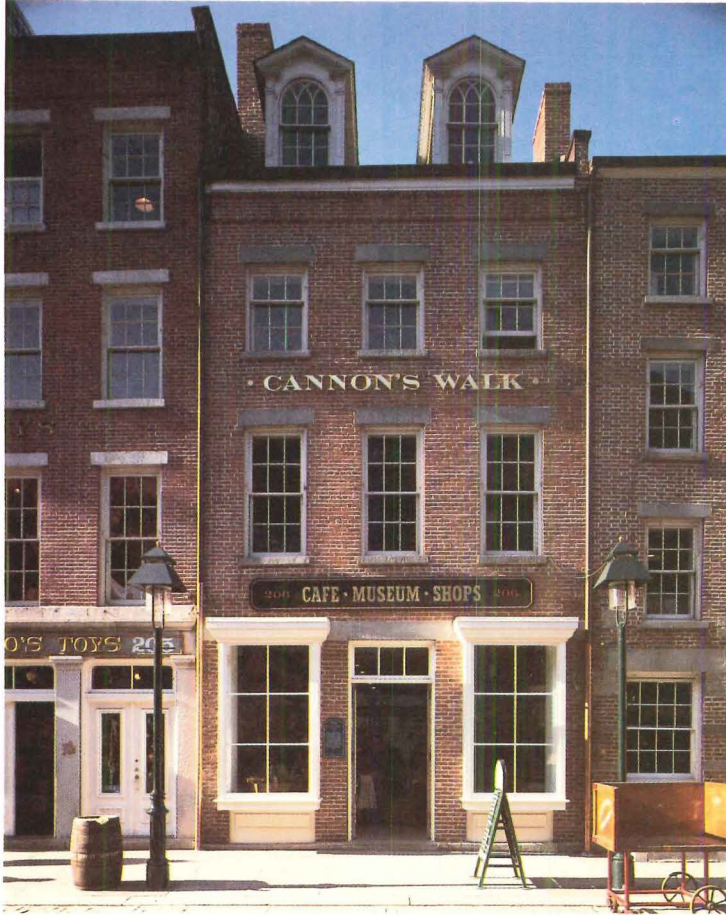


The Museum Block comprises some 100,000 square feet, 40,000 of which are devoted to museum exhibit space and administrative offices, storage of the collection, a library, and a curatorial laboratory. Over 20,000 square feet are given over to commercial use, with approximately 35,000 square feet for office rental. A diverse set of givens called for an imaginative approach to reuse—and

complicated the problems of infill. Design of the Bogardus Building confronted Beyer Blinder Belle with knotty questions of historical and esthetic appropriateness. The creation of Cannon's Walk began as selective demolition of one-story rear sheds. In several instances it was necessary to rebuild walls, leading to discoveries such as a bowstring arch of cast iron and steel at the rear of 205 Front Street.

Workmen were cautioned against chipping off the crusty patina of old cement. Where cement had to be cut away to replace rotting windows, the architects installed new sash without paring over the ragged edges around them. In order to minimize the intrusion of storefronts, display windows are butt-glazed, with reglets of black saw-cut steel set into the surrounding masonry.

Conventional retailing would argue against having shops open off an alley entered through relatively inconspicuous doorways. Nevertheless, on weekend afternoons, the narrow stone-flagged space is as crowded as the aisles in Bloomingdale's uptown.



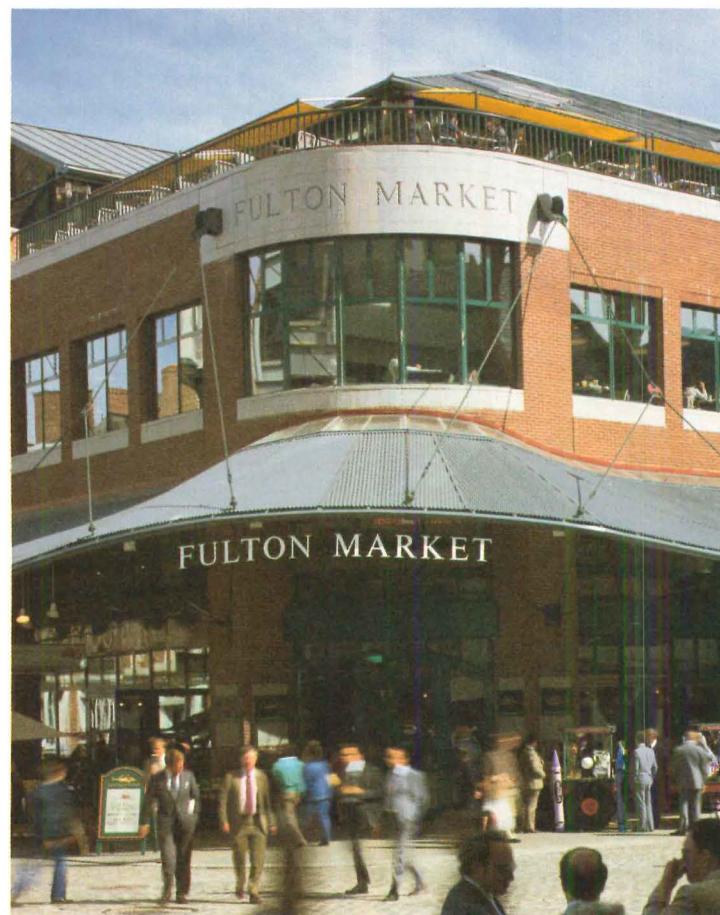


Benjamin Thompson & Associates compiled copious graphic records of the previous Fulton Market halls—the neoclassical pavilion of 1822 (see page 98) and its eclectic Victorian successor, built in 1883 and demolished in 1951 (engraving opposite)—and there are fond reminiscences of both structures in the \$15.8 million market they designed. In no way, however, is the project an antiquarian reconstruction. The architects sought instead to build what Ben and Jane Thompson call “a hard-working, shirtsleeves sort of place,” an active center in the ongoing life of the city that coexists comfortably with the legacy of its past. Design was complicated by all too present obstacles: rigid height and FAR limits, obligatory landmarks commission review, treacherous site conditions, and the need to build over and around existing wholesale fish stalls along South Street (see section; plan overleaf).

Appropriately, the structure that satisfies these demands also obeys a centuries-old formula for market buildings: an open public hall with adaptable shed extensions (“Mother hen architecture,” Jane Thompson calls it). A cable-hung corrugated metal canopy does more than relate the new building to tradition. Along with set-back dormers and mullioned windows, the canopy minimizes the apparent height and mass of the 60,000-square-foot brick and granite structure, an important consideration in the low-rise historic district. The canopy also masks the blank sides of the fish stalls, offers shelter to pedestrians, gives the building a strong presence on all four facades, and curves upward to announce the principal corner entrance.

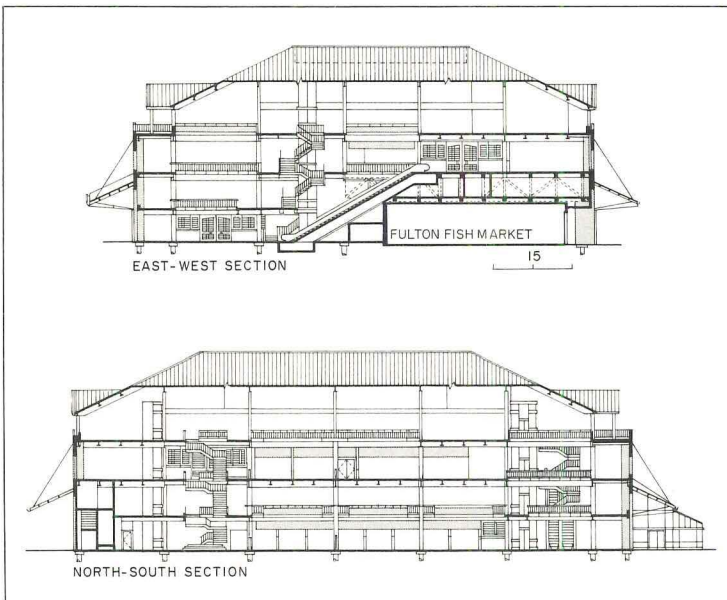
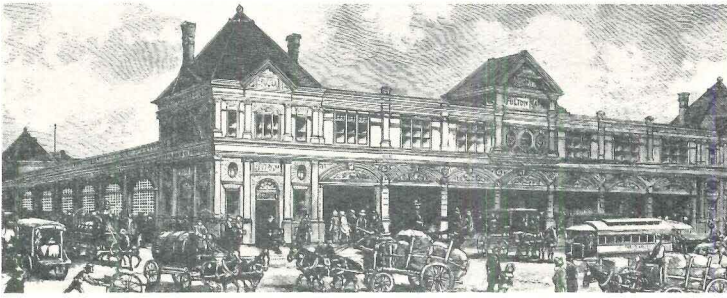
Broad expanses of glass on the first two stories give passers-by a glimpse of the teeming vitality within. Upon entering the ground-floor market hall, the visitor also becomes aware of attractions on the upper level through vistas afforded by open light wells and stairways. The shedlike interior (overleaf) forms a backdrop for the sensual appeal of goods and food, and the drama played out by vendors, shoppers, and diners. Architect Laurin B. Askew, Jr., director of design for The Rouse Company, aptly characterizes Fulton Market as “a comfortable and forgiving building, not precious or fussy, capable of graciously coping with frailties of human behavior or the occasional speck on the floor.”

©Steve Rosenthal photos



Besides being a generic element of market design, the corrugated steel canopy realizes the architects' vision of a “building in the round” that reaches out to the street. A glass strip inset where canopy meets wall allows daylight to reach mezzanine windows, and night lighting to wash up the facade. The exaggerated dimensions of the continuous cable-hung roof (14 1/2 feet wide, it projects 15 feet from the wall), the oversize granite-framed windows above it, and the dormered roof help to create the impression of a two-story building keyed to the almost domestic scale of its neighbors on Fulton and Front streets. Brightly colored awnings extend from the canopy as though they were later additions to a building that grew over time.





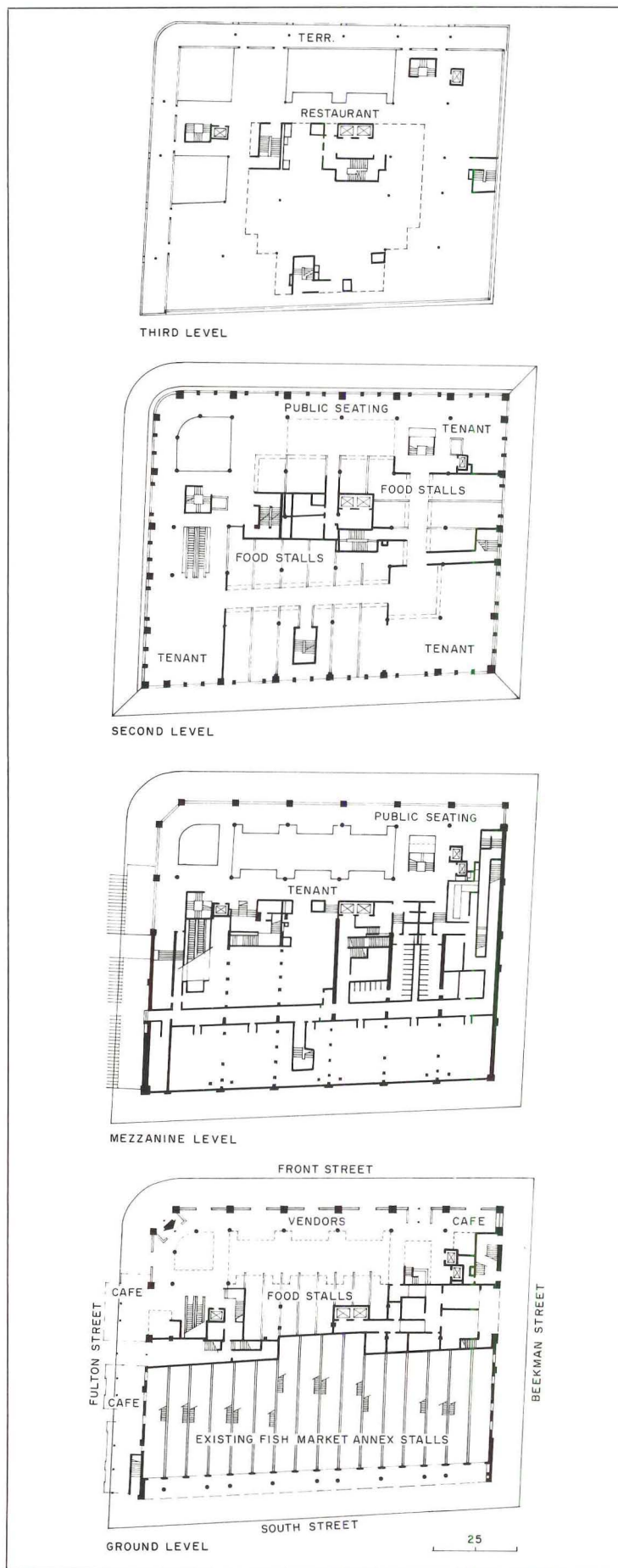
Site work accounted for over \$2 million of the building cost. As at the Bogardus Building site, aqueous land fill, subway tunnels, and the threat of vibrations to fragile historic relics made it necessary to bore foundation piles. Above ground, erection of the steel-frame superstructure was complicated by the need to build around a fish market annex (plans overleaf) without interrupting daily trade. Since no columns could penetrate the annex, the architects spanned it with 100-foot transfer trusses. The resulting building section raised the second floor 25 feet off the ground, enabling the insertion of a mezzanine. Exterior massing was partially determined by 40-foot cornice and 85-foot building height limits, but the silhouette and articulation of the 1983 Fulton Market also derive from the High

Victorian edifice that opened here a century earlier (engraving above). Benjamin Thompson & Associates consciously emulated the 19th-century practice of designing commercial buildings as prominent civic landmarks. This regard for enrichment of the public domain extended to the quality of adjacent streets, which was specified in B.T.A.'s Seaport master plan. As designed by the architects, these pedestrian ways are laid with salvaged Belgian blocks, and bordered by granite-paved crosswalks and bluestone sidewalks.



The interior responds to the client's desire for a "working environment" that is also festive in spirit. To that end Benjamin Thompson & Associates produced shedlike spaces with the studied utilitarianism of exposed steel beams, columns, and decks (requiring a "creative" approach to fire code compliance). Low tiled partitions and a suspended ceiling grid hung with domed lamps compose an orderly yet flexible framework for the contrasting signs, displays, and task lighting of individual tenants. Installations are reviewed against detailed design criteria established by B.T.A. As on the exterior, interior materials honor generic precedent: glazed ceramic tile, painted beaded boards, water-struck brick. Pier 17 (rendering below), another major component of B.T.A.'s work at South Street, is now rising on the waterfront. Modeled on Victorian recreation piers, the steel and glass structure will enclose 125,000 square feet of space. Specialty shops and restaurants will adjoin viewing decks on the East River.

Carlos Diniz rendering



Fulton Market  
South Street Seaport  
New York City

**Owners:**

Seaport Marketplace Inc., an affiliate of The Rouse Company (Development team: James F. Dausch, development director; John R. Kranz, Jr., senior project manager; Laurin B. Askew, Jr., director of design; C. Lawrence Whitman, senior design manager; Hugh A. Boyd, design manager) and the South Street Seaport Museum

**Architects:**

Benjamin Thompson & Associates— Benjamin and Jane Thompson, principals-in-charge; Bruno D'Agostino and Philip Loheed, associates-in-charge; John Shank, project architect; Chuck Izzo, Daphne Petrie, Peter Miner, Tom Quirk, Joan Reilly, project team

**Associated architects:**

The Eggers Group P.C.

**Engineers:**

Severud-Perrone-Szegezdy-Sturm (structural); Flack + Kurtz (mechanical/electrical)

**Consultants:**

Clark & Rapuano (streetscape); Wheel/Gerstoff & Associates (street lighting); James E. Gui (specifications); Schirmer Engineering Corporation (fire protection)

**General contractor:**

Tishman Construction Corporation of New York







# Main Street Revival

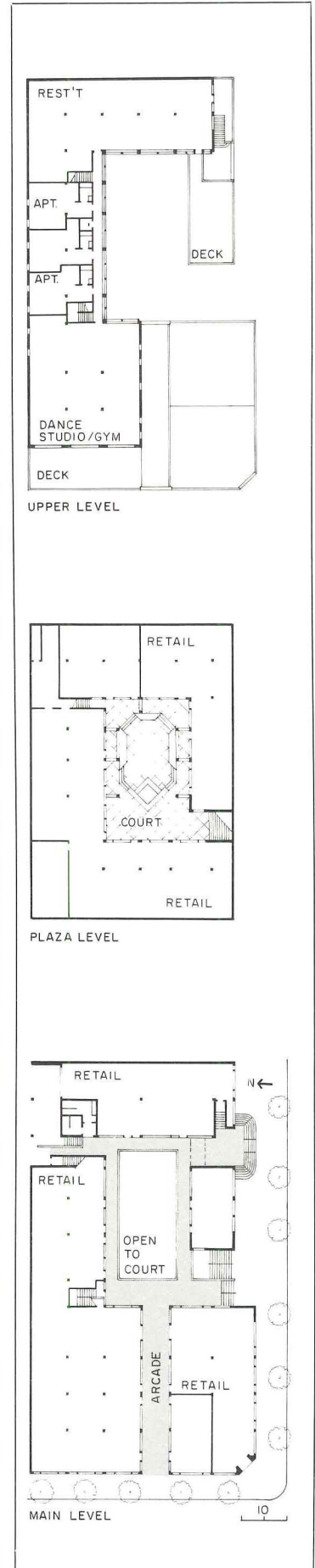
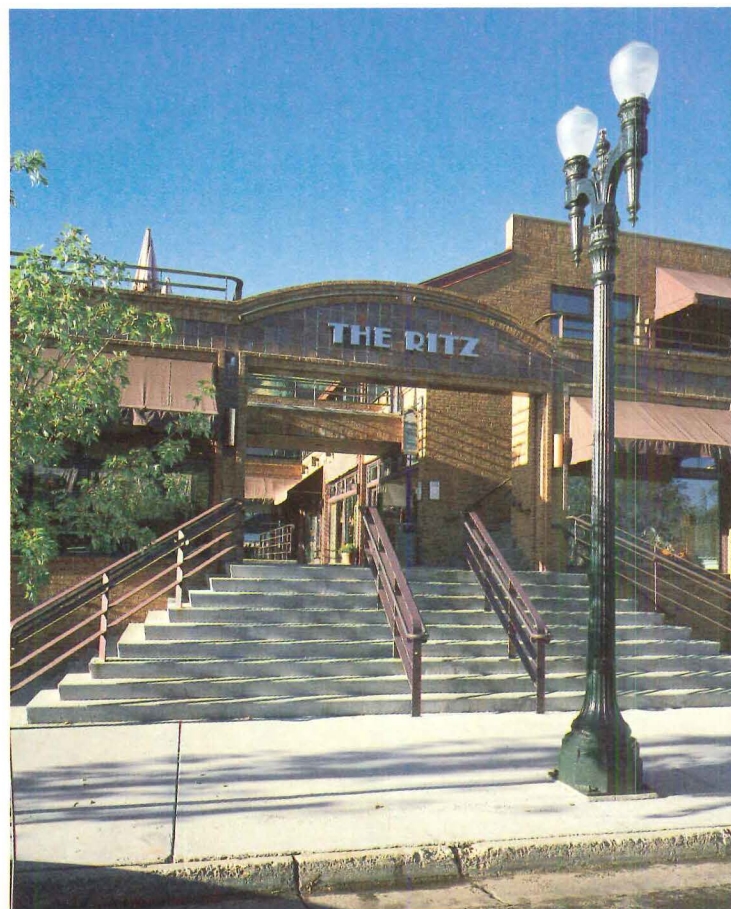
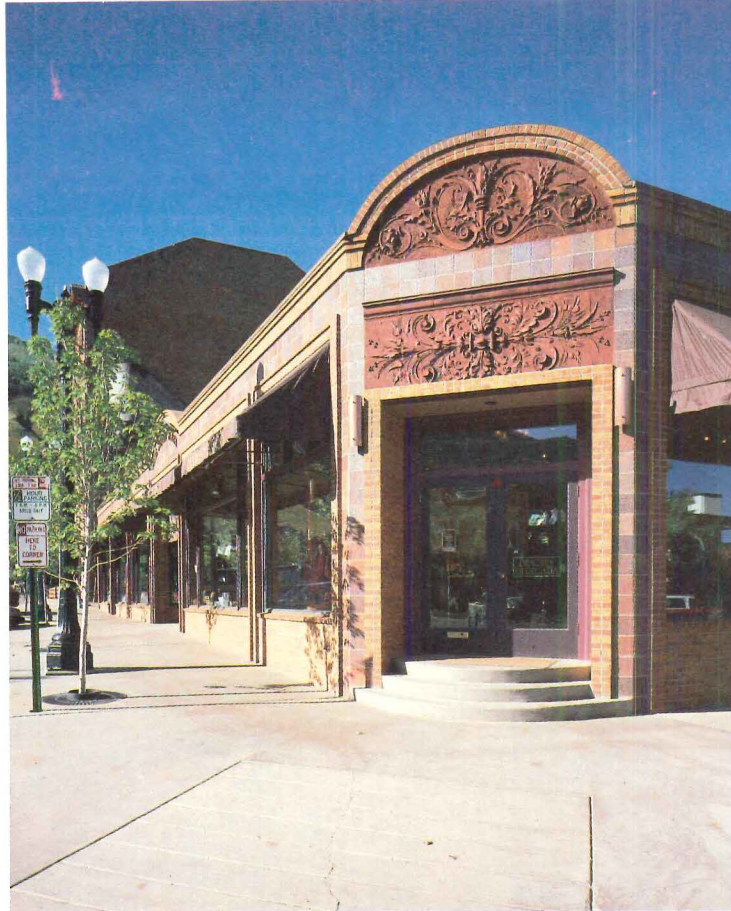
Mill Street Plaza  
Aspen, Colorado  
Hagman Yaw Architects, Ltd.

When skiing was still a novelty in the United States, shopkeepers in American mountain resorts lent romance to their wares with the borrowed local color of cuckoo clocks, dirndls, and half-timbered chalets. There is still plenty of gingerbread below the slopes in Aspen, Colorado, but the appeal of ersatz Tyrolean decor has staled of late as retailers have warmed to the more indigenous fare of mining camp or hunting lodge Victoriana. Though often no more than an appliqué of geegaws, this vogue reflects the genuine interest in vernacular architecture that has inspired the preservation of Aspen's still considerable 19th century heritage, and spurred the recent designation of a downtown historic district. The first new building to be erected within this district is Mill Street Plaza, a shopping complex whose corner site (formerly a lumber yard) adjoins the 1890 Wheeler Opera House (far left in large photo opposite). Now that this Richardsonian Romanesque landmark is being restored as a performance hall, it is especially important that the shops next door be worthy neighbors.

In any event, the budget of \$54 per square foot prohibited an archaeological approach to neo-Victorian detail. Hagman Yaw Architects aimed instead at a kinship of scale and materials between past and present, keeping their 28,000-square-foot building low and installing windows with the proportions of old storefronts. The chamfered corner shop entrance repeats a common element on Aspen's turn-of-the-century commercial blocks, while cornices, window frames, banding, and polychrome brick also evoke early models. The only genuine antique elements are two terra-cotta reliefs purchased from an Omaha wrecker that were installed above the corner door.

Hagman Yaw's plan respects the client's desire for a large number of small shops, none farther than 40 feet from the sidewalk. "Finger malls" converging on a bi-level courtyard not only ensure adequate display exposure for retailers, but entice the shopper to wander through in quest of discoveries. A fountain in the central patio also acts as a lure for passers-by. Windows trimmed in green and plum frame an array of staples for mountain living: hand-knit sweaters, books on fly fishing and the Old West, and panels of Victorian stained glass.

David Marlow photos







During the summer, the courtyard (left) is an occasional band shell for musicians from the Aspen Music School. Overlooking the plaza from the upper level are employee apartments required by local zoning, a dance studio and gym, and The Ritz, a restaurant. Around the perimeter of the building, awnings afford sun and snow protection and help to enliven flat facades.

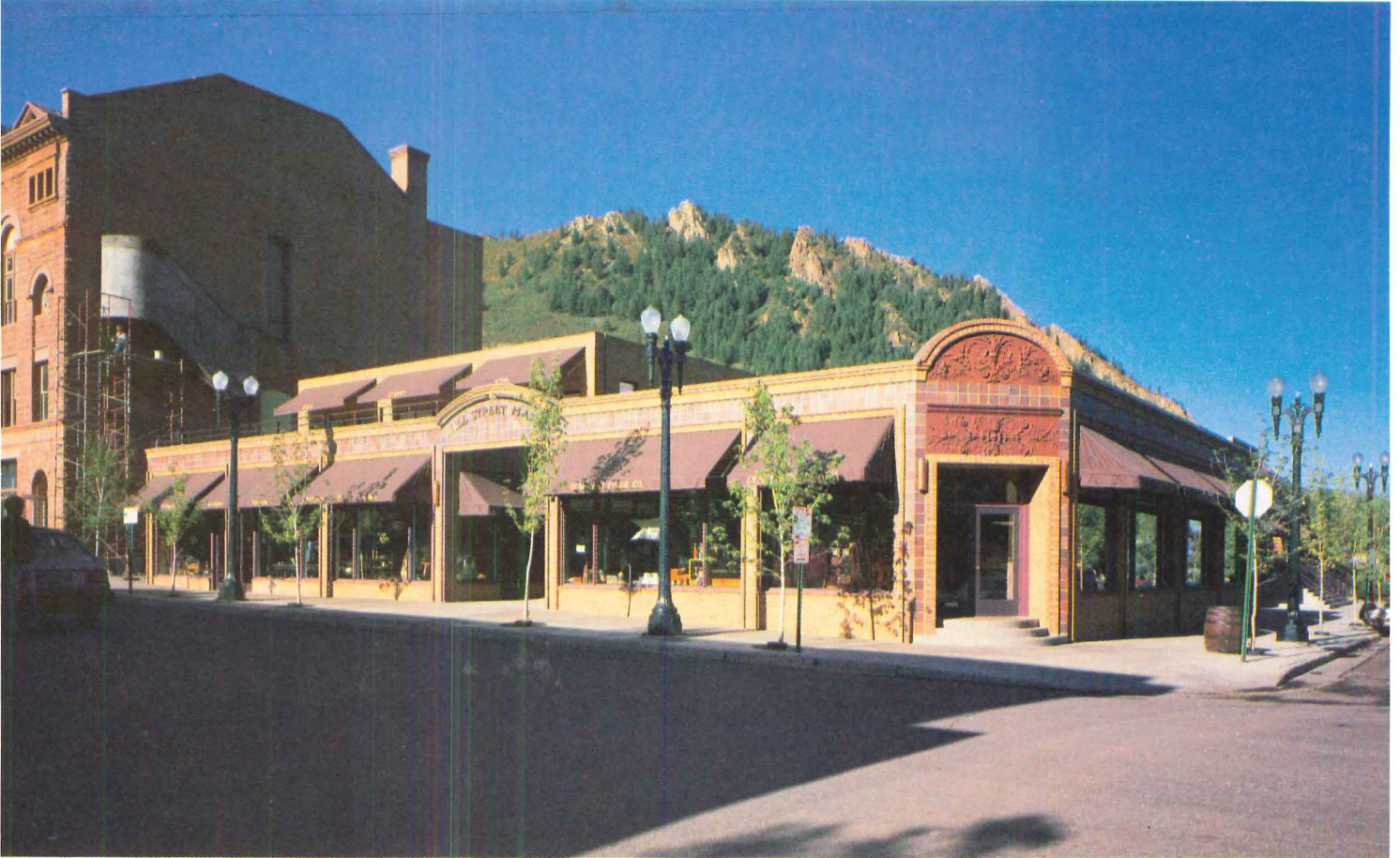
*Mill Street Plaza*  
Aspen, Colorado

**Owners:**  
Frank Woods and Tony Mazza

**Architects:**  
Hagman Yaw Architects, Ltd.—Tim Hagman, principal-in-charge;  
Michael Thompson and John Cottle, design team

**Engineers:**  
Anderson & Hastings (structural);  
McFall-Konkel & Kimball

(mechanical); The Engineering Partnership (electrical)  
**General contractor:**  
Hunter Construction Corporation





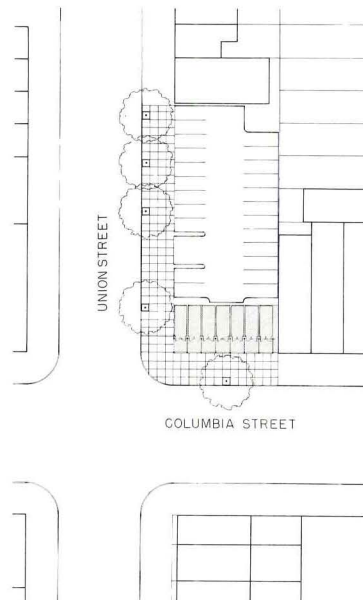
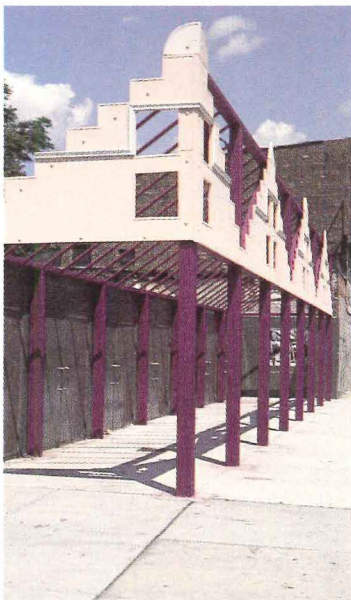
# Pushcart agora

Columbia Union Market  
Brooklyn, New York  
Lee Weintraub, R.L.A., Architect

"Win your pot of gold today," reads a placard in the window of Joseph Tomo's candy store, where stevedores and housewives line up to buy New York State Lottery tickets. Tomo, who has lived and worked in the Red Hook section of Brooklyn for over half a century, shrugs when asked about the odds of hitting the jackpot. As president of the neighborhood chamber of commerce, he prefers to talk about his hopes for new market sheds and pushcarts on the next block, the products of a joint venture by New York City's Office of Neighborhood Economic Development and Department of Housing Preservation and Development. The project is a key phase in a broad renewal scheme that also includes units of three-family housing now under construction.

Until well into the 1950s, this was a tough but vigorous ethnic community, with a busy cluster of shops and sidewalk hucksters centered on Columbia and Union streets. Rapid deterioration followed the digging of an expressway cut that isolated the area geographically and caused widespread structural failure. Blasting for sewer construction in the '70s only hastened the abandonment of buildings and arson. In the hope of stemming further erosion of the commercial core, Joe Tomo approached the Brooklyn Chamber of Commerce and Planning Board, who assisted him in gaining an ear at City Hall. Everyone liked the idea of bringing pushcarts back to Columbia Street as an inexpensive way to start up business. Aside from the carts (custom-built in New Jersey from a model made by Tomo) the basic program component was storage space, so that vendors could avoid daily trips to wholesale markets. Architect Lee Weintraub's solution is ingeniously simple: a series of fiberglass shipping containers from the nearby docks, turned on their sides and fitted with aluminum-laminated plywood doors, afford durable shelter for carts and refrigerated storage. An aluminum skin, painted on site, and a stepped-gable trellis present distinctive facades to the street.

The project cost \$145,000, with most of the budget allocated for site clearance and parking lot construction. Dormant this winter, the market is expected to reopen next spring, although it will really start to serve its purpose only next summer when the new housing opens.





Nearly every building along Columbia and Union streets was cracked by tremors from highway excavation and blasting for sewer lines. Many of the stores and houses now propped up with 12-by-12s will be salvaged as part of a New York City community renewal program. It is still possible to buy fresh ricotta, mozzarella, and scungilli here, but the present group of merchants is only a fraction of

what once existed. It is hoped that inexpensive pushcart produce will also draw business to local shops. According to present plans, the entire market operation will be leased to a single broker, who will rent carts and stalls to individual vendors. As business grows, the market can expand by extending the row of containers and trellises (a linear system that architect Lee Weintraub compares to the agora of

ancient Greece). The fiberglass storage containers tilt forward slightly for easy cleaning with a hose. The market's architectural character depends on the simplest means: a cut-out gable that turns the corner, applied moldings, color, and a photomural at the end of the portico showing the block as it was in the 1940s (opposite bottom; detail this page).

Eliot Fine photos



*Columbia Union Market  
Brooklyn, New York*

**Architect:**

*Lee Weintraub, R.L.A.—Barbara Wolfe, Herb Siegel, Charles Reiss, Nicolas Mascia, Ellen Bensen, design team*

**Associated architect:**

*Charles Pumilia, R.A.*

**Engineers:**

*Whitcher & Canton (structural); Charles Falco (electrical)*

**General contractor:**

*Van-Tulco Incorporated*



# New light on an old subject

The Mall at 163rd Street and  
The Atrium Building  
Miami, Florida  
Charles Kober Associates, Architects

It was location and demographics, not a New Wave taste for 1950s design, that led Equity Properties & Development Company to buy Miami's Mall at 163rd Street three years ago. Built in 1956, the mall was still a typical retail center of postwar vintage (small photo this page): two parallel rows of one-story shops flanking an open-air pedestrian strip, with department stores lined up along one side of the mall and at either end. The population of the surrounding neighborhood had increased 37 per cent during the 1970s, yet during the same decade the mall had deteriorated physically and merchants lost customers to newer enclosed climate-controlled shopping complexes. By the time Equity Properties engaged Charles Kober Associates to draw up plans for remodeling, one of the major department stores at 163rd Street, Richards, stood vacant. A drastic overhaul was needed, but Kober's options were limited: a tight budget, the presence of underground delivery tunnels, and the owner's reluctance to displace any tenants precluded massive shifts of structural loads.

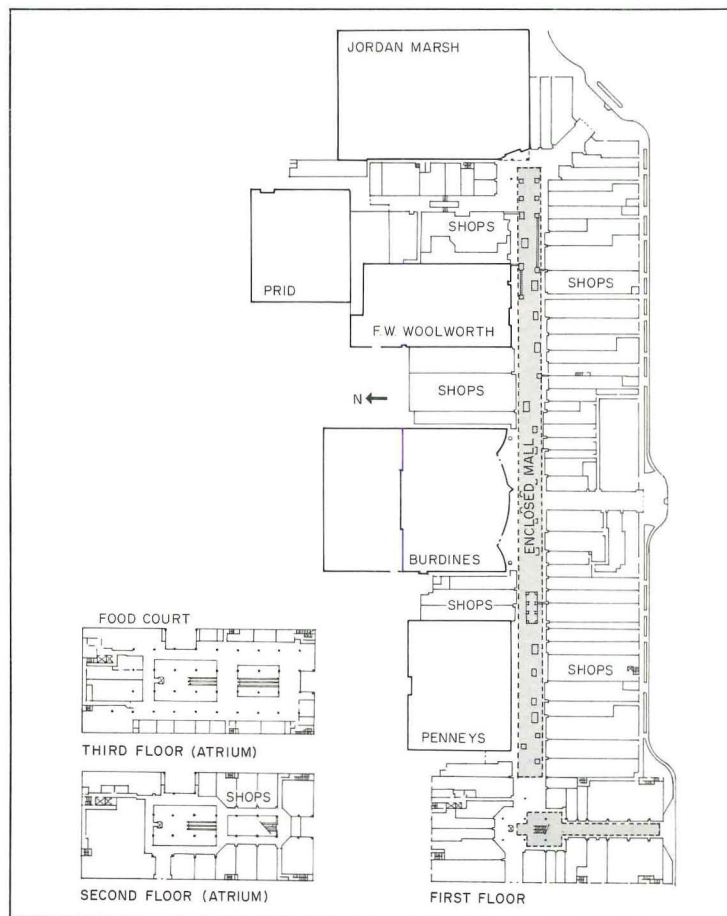
What Equity now calls "The Miracle on 163rd Street" began with one bold stroke. By covering the mall's 60-foot-wide center strip with a tensile fabric roof, Kober Associates transformed it into an up-to-date Galleria. The canopy of *Teflon*-coated glass fiber fabric panels and intersecting steel-tube arches rests on transfer beams mounted above the remodeled storefronts. This luminous, lightweight vault not only imposed architectural coherence on a previously haphazard string of buildings, but gave the mall a distinctive image. By reflecting solar heat while admitting glare-free daylight, the self-cleaning roof reduced cooling, lighting, and maintenance costs. At its western end, the 1,000-foot-long Galleria opens onto a three-story atrium in the former Richards (photo above left), created by removing floor slabs from the center of the store. The atrium has its own fabric skylight. Though fabric roofs had already been used in department stores, this is the first adaptation of this technology to mall circulation areas. Most energy efficient in warm climates, such roofs potentially have widespread applications, now that enlargement or renovation of extant facilities accounts for close to half of all shopping center construction.



Balthazar Korab photos except where noted

*The Mall at 163rd Street and  
The Atrium Building  
Miami, Florida*

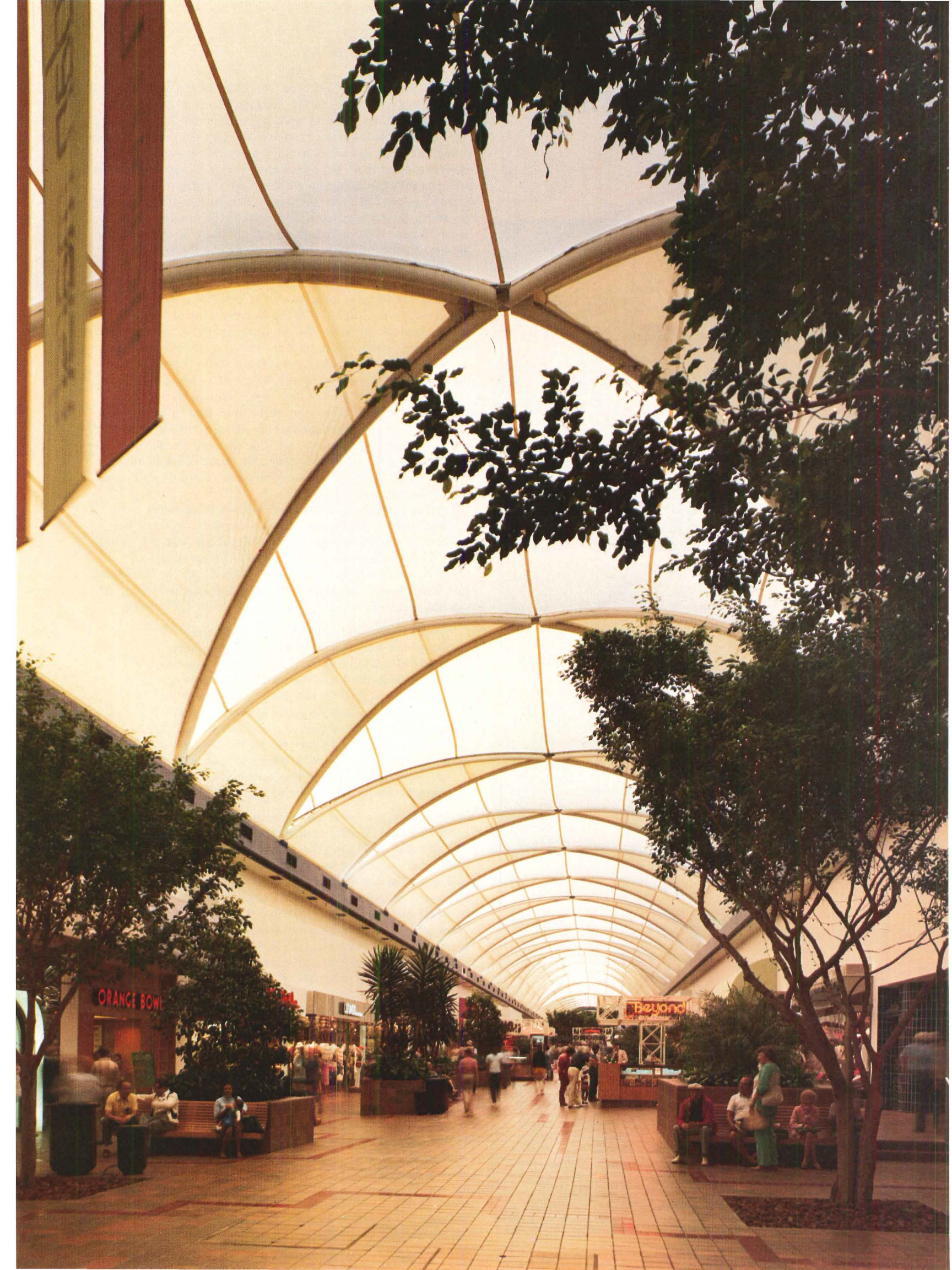
**Owners:**  
Equity Properties & Development Company  
**Architects:**  
Charles Kober Associates—  
Anthony C. Belluschi, AIA, project director and principal-in-charge; Ronald A. Altoon, AIA, principal for design; George Spacek, AIA, project designer; James Lamm, AIA, assistant project director/project architect  
**Architects/engineers:**  
Wolfberg/Alvarez/Taracido & Associates—Lawrence Beame, AIA, project manager  
**Engineers:**  
Bliss & Nyitray, Inc. (structural); Wolfberg/Alvarez/Taracido & Associates (mechanical/electrical); Post, Buckley, Schuh & Jernigan, Inc. (civil)  
**Consultants:**  
Owens-Corning Fiberglas (fabric roof design/build contractor); Geiger-Berger Associates (structural consultant to OCF on roof)  
**General contractor:**  
B.R. Fries & Associates, Inc./Oxhandler Structural Enterprises, Inc., a Joint Venture



Courtesy Charles Kober Associates

Varying in height from 38 to 52 feet, the translucent fabric roof forms an undulating canopy. At night, the roof glows against the dark sky. The fabric is double-layered to soften bright sunlight, reduce heat transfer, and serve as an acoustic baffle. Architect Anthony Belluschi explains that the diffused light admitted through such roofs is more desirable for circulation areas than for selling floors, where more focused brilliance is preferred. The loss of retail space that resulted from putting an atrium in the Richards store was more than compensated by enclosing some 70,000 square feet between existing buildings—and by higher rents. Kober has recently completed a similar "retrofit" of the 1964 Buenaventura Plaza in Ventura, California.



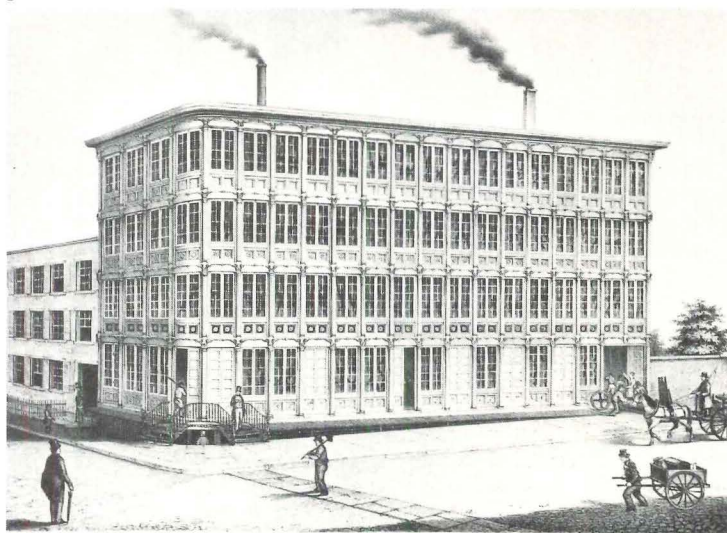
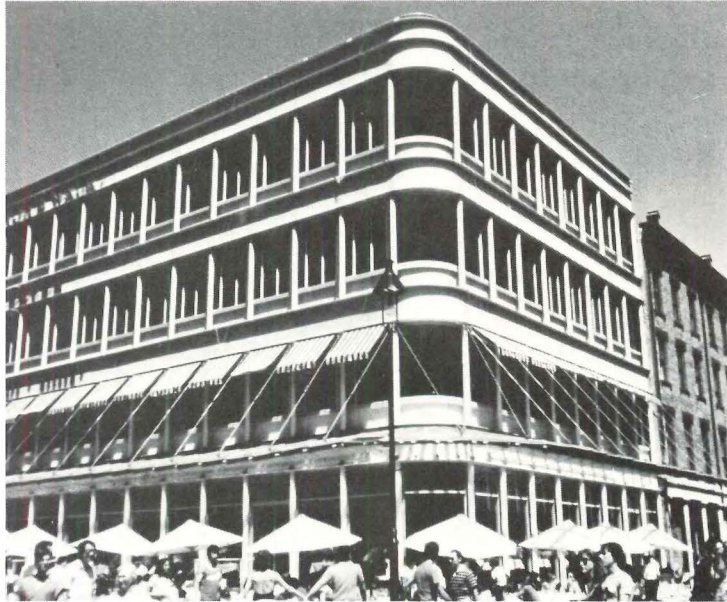




# The case of the purloined building

By James Marston Fitch

The building that has just been completed at the corner of Fulton and Front streets in lower Manhattan (Figure 1) is a lineal descendant of another iron building constructed 134 years ago right across town (Figure 2). One survives, the other is gone, but a long, involved, sad and yet comic story connects them. The intertwining of their histories began just a decade ago, when the battle to save the Laing Stores from the ravages of urban renewal seemed securely won, and when, at just the same time, the South Street Seaport Museum asked the architectural firm Beyer Blinder Belle to design an infill building in that historic district. At the beginning, no one could have foreseen any connection between the two.



THE FIRST CAST IRON HOUSE ERECTED.  
 Located in JAMES BOGARDUS'S Building 4 EAST 10th Street and Manufactured by  
 506, N. 5th Street, PHILA. Pa. JOHN A. HENNING & SONS, 1517 N. 5th St.



The Laing block had been erected in 1849, at the northwest corner of Washington and Murray streets, for a wealthy merchant named Edgar H. Laing. A conventional four-story-and-basement block like hundreds of others going up all over the five boroughs, its single claim to fame was literally only skin-deep—i.e., its panelized, prefabricated curtain wall of cast iron and glass (Figure 3). With its repetitive use of a very simple set of components—half-round hollow iron columns, beams and spandrels and wood sash—the wall can be said to be the prototype of today's nonloadbearing curtain wall. Even the ratio of glass to solid surfaces was thoroughly modern. But this was not a skyscraper: the avant-garde skin concealed a completely traditional structure of loadbearing brick masonry walls and wood-framed floors and roof.<sup>1</sup>

But if few people in 1848 understood the long-range implications of prefabricated metal structural systems, the inventor of the Laing Stores, James Bogardus, was not among them. This extraordinary 19th-century entrepreneur, so characteristic of his times, described himself as the "Builder of Cast Iron Houses and Manufacturer of the Eccentric Mill." He was not backward in advancing his claims for the system:

These buildings will sustain greater weight and are put up with less inconvenience than brick buildings, being cast and fitted so that each piece may be put up just as fast as it is brought on the ground. They may be taken down, removed and put up [elsewhere] in a short time. . . . In their mode of construction, nearly three feet of room is gained over buildings put up with brick. They admit more light, for the iron columns will sustain the weight that would require a wide brick wall in ordinary buildings. They combine beauty with strength. (*Evening Post*, New York, May 3, 1849)

So strong was his system, Bogardus claimed, that its structural integrity would be maintained with even half of it shot away!

In any case, the Laing Stores were continuously used for the next century, slipping slowly into shabby anonymity as the commercial center of New York moved steadily north along Broadway toward midtown Manhattan. They did not surface in the news again until the mid-1960s, when the Washington Market urban renewal scheme was announced. Typically, in the slum-clearing spirit of the times, the scheme called for the complete demolition of a huge tract running 10 blocks north along the Hudson River from behind St. Paul's Chapel. Although this involved the demolition of hundreds of historic buildings (and not a few historic institutions, such as the famous old market itself), it did not evoke much protest. How, after all, could Manhattan not profit from the Phoenix-from-the-ashes, the twin-towered 100-story World Trade Center?

No protest, that is, except for the band of preservationists organized around the then (1965) newly formed New York Landmark Preservation Commission. Within the year, the commission began to explore the possibilities of saving some of the fine Federal houses scattered through the district and the long-forgotten Laing Stores, by now recognized as being the oldest of Bogardus's buildings and the only one to survive.<sup>2</sup> In 1966, the always percipient Historic American Building Survey

Dr. Fitch, an architect and a historian, is presently Director of Historic Preservation for the New York City architectural firm Beyer Blinder Belle.

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surveyed the buildings in drawings that revealed the elegance and refinement of the design (Figure 4). And just about that time the Landmark Preservation Commission began to seriously consider saving the Laing Stores, either *in situ* or as a reconstituted part of one of the new complexes scheduled for the area.

By late 1968, the commission had drafted a contract for the disassembly and storage of the cast-iron facades and was looking for a suitable host institution in which to reconstitute them. It decided that the new Manhattan Community College, whose campus was to include the old Laing site, would be the obvious host. The whole project was given new substance when it was designated as a landmark in February 1970 and the city's Housing and Development Administration made a grant to cover the cost of preservation. The agreement with HDA covered three points: 1) the disassembly and conservation of the cast-iron facades would be done under careful supervision; 2) the disassembled parts would be stored under "secure" conditions pending their reconstitution; 3) the architects for the new college, Caudill Rowlett & Scott, would incorporate them in their designs for the new campus.

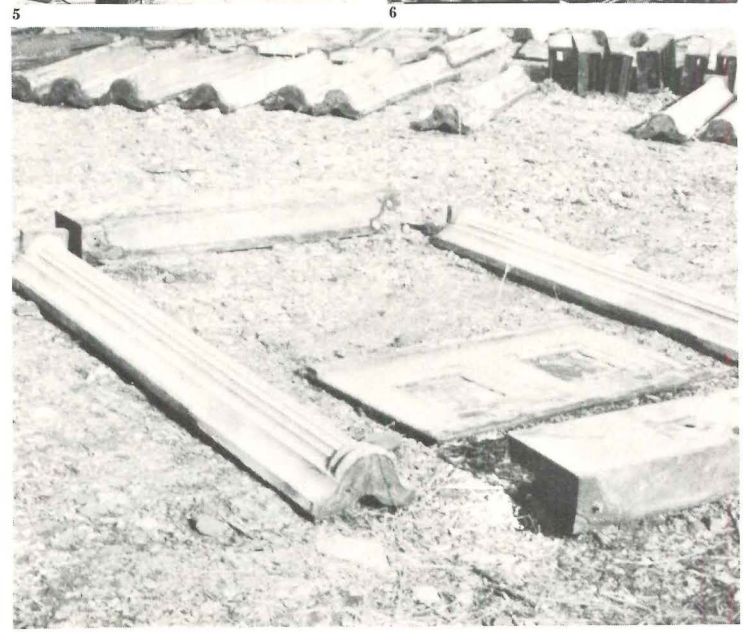
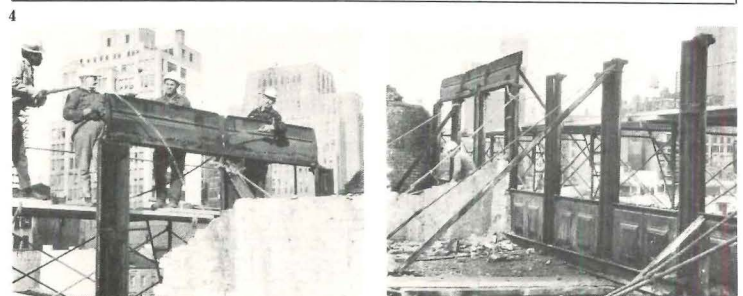
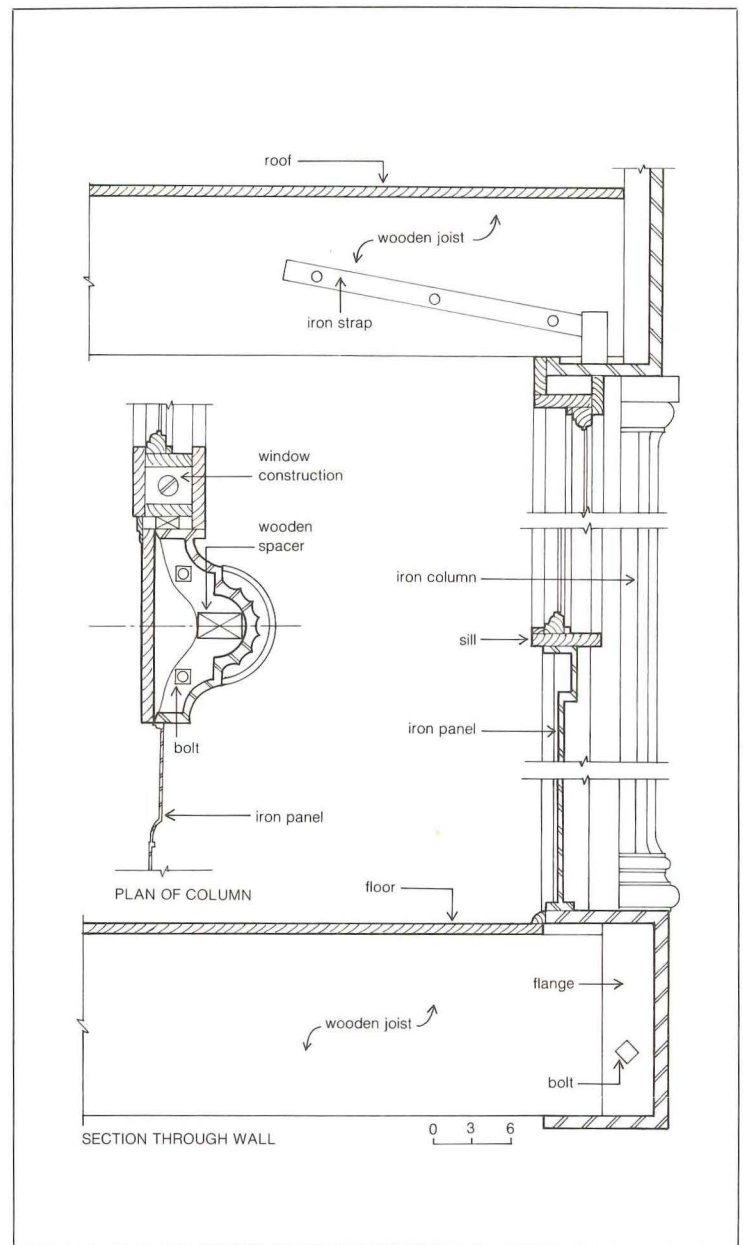
To assure that the whole process would be adequately documented, Dr. Winston Wiseman, then head of art history at The Pennsylvania State University, was commissioned to prepare a history of Bogardus and of the Laing Stores.<sup>3</sup> And the present author, then director of the Department of Historic Preservation at Columbia University's Graduate School of Architecture and Planning, assigned a team of students to prepare measured drawings and maintain a daily photographic and written log of the disassembly process. The actual work of demolition began on a cold winter's day in February 1971 and was successfully completed in less than a month.

This was the first disassembly of a cast-iron building on record, though of course hundreds have been knocked down by the wrecker's ball. It raised a number of ticklish technological questions. Would the brittle, 132-year-old fabric survive *any* intervention? Would the wrought-iron bolts that held it together be irreversibly rusted in place? If an electric arc was required to cut off the bolt heads, would the old cast-iron members survive the unequal thermal stresses? As it turned out, the fears were groundless. By careful sprinkling around the bolt heads, overheating and unequal expansion were minimized (Figure 5). The entire fabric was disassembled without the loss of a single element (Figure 6).

As disassembly proceeded, each element was stencilled according to a locational code to permit easy identification when time came for reconstitution. Following their disassembly, the prefabricated components were moved to a nearby open site, already cleared in the urban renewal process. Here they were cleaned of accumulated paint, rustproofed and then stacked in the sequence in which they would be needed when time came for reassembly (Figure 7). Having thus been mothballed on a "secure" site (i.e., behind an 8-foot-high hurricane fence with locked gates and barbed wire topping), they were left to await their resurrection.

Initially, Caudill Rowlett & Scott, designing the new Manhattan Community College, had some difficulty in accepting HDA's stipulation that the old facades be incorporated in the new complex. However, CRS—a large Houston-based firm, famous for its hard-edged functionalist designs—finally turned out a design in which the two antique curtain walls would be reconstituted as a freestanding screen in one of the college courtyards (Figure 8). This proposal met some resistance from purists on the landmarks commission. The then-chairman, Harmon H. Goldstone, said flatly that the walls were "never designed to be reassembled as a screen or freestanding (sculpture) but as the front of a modern building, and I will fight for that." And John Boogaerts, principal designer for the Housing and Development Agency, said that "we expect it to be treated as a facade, not as an openwork trellis."

This disagreement might well have been amicably settled had not one of the CRS staff—sent around in late June 1974 to the storage site to check the dimensions of the component parts—unlocked the gates to discover that two-thirds of the components







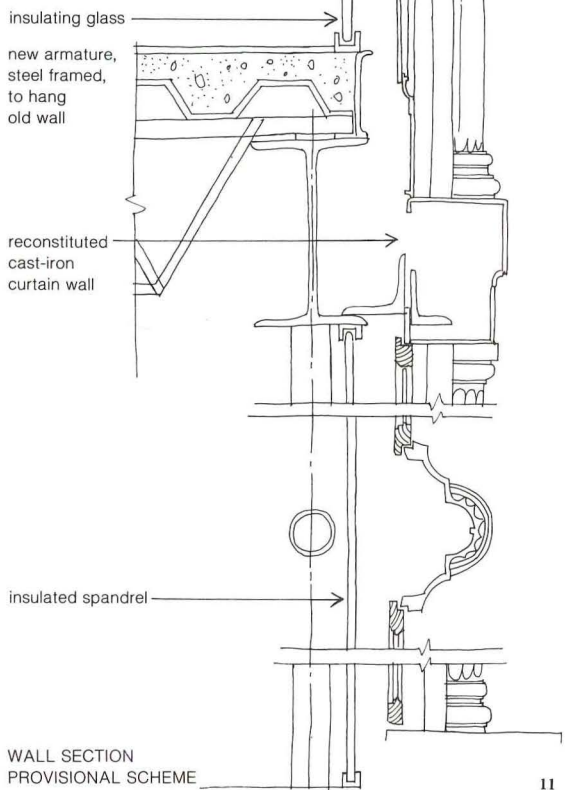
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were missing! Three men, “who thought the iron pieces were just junk,” had carted them off and sold them for \$97.00 to a scrap metal dealer in the Bronx. By the time the components were discovered, the dealer had cut them up into “easily handled bits!”<sup>4</sup> Nonplussed by this debacle, the landmarks commission hurriedly had the remaining pieces trucked up to a West Side warehouse where, once again, they were “securely” locked away. Caudill Rowlett & Scott were thus freed of the embarrassment of having to incorporate a foreign body into their pristine new fabric. But the *opéra bouffe* tale of the Laing Stores was far from ended.

For, while this tale was unwinding on the Hudson, right across town on the East River another building project was starting up that was ultimately to become intimately involved in the cops-and-robbers Laing Stores plot. The South Street Seaport Museum had begun to wrestle with the knotty problem of designing a satisfactory infill structure for a vacant lot in its historic district (Figure 9). The architectural firm of Beyer Blinder Belle began working on the assignment, turning out a whole series of alternative designs. It had proved to be anything but a simple task. Aside from a straightforward program calling for a four-story commercial building, the museum’s own Preservation Committee insisted that, esthetically, the new building had to be congruent with its neighbors—a block of counting houses dating from the early 18th century. At the same time, the committee insisted that it did *not* want a Williamsburg-type replica of these old neighbors.

Easier said than done: The old buildings were unadorned functional expressions of the mercantile activities of the day. Any form simpler than the loadbearing brick walls, regularly capped by slated gable roofs, would be hard to imagine. After a number of tries, in which the design oscillated between a too-literal and a too-free echo of its brick-and-granite neighbors, an acceptable variant was arrived at (Figure 10). While this design offended no one, it did not much excite anyone either. And while the museum’s decision hung fire, a totally new possibility appeared.

Like most of the New York preservation community, the museum had been following the long-drawn-out battle to save the Laing Stores. Even before the theft, when it seemed as if both Manhattan College and its architects might finally reject them altogether, the museum’s Preservation Committee had discussed the possibility of offering the orphaned prefab a home. It was found that the reconstituted building would fit very neatly onto the museum’s vacant lot. The exterior angle of Fulton and Front streets was not identical with that of the original Washington Street site, but the discrepancy could be compensated for by modifying the rounded corner panel. The number of bays on the two facades would have to be reversed. But the modularity of the wall panels would not only make that simple, it would also dramatize the flexibility of the system of which Bogardus had boasted. As to the historical propriety of placing an iron building where once a brick one had stood, committee members pointed out that this part of Manhattan was the original habitat of the species. And the demolition of 18th-century brick houses to make way for cast-iron commercial buildings was the typical history of the area. Indeed, the museum’s historic district included two cast-iron facades of slightly later date.

Acting on this off-hand chance that it might fall heir to the Laing Stores (even before there was any reason to suppose that the legal owners might agree), the museum asked the architects to prepare designs for their reconstitution. The architects came up with an ingenious scheme: the old panels would be hung from a fully exposed modern steel armature of the same modular dimension (Figure 11). This scheme was favorably received by the museum’s preservation committee. But before negotiations on this proposition could even begin, the theft of the originals was discovered, taking all parties back to square one! Half in jest, the exasperated architects knocked out a quick sketch that showed the unstolen fragments mounted like a kind of shattered abstract sculpture on the steel armature.

Nothing daunted, the architects came up with an alternate solution. Since the thieves had left at least one piece of each of the component parts of Mr. Bogardus’s system, why not replicate



the stolen portions in either cast iron or recycled aluminum? The outer face of the patched curtain wall could be finished in typical Victorian fashion—i.e., in “stone colored” oil paint, spattered with sand while still wet. The inner surface would be painted in two colors so that, from inside the building, old and new could be readily distinguished from one another.

This proposal met with approval from the museum staff but raised a storm of controversy among the preservationists on the landmarks commission staff. They took the orthodox conservationist position that a clearly visible distinction should always be maintained between original and replicated tissue in any restoration of an old artifact. They further argued that, by extension, it would be “dishonest” to paint cast iron and aluminum so that they looked alike. Both points, in principle, were valid. But it so happens that, historically, both arguments were weak when it came to cast iron—a material that had *never* had an independent esthetic identity. The Victorians had *always* painted it—to look like wood or stone, nymphs or antelopes, St. Bernards or morning glory vines. In fact, it was the very chameleonlike versatility of cast iron that had so enraged Ruskin in his battle for truth and beauty in architecture.

The argument was further confounded by the fact that Bogardus had employed cast iron precisely because it *could* be readily and endlessly replicated. To demonstrate that very property, he had published the famous engraving showing that, even with half the curtain wall removed (by war? fire? earthquake?), the building would still stand up and could be easily repaired with replicated parts (Figure 12). These arguments for cast iron in general and Bogardus cast-iron systems in particular, seemed to offer sound ideological support for the Beyer Blinder Belle proposal. They might well have won the day and, in anticipation of such a victory, some of their staff went up to the warehouse to check on the number and condition of the parts in storage. And that was when it was discovered that, “secure” storage to the contrary notwithstanding, the *remaining* fragments of the Laing Stores had been stolen!<sup>5</sup>

The proposed steel-and-glass armature, stripped bare of its historic cast-iron skin, was thus left standing “naked in the light of day.” What was to be done? By this time, everyone involved in the project had become quite fond of the scheme. Thus, when the architects made the radical proposal to go ahead *without* the Bogardus skin, it was accepted by all concerned—the museum, the Community Planning Board, the Fine Arts Commission, and the landmarks commission. With comparatively little structural modification, that design has been built (Figures 1 and 13).

Thus, despite the torturous battles fought by many devoted partisans, the old Bogardus building was lost. And yet, in a very real sense, it survives as a kind of phantom abstraction of its former self. One cannot help feeling that the final design, if not the mad comedy of the design process, would have met with James Bogardus’s approval.

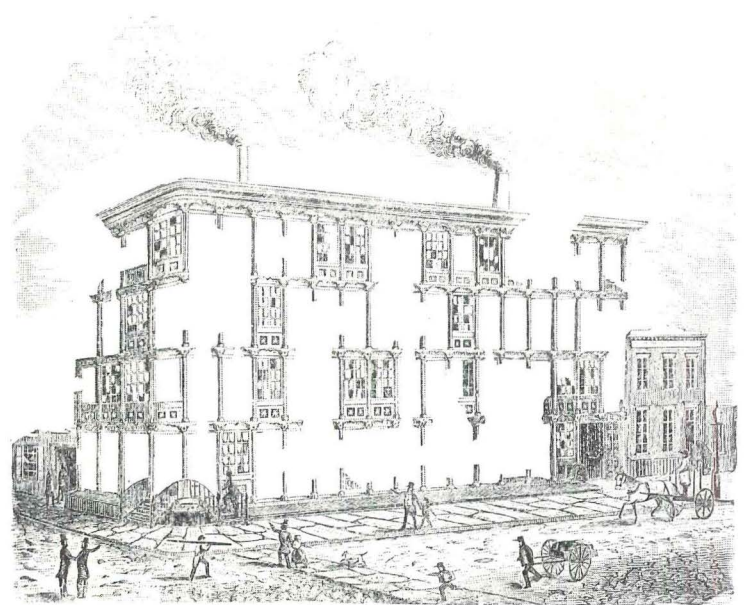
<sup>1</sup>It was not until 1883-86 that William LeBaron Jenney completed the Home Insurance Company in Chicago, with its three-dimensional articulated steel skeleton. This was the true progenitor of the skyscraper, but though it had a complete prefabricated metal skeleton, it did not yet have a prefabricated glass-and-metal skin. In fact, it was not until a century after the Laing Stores that the first skyscraper combining the metal cage with the glass-and-metal skin was perfected in Pietro Belluschi’s Equitable Savings Building in Portland, Oregon (1948).

<sup>2</sup>Already in the 1940s, the significance of cast-iron architecture had caught the attention of such prescient American historians as the late Turpin Bannister, who celebrated it in several pioneering papers in the Journal of the SAH and the Architectural Review. Meanwhile, the New York architect Knight Sturgis had zeroed in on the Laing Stores as being one of the few, if not indeed the last, of the surviving buildings by Bogardus.

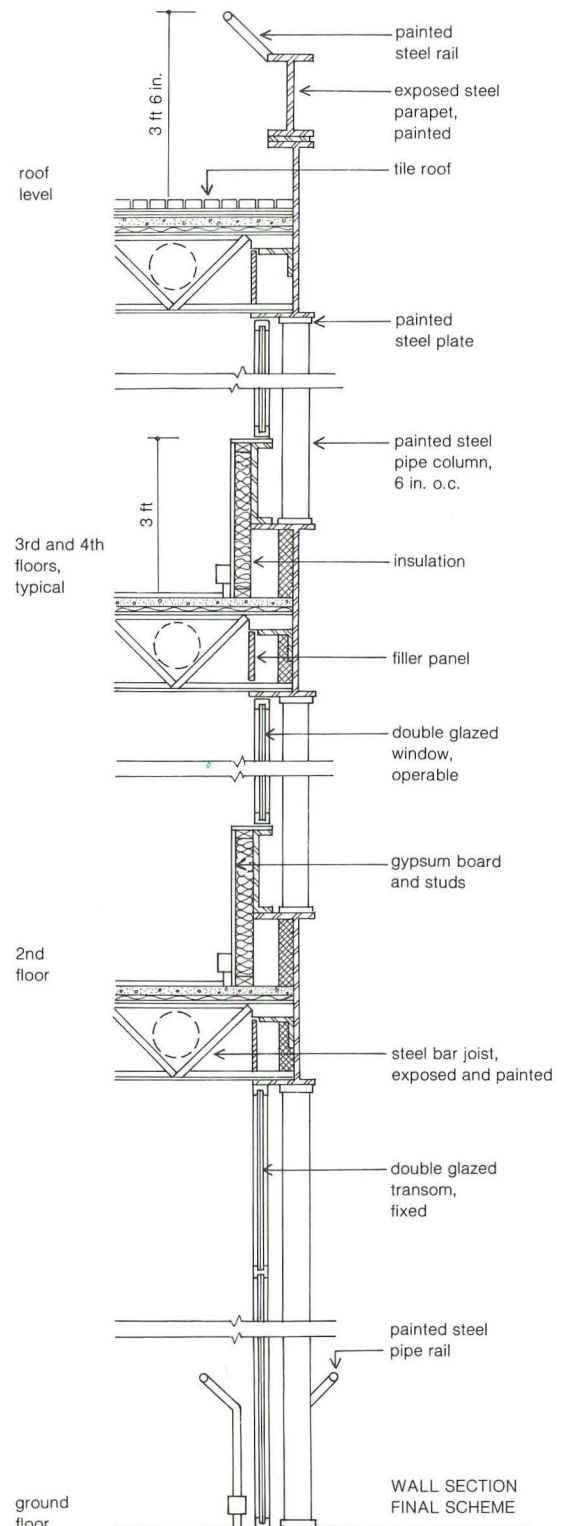
<sup>3</sup>Wiseman’s report was published in Monumentum, journal of the International Commission of Monuments and Sites (Paris), vol. ix, 1973, pages 63-75.

<sup>4</sup>Harvey Ellis was arrested on June 25, 1974, and charged with grand larceny. He pleaded guilty to criminal trespass charges in the New York City Criminal Court (P.G. 140.10) and was given a sentence of “time served”—i.e., 24 days (Case No. N434360).

<sup>5</sup>The perpetrators of this second theft have never been apprehended. In view of the uproar over the first theft, the thieves would have known the potential value of the remaining fragments. They may even have been able to have sold them on the black market as authentic antiques.



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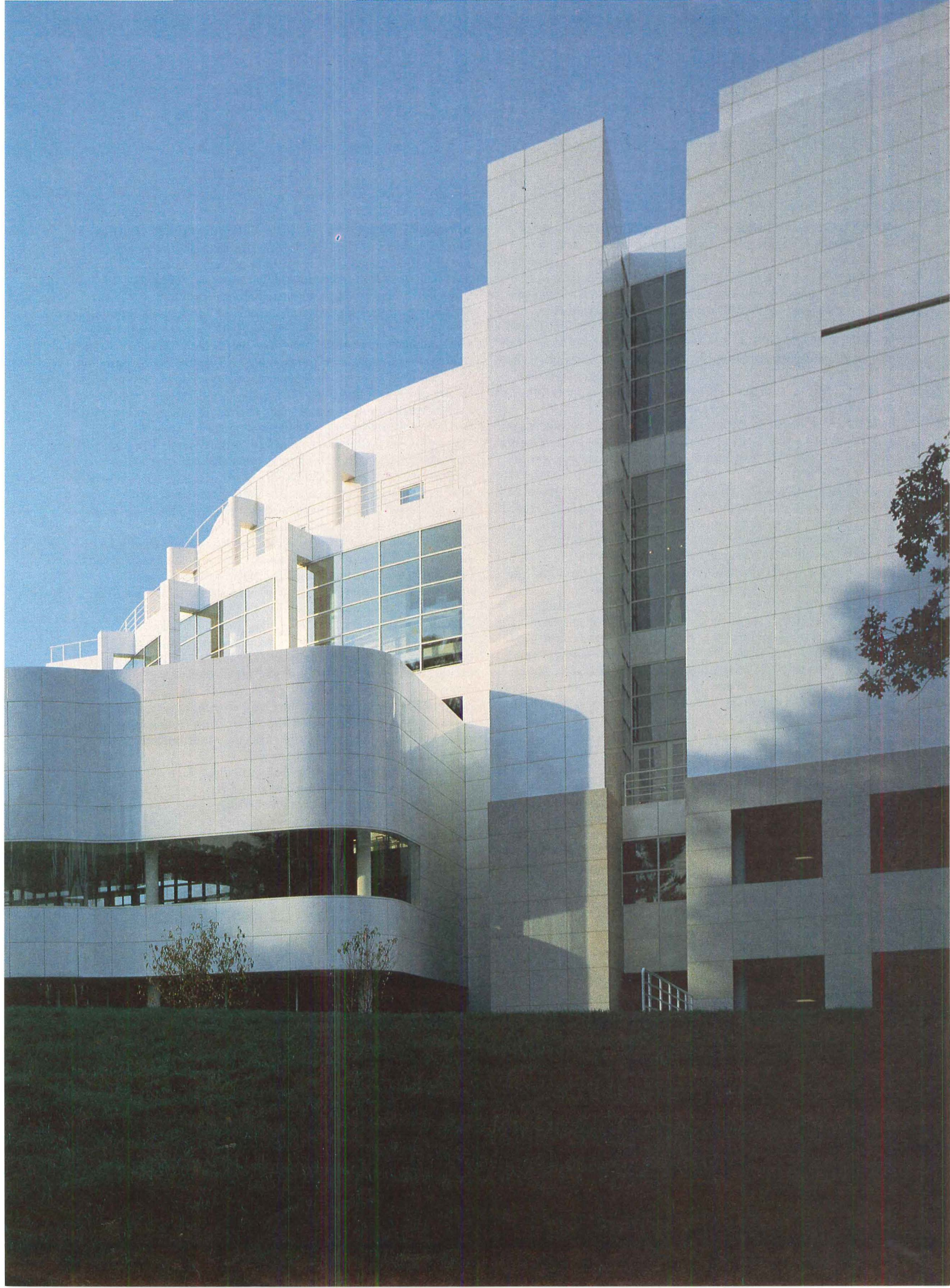


# Atlanta high

A photograph of the High Museum of Art in Atlanta, Georgia. The image is dominated by a large, dark silhouette of a tree on the left side, which partially obscures the view of the building. The building itself is a modern structure with a curved, metallic facade, possibly made of aluminum panels. It features a prominent cylindrical section on the right side. The sky is a clear, pale blue, suggesting a bright day. The overall composition is a mix of natural and architectural elements.

The High Museum of Art  
Atlanta, Georgia  
Richard Meier & Partners, Architects







Its white porcelain panels shimmering against the cloudless cerulean sky that graced its dedication, Atlanta's new High Museum was proclaimed by Mayor Andrew Young "a great jewel in the artistic crown of Atlanta"—a verdict echoed not only by the proud Atlantans present but by an ecstatic local press and an only slightly less enthusiastic cadre of critics nationwide.

The High is undeniably a jewel and arguably the finest work to date in the distinguished canon of architect Richard Meier. But the excitement generated by the building as "a work of art in itself" tends to obscure what may be its more significant and lasting value: that Meier has here reconsidered to great effect the very concept of what a museum should be.

Recalling that the museum originated in grand residences or palaces where art was seen in natural light and a natural setting, and contrasting this with the recent wave of museums whose striving for flexibility and a controlled environment has too often led to an atmosphere of sterility and "placelessness," Meier has at the High combined the best of old and new. The High Museum is an introverted building (Meier's first) focused on a skylit atrium rimmed by galleries that, while light-controlled to conserve the objects displayed, are enriched by their communication with the luminous space of the atrium and the incidental light from side glazing and clerestories.

Three years ago when the High Museum was commissioned, a stroller along the pleasantly mixed streetscape of northern Peachtree some two miles from downtown Atlanta could scarcely have envisioned a less probable occupant for the gently sloping corner lot, carpeted in grass and furnished with stately old trees, tucked between the bland concrete bulk of the Atlanta Memorial Arts Center (then the home of the High collections) and the handsome red brick First Presbyterian Church.

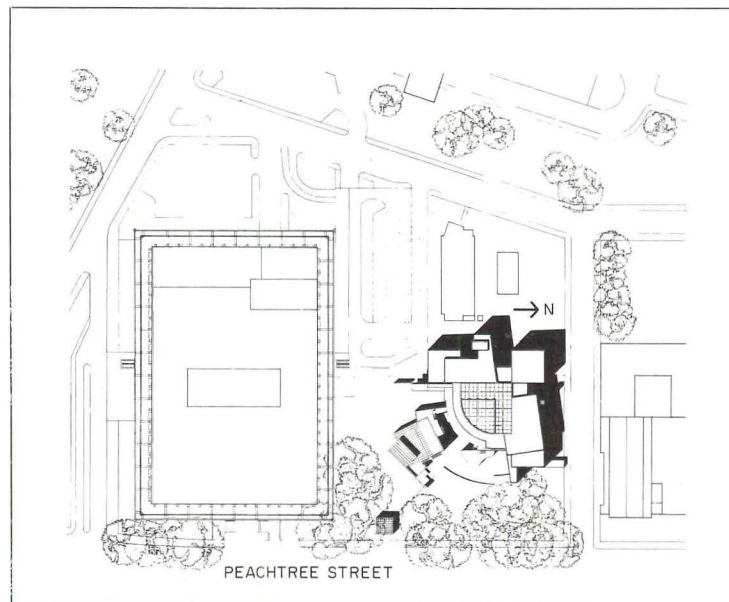
That it is now hard to imagine any other presence on the site than the exhilarating crystalline assembly of the new museum is a tribute to Meier's understanding that the true context of the building went well beyond that of physical adjacencies to encompass also the city's sociopolitical and economic climate. In this view, for example, context is not defined merely by the building's location in a pedestrian-oriented neighborhood well-served by public transport, but by the fact that this now peaceful neighborhood lies squarely in the path of Atlanta's northward development. Most important, Meier correctly perceived the broadest context of the museum to be the hunger of a self-

consciously progressive city for a validating symbol of urbanity and cultural maturity—as the fund-raising slogan for the building trumpeted, "a museum big enough for Atlanta." It is the genius of the High to transcend, without condescension, its immediate surround and to anticipate its future.

The beguiling complexity of the curved and faceted building volume derives from a deceptively simple four-quadrant parti. Here, though, one quadrant is disengaged from the main building and pivoted to create an independent but linked auditorium, and the "missing" element is replaced by a fan-shaped atrium whose arcing glass wall dominates the museum's principal facade as the atrium itself dominates the space within. The four-square plan is further inflected by a corner entry—"a crack," says Meier, "through which the world rushes in"—that diagonally bisects the building, throwing into tension its classical balance. Entry begins, however, not at the building but at the street, where a long ramp beckons the visitor through a near-triumphal progression to a piano-curved reception lobby whose enclosure explodes inward to the dramatic central space.

The atrium of the High, with its double ramp climbing to surrounding galleries, conspicuously invites comparison with the Guggenheim Museum, and indeed Meier refers to the new museum as a "commentary" on Wright's seminal design. It is, however, enlightened commentary in that the circulation and display functions are here clearly differentiated. By "straightening out" the Guggenheim scheme, Meier has circumvented its awkwardnesses—the lack of a right-angle datum for display of art, the impelling motion that discourages contemplative viewing—while preserving the inspired notion of a referent central space. Like the Guggenheim, the High offers tantalizing panoramas across the atrium and from exhibit to exhibit, but here the vistas are enlivened by framed outdoor views through the glazed atrium wall.

Glass walled and ceiled, the atrium is but the most evident manifestation of what Meier acknowledges to be "a constant preoccupation with light," which elsewhere is expressed through skylights and clerestories, ribbon glazing and unexpected perforations of the museum's outer wall. Nor is the emphasis on light a solely functional concern, but rather the key to the architectural conception. It was Meier's intent to present as the heart of Atlanta's cultural life a building both physically and metaphysically "radiant." It is. *Margaret Gaskie*





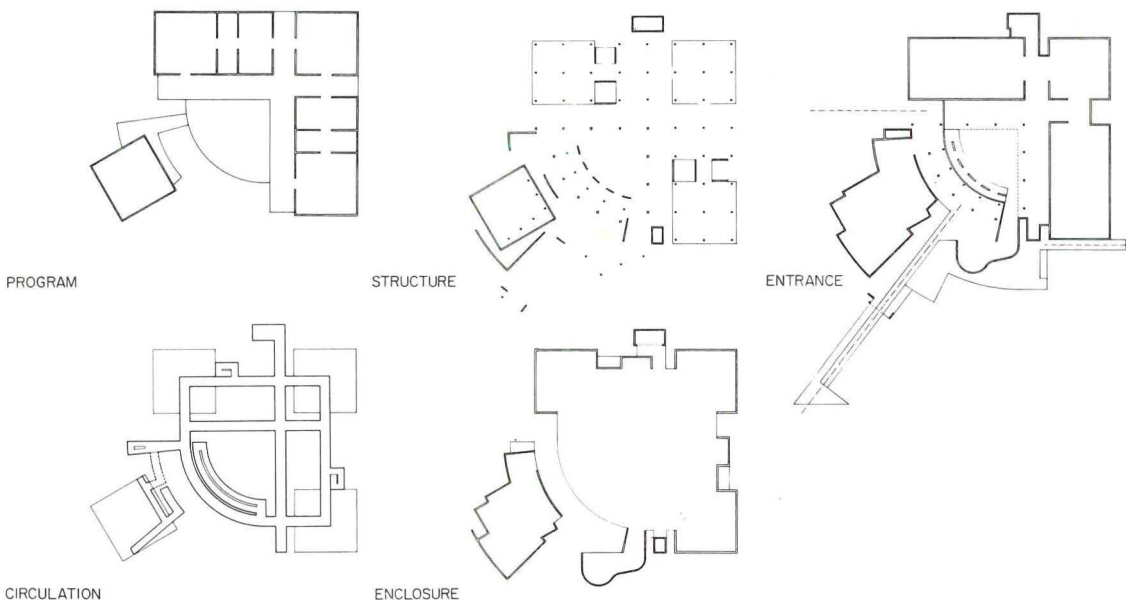
Despite the building's apparent intricacy of form, the High Museum is based in plan on the device, often used by architect Richard Meier, of square rotated within square, a geometry that here becomes one of three cubes plus the quarter cylinder of the four-story atrium around which the galleries revolve. The "absent" fourth cube, a 250-seat auditorium, is detached from the main mass and rotated 45

degrees. The basically classical plan is further elaborated by a corner entry ramp that pierces the building diagonally and by a piano-shaped foyer that plays its curves against the over-arching sweep of the atrium wall. Though firmly rooted on a granite base that reaches out to the sloping lawn and nods to the masonry of the neighboring church, the museum's multifaceted "superstructure"—

clad in gleaming white porcelain-enamel panels almost translucent in their ever-changing reflections of sun and cloud, and lightened by expanses and ribbons and perforations of glass—lends the volume a buoyancy and vivacity wholly suited to its real and symbolic roles in Atlanta's cultural life.



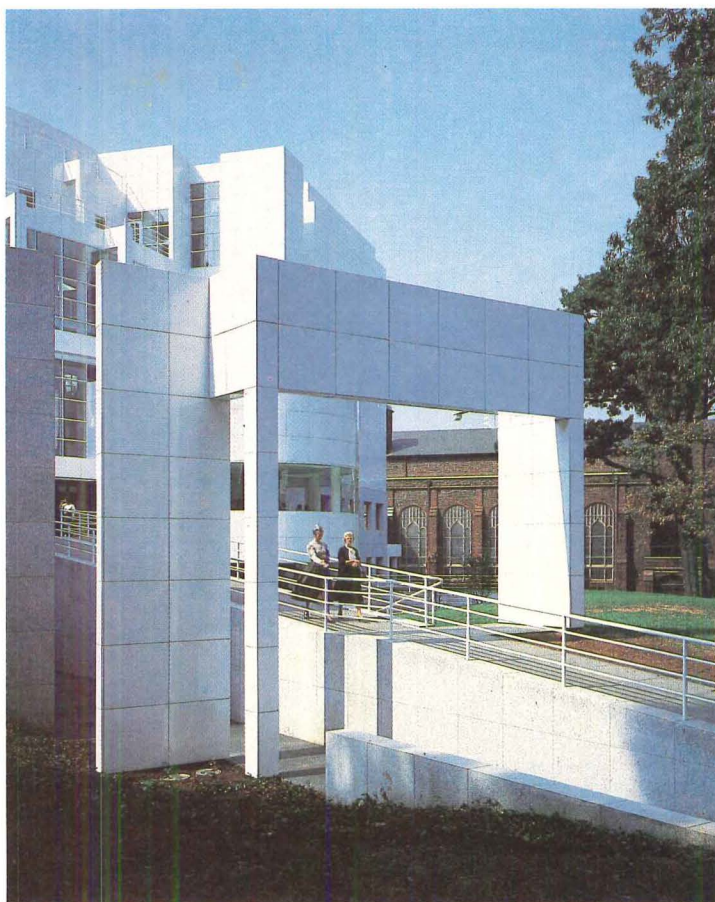
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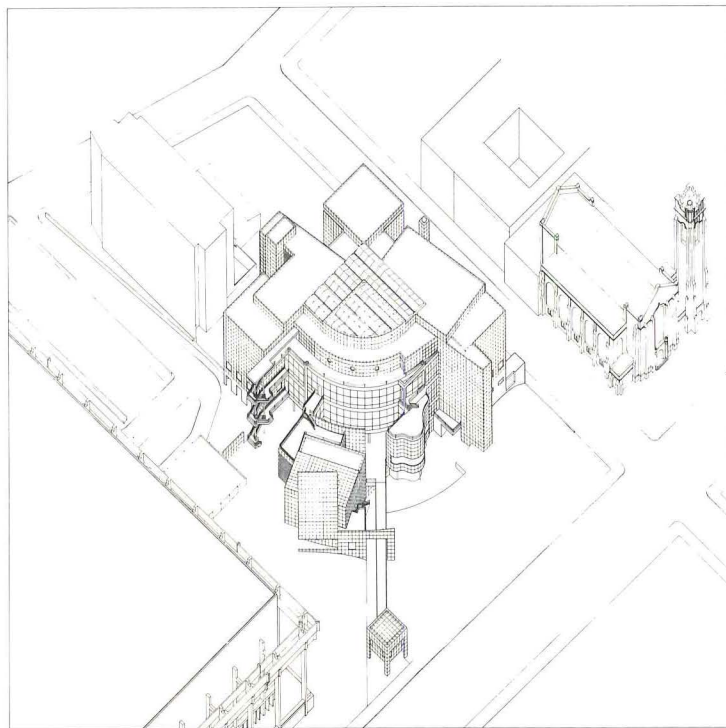




*In presenting the design for the High Museum to its board of directors, architect Meier emphasized that the building "is not intended to awe or overwhelm" but "to welcome the visitor and to evoke a desire to enter." To this end, in addition to opening the transparent facade wide, he has made of the entry experience from the street a celebratory processional via a long sloping ramp, along a side wall, through a freestanding portico, past the revetments of the auditorium, and on to a curved porch and the reception lobby leading into the great skylit atrium. The welcoming ramp, a gesture to street and city, also anticipates the quarter-circular interior ramp that is the museum's principal formal and circulatory element.*



*The rotated cube of the auditorium, an intimate space designed for lectures, small performances, films, and meetings, is separated from the main building mass so that it can be operated independently of the museum although the two are linked at the second floor level. Main-level access is through a partially sheltered plaza (photo opposite) between the convex wall of the atrium and the correspondingly curved inner facade of the auditorium, which thus becomes a reinforcing element in the entry sequence. Clerestories in the tall appended volume defining the stage area introduce natural light.*



*For all its present air of inevitability, the High Museum underwent a number of subtle refinements between presentation of the original scheme (axonometric above) and construction in its final form. A fussily eccentric volume over the stage area of the auditorium was straightened, a bus stop pavilion omitted, the entry portico simplified, and the exterior stair semi-enclosed by an L-shaped*

*wall. Most important, the orthogonal configuration first proposed for the atrium skylight was transformed to a more appropriate spoked support system radiating from the apex of the quadrant.*





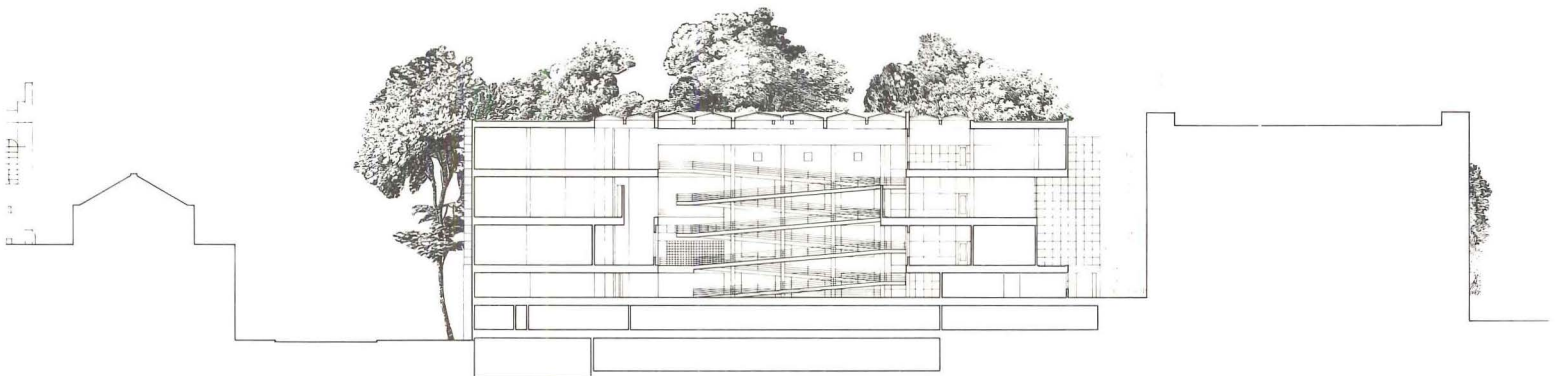








Although the reference to the Guggenheim Museum is obvious in its focus on a monumental central space and curved-ramp circulation, Meier's scheme for the High Museum overcomes the original's shortcomings as a place for the display and viewing of art by making a clear distinction between path (the ramp) and destination (the galleries). The singular qualities of the Guggenheim—the experience of viewing art from long range as well as close up and from constantly changing vantages, and the pervasive presence of the atrium as referent—are recaptured in the High, however, and enhanced by the opening of the atrium wall to permit outdoor views and admit natural light. The sense of event movement through the building is further heightened by the enticement of yet-unseen art glimpsed around the only-partial screening of the gallery walls overlooking the atrium.

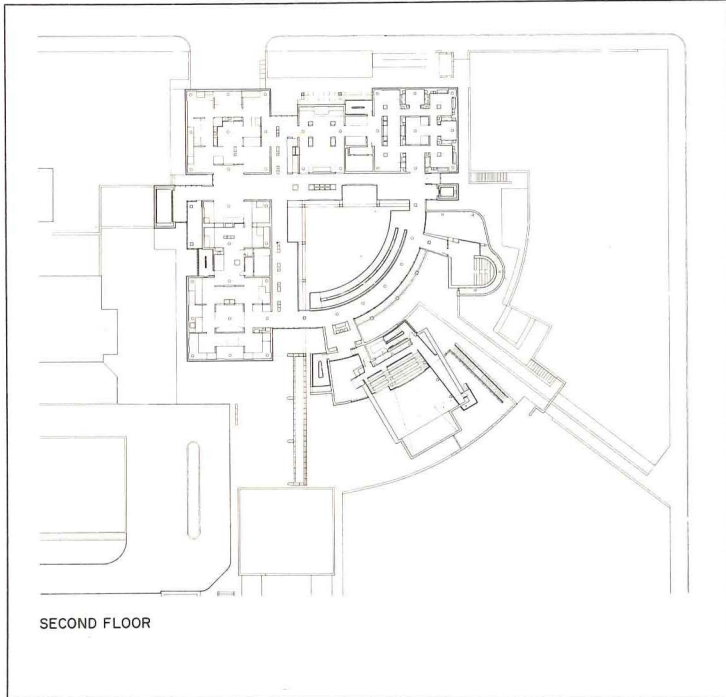


SECTION THROUGH GALLERIES AND ATRIUM

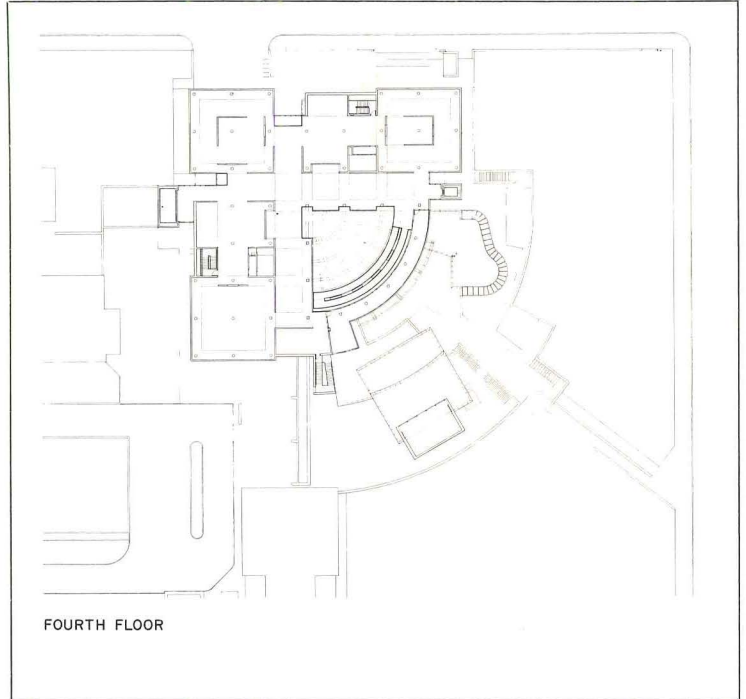


A major impetus behind the construction of the new home for the High Museum was the frustration of city-proud Atlantans with the museum's inability in its former cramped quarters to mount "blockbuster" traveling shows—a deficiency answered by tripling the museum's size to provide ample exhibition space for permanent collections, only 20 per cent of which could formerly be displayed

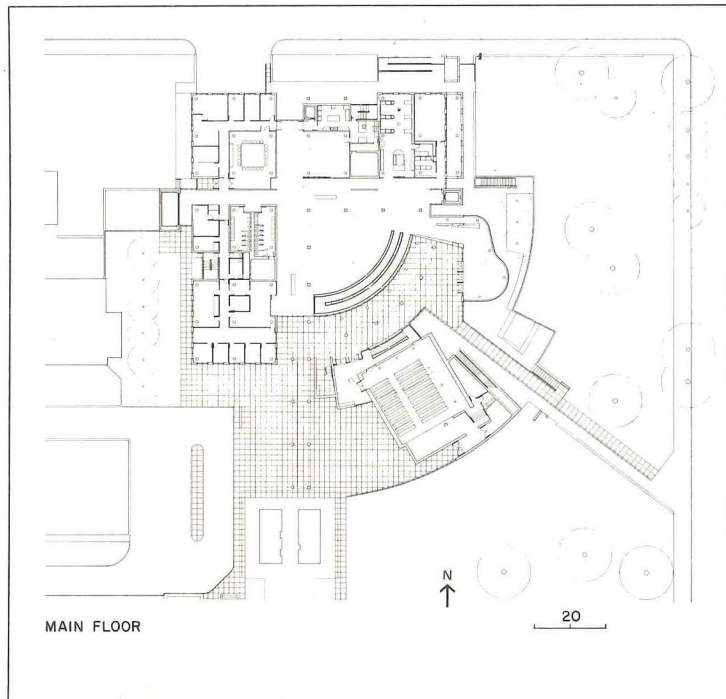
at any one time, as well as up to 15,000 square feet of space for special exhibits. In addition to the atrium court, the main level houses administrative functions, with educational spaces on the floor below. Second-level galleries are organized for applied art; third-level galleries for painting, prints, and photographs. The top floor is shared by loan exhibits and 20th-century art.



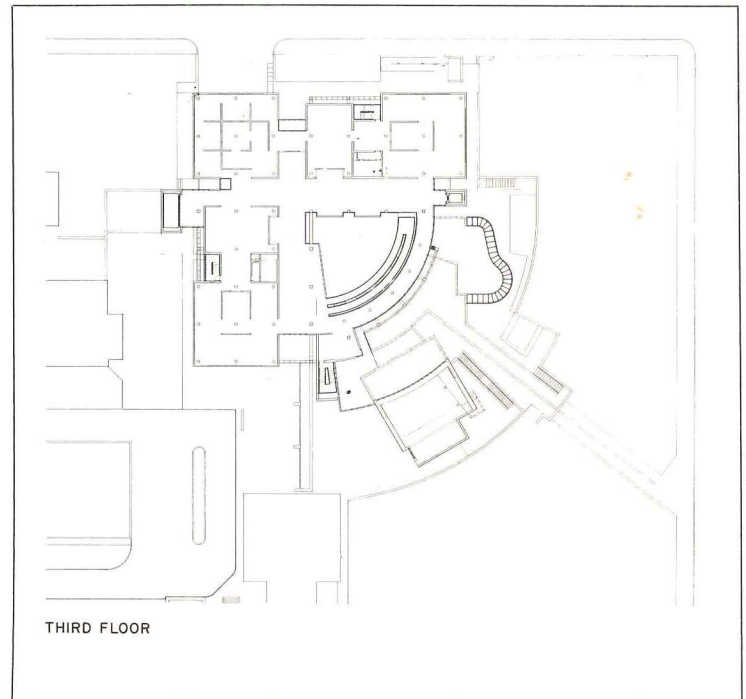
SECOND FLOOR



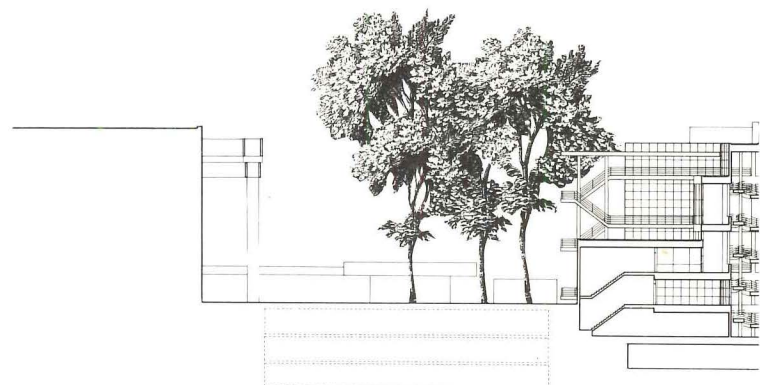
FOURTH FLOOR



MAIN FLOOR



THIRD FLOOR



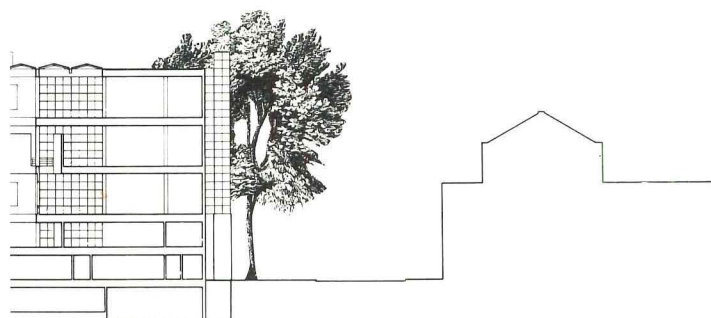
SECTION THROUGH ATRIUM LOOKING WEST



The High Museum's fine collection of decorative art objects is largely housed in Meier's thoroughly contemporary version of the traditional museum with its planned progression through discrete rooms. Here, though, the independent spaces are merely indicated, by lowered or latticed ceilings and pierced or absent walls that afford multiple vistas and cross references through the large corner

galleries and their smaller connecting links and always turn back to the inner space of the great hall. Meticulously detailed cases and cabinets display pieces of art against rich backdrops—sometimes reflective, more often textured in luxuriant fabrics whose vivid or subtle hues bring welcome splashes of color to the pristine whiteness of their surround. Surprising—even shocking—islands of color are also

found in the third-floor painting galleries, which include a room walled in vibrant magenta (photo below right).





*The High Museum of Art  
Atlanta, Georgia*

**Owner:**

*The High Museum of Art and the  
Atlanta Arts Alliance, Inc.*

**Architects:**

*Richard Meier & Partners—  
Richard Meier and Gerald Gurland,  
principals-in-charge;  
Philip Babb, Susan  
Bermand, Michael Palladino,  
associates-in-charge; Stanley Allen,  
Andrew Buchsbaum, Steven  
Forman, Hans Li, George Kewin,  
Richard Morris, Vincent Polsinelli,  
Patricia Sapinsky, Greta Weil,  
project team*

**Engineers:**

*Severud-Perrone-Szegezdy-Sturm  
(structural); John L. Altieri  
(mechanical/electrical)*

**Consultants:**

*Office of P. DeBellis (landscape);  
Claude Engle & Associates and  
George Sexton Associates (lighting);  
Whitehouse & Katz (graphics)*

**General contractor:**

*Beers Construction Company*

**Exhibition contractor:**

*Rathe Productions Inc.*



*More flexibly designed than the lower-floor galleries, the 20th-century art galleries on the museum's top level can be combined with the generous loan exhibition area as necessary to accommodate even the largest traveling shows. At the inner perimeter of the display space, light from the glass-roofed atrium is supplemented by the glow from seven pyramidal skylights that*

*can be shaded to diffuse and control natural light in accord with the requirements of the art works displayed. Over-all illumination levels in all the galleries are maintained by a combination of recessed and track spot fixtures.*







# New life for old memories

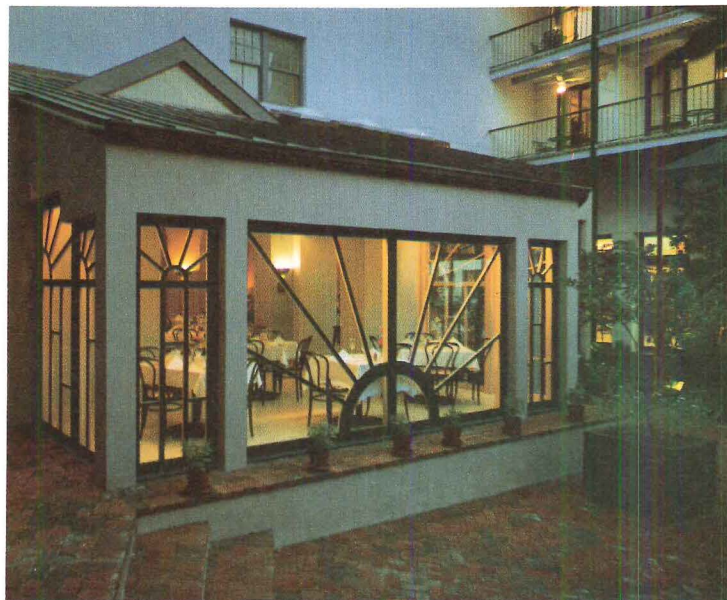
Closed and forlorn for nearly a decade, the Natchez Eola Hotel once again glimmers with a glow of Southern comfort. Part restoration, part adaptive reuse, the revitalized scheme makes the most of the quietly eclectic elegance of its 1927 design by Weiss, Dreyfous and Seiferth, and exuberantly paraphrases its leitmotifs of arches and fanlights—often enlarged, fragmented or lightly distorted in a fresh postmodernist manner—to underscore its design virtues and, oddly, to add a recall of even earlier images and memories of “Ole Natchez.” Perhaps this is a real and valid precinct for postmodern allusion.

After its original opening, the hotel soon gained renown as the center of regional social activity, and as the most modern and tallest (as it still is) building among the unassuming two- and three-story structures in the historic downtown area. Tourism and the famous Natchez Spring Pilgrimage to the local antebellum houses and gardens kept it prosperous through the Depression. But by 1974, its fading, “outmoded” charms and competition from fresher chain motels along the highways brought about loss of favor and its doors were closed.

Nowadays—what with preservation fervor, nostalgia, and the re-establishment of Natchez as a major focus of Mississippi River steamboat and bus tours—a quality hotel with personality seemed viable, indeed needed. Associated architects Perez Associates and Urban Innovations Group (Charles Moore and Ronald Filson) have brought back the Eola’s distinction with a verve, and with charms it never had.

A three-story corner building, around which the brick hotel was built, was included in the renovation for extra “social,” mainly restaurant, space and (by demolishing part) to create a new canopied entrance through a courtyard set in a white-walled niche. The Main Street facades of both buildings (drawing bottom left, opposite) were retained under Federal tax incentive guidelines for historic preservation. Pleasant, if somewhat strait-laced, balconies for river views were added on the court and back facades, as were necessary fire-stair towers.

The most visually dramatic change, however, is the transformation of its seventh-floor roof deck and adjoining “Top of the Town” lounge into a new mansard-roof-enclosed floor of special suites and a revamped lounge, all punctuated by bold, arched dormers and other fanciful fenestration to create a new skyline interest that—for all its innovation—seems to have always been there. *Herbert L. Smith, Jr.*





The Natchez Eola Hotel Restoration  
Natchez, Mississippi  
Perez Associates, Architects  
Urban Innovations Group, Associated Architects



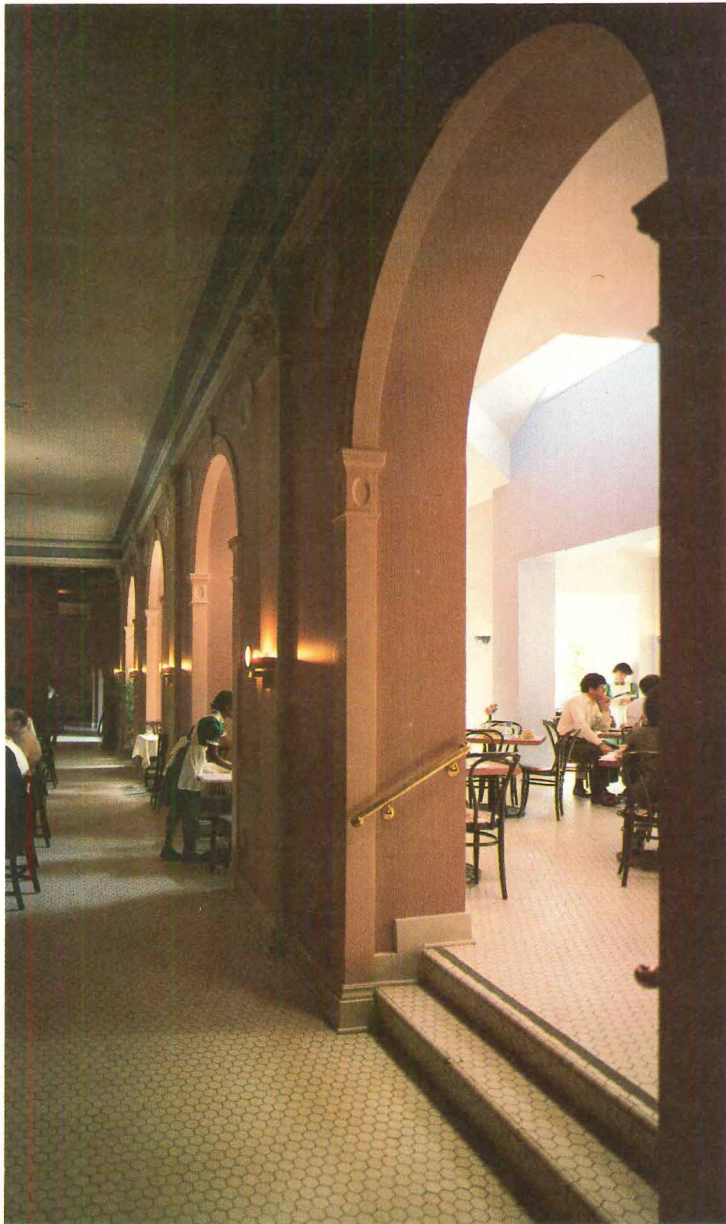
All photos by Alan Karchmer except as noted





To help re-establish the hotel's role as a center for social activities, the dining areas have been greatly expanded. In addition to the original dining room (now called Cafe La Salle), a new casual garden restaurant and bar (Julips) overlooking the courtyard has been created in the added property (photos below and right). High ceilings, tile floors, bentwood chairs, ceiling fans and banks of

fanlighted windows all contribute to a general Southern ambience. Even Peacock Alley is now used as a "Dining Allée," with tables set in its windowed and mirrored niches (photo below left). And high under the mansard roof, a many-windowed lounge (Moonflower) overlooks the surrounds (photo bottom).



Tim Hursley®The Arkansas Office



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*The Natchez Eola Hotel  
Natchez, Mississippi*

**Owner:**  
*The Natchez Hotel  
Company*

**Original architects (1927):**  
*Weiss, Dreyfous and Seiferth*  
**Restoration and renovation  
architects:**

*Perez Associates, Architects—R.  
Allen Eskew, project architect;  
Stephen Perkins, project  
coordinator and designer; Anthony  
G. Styant-Browne, Robert  
Schroeder, Edward Moya, project  
designers*

**Associate architects:**  
*Urban Innovations Group—Charles  
W. Moore, Ronald C. Filson*

**Engineers:**  
*Warren G. Moses Engineers  
(mechanical/electrical); Morphy  
Makofsky and Masson (structural)*

**Interior designer:**  
*Deborah Lloyd Forest, ASID*

**Lighting consultant:**  
*Richard Peters*

**General contractor:**  
*Sherman Construction Company*



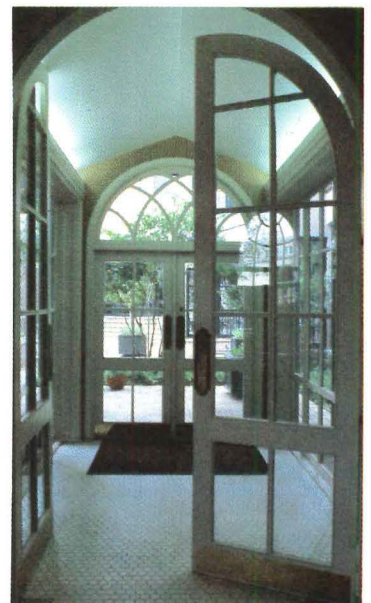


The Eola Hotel's renovation preserves the most opulent of its 1927 details, often pointed up by soft new colors—archways, registration desk, elevators, columns, marble trim, chandeliers. The original street-to-lobby entrance has been changed to fan-lighted windows flanking a new tea and drink dais reached by circular steps through one of the arches, and featuring piano music from a

mirrored and latticed pergola (photo right). Now, one enters through a zigzag canopied way overlooking the courtyard carved from the added building (photo below) and into a newly created vestibule (bottom photos). The original, secondary, Main Street entrance has been retained through "Peacock Alley" for ambling through in one's fine feathers. A new motor entrance has been added



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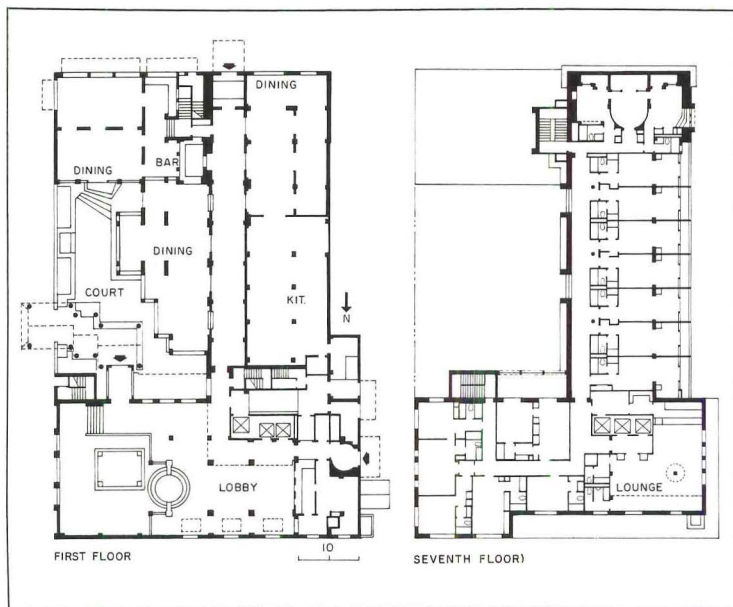


at the back. Thus, in the revived Eola Hotel, the strangely contradictory formal architecture which pervaded most "Roaring Twenties" hotel design has been tempered with an aura of a more relaxed and leisurely era of sugar and cotton planters of the Delta. The evocation is achieved more by suggestion than by any real attempt at historical accuracy. Though Natchez, along with New Orleans

and Saint Louis, was an early French 18th-century settlement along the river highway, its periods of greatest prosperity (and sallies into "timely" architecture) were those of the pre-Civil War 19th-century, World War I's end to the Crash and, perhaps, now. In its new postmodern finery, the Eola Hotel alludes to them all.



Tim Hursley/The Arkansas Office









# Daylighting cuts energy use to 19,600 Btu per sq ft per year

"If we could design a building for you that would use half as much energy as the one you're planning to build, would you be interested?"

Three years ago, that was exactly the question that the San Francisco office of Leo A. Daly posed to Lockheed Missiles and Space Company. Though 25 per cent of the working drawings for an in-house-designed five-story 600,000 sq ft office building had been completed, Lockheed said, "Yes. How?"

The answer was daylighting, a subject that had particularly interested Daly architects and engineers for years. Their analyses showed 40 to 50 per cent of the total energy consumed in office buildings to be directly attributable to electric lighting and to removing the heat that lights generate. By designing for maximum use of daylighting, and integrating an efficient hvac system into the design, the architects/engineers argued that the substantial energy savings they spoke of could be realized.

In addition to savings from the reduction in energy use, they postulated that a daylit environment could increase workers' comfort and productivity. The Lockheed executives liked Daly's "bottom-line" orientation and awarded them a contract to develop a preliminary design.

From the experience of daylighting schools in the 1950s, the designers knew that by maximizing north and south exposures and floor-to-ceiling heights they could, on seasonal average, get between 25 and 30 footcandles of daylight (enough to effect most of the proposed energy savings) roughly 30 ft into the building. The plan, therefore, was elongated along the east-west axis.

By locating core elements on the east and west ends of the building and placing a daylighting atrium in the middle of the five-story plan, the designers lessened the width that would have to be daylit by more than half and nearly doubled the amount of light entering the building.

Fifteen-ft floor-to-ceiling heights were selected as an optimum to aid daylight penetration into the middle of the 90-ft-wide sections created by the atrium. Tests with scale models showed that by sloping the ceilings to face the two main daylight sources, the perimeter and the atrium (see drawings on page 142), a 41 per cent increase in illumination could be achieved over a design using flat, 12-ft ceilings.

## **Daylight is reduced at perimeters— to moderate brightness throughout the space**

To moderate the negative effect of solar radiation at the perimeters, light shelves and solar glass were used. The light shelves (again see drawings) are suspended 7 ft 6 in. above the floor and project 13 ft into the space from the window walls. Clear glass above the light shelves permits all available daylight to enter the building. As it does, the reflective white ceilings and the top surface of the light shelves diffuse and soften it. Brightness, glare and heat gain beneath the light shelves are reduced with tinted glass. For the south side of the building a reflective coated glass is used, reducing transmitted light to 17 per cent and providing a shading coefficient of 0.44. On the north side, tinted glass transmits 41 per cent of the daylight, with a shading coefficient of 0.69. This zone of reduced illuminance creates a more even, comfortable brightness throughout the space.

On the southern exterior of the building (photo opposite) the light shelves project 4 ft 10 in. to shade the glass beneath from high summer sun.

Scale models helped the architects/engineers to select and refine the light shelf's shape, positioning and finish. The models also provided the data used to create lighting profile curves

across the 90-ft sections of the space (see Figure 1 on page 142). A composite of these profiles which was generated for different times of day and year, and included both clear and overcast conditions, indicated that for this design daylight would displace more than 70 per cent of the electricity required to maintain the 30 footcandles level established as a minimum ambient light level.

Supplementary electric light (0.9 watts per sq ft) is doled out to F40 cool white lamps via high-frequency dimming ballasts controlled by photocells and a microcomputer. Task lighting is still necessary in the building and it was incorporated into the open-plan work stations. The designers felt that a motion-sensing system to turn task lights off when workstations were unattended would be a cost-effective part of the design, and this option was left to Lockheed to be exercised when a commercially available system is perfected.

## **Hvac is carefully designed —and carefully integrated with the daylighting**

To minimize the impact of the solar heat gain and the energy necessary to neutralize it, the designers developed some ingenious ways of integrating it with the rest of the daylighting design. Knowing from the geometry of their building that most of the heat would collect in the spaces above the light shelves, they made these areas part of the return air path (again see sections, page 142) and temperatures here are allowed to exceed the 75 F design temperature by 20 F. The sloped ceilings were utilized as a natural extension of the return air system: they collect and conduct hot air to the top of the light shelves. A similar stratification of hot air occurs in the atrium, which is exhausted by fans at the top of the atrium.

The building, located in the mild climate of Sunnyvale, California, enables its variable-air-volume fan systems to use outside air for makeup during 97 per cent of normal working hours.

The performance of the air distribution, lighting and acoustical systems was tested and refined with a prototype of a section of the building constructed at the Owens-Corning Fiberglas technical center in Granville, Ohio. The prototype aided in the development of performance-type specifications which became the basis for construction bidding documents.

Energy-use projections for the Lockheed building are 19,600 Btu/sq ft/yr—45 per cent of what California's codes allow—for a projected 10-year savings of \$3.5 million compared to a conventionally lighted building.

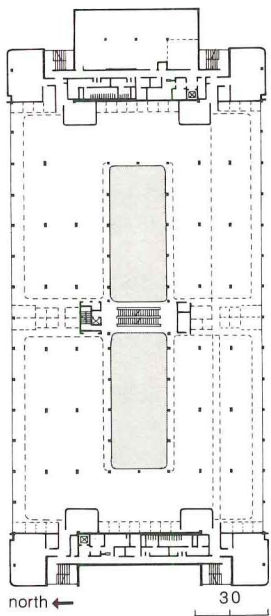
Projections were based on the DOE II computer program, which the designers used at many stages of the design along with the scale models to test basic assumptions and optimize the design.

In discussing the completed building with its somewhat unconventional design features, Lee Windheim, a Daly principal, points out unabashedly that some of the techniques were used 20 years ago in the designs of California public schools. Indeed, the basic plan of the building was used 50 years before that in Frank Lloyd Wright's Larkin Building.

The Lockheed building resurrects some of those tried and true daylighting principles and combines them skillfully with advanced energy-efficient lighting and hvac designs, demonstrating what Windheim thinks most owners and architects either forgot or never knew: Daylight can be the primary source of light in large multistory office buildings, not just at perimeters, but across their entire floor area.

*James B. Gardner*





*With expansive north- and south-facing facades, outboard fins and variously tinted glass, this 600,000 sq ft building in Sunnyvale, California harnesses and distributes daylight for 3,000 Lockheed workers. Stair towers, mechanical spaces and other core services placed on east and west ends block morning and evening sun and open the center of the plan for a huge daylighting atrium. The 300-ft-long atrium (see plan) works as a huge light well, dividing floors into halves that are lit bilaterally. To boost the levels of daylight reaching the center of these "halves," reduce contrast across the floor area, and overcome glare and heat gain, a number of design devices were necessary. In southern*

*exposures above the atrium, for instance, diffusing glass scatters direct sun rays creating softer, more even illumination. Tinted and clear glass in the curtain walls work in tandem with light shelves to fashion raw daylight to suit the sensitivities of workers' eyes. Solar cool glass, which transmits 17 per cent, is used on the south and solar gray, which transmits 41 per cent, is used on the north.*







The light shelves protrude 13 ft into the space along north and south perimeters and are positioned 7 ft 6 in. above the floor. On the south facade, the light shelves jut outward almost 5 ft from the building to shade glass beneath, while their angled top surface (Figure 2) directs additional light into the spaces. The tinted glass beneath the light shelves not only creates more even illumination across the space

but, by its design, improves speech privacy for persons working beneath the light shelves: The glass panes are offset from the vertical to reflect sound to an absorbent acoustical tile installed on the bottom of the light shelves, or to the carpeted floor. Daylight illumination is depicted by the shaded areas on the fourth floor of the large drawing below. Scale models showed that 85 per cent of

daylight reaching interiors from the north and south perimeters comes from above the light shelves. A lighting profile curve (Figure 1) was one of dozens the architects and engineers produced—for a variety of conditions—from tests using 1/8- and 3/8-in. scale models to predict daylight contribution. From this, both hvac and electric lighting systems were developed. The electric lighting design consists of

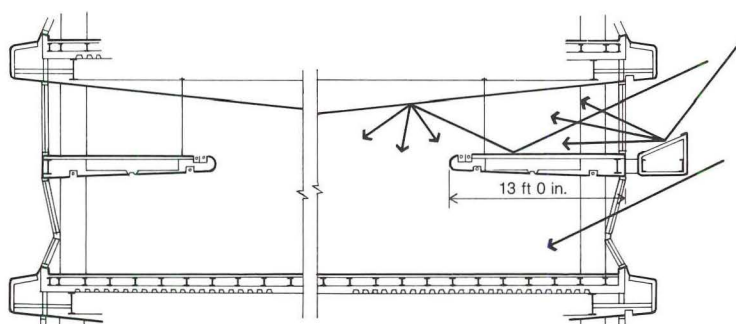
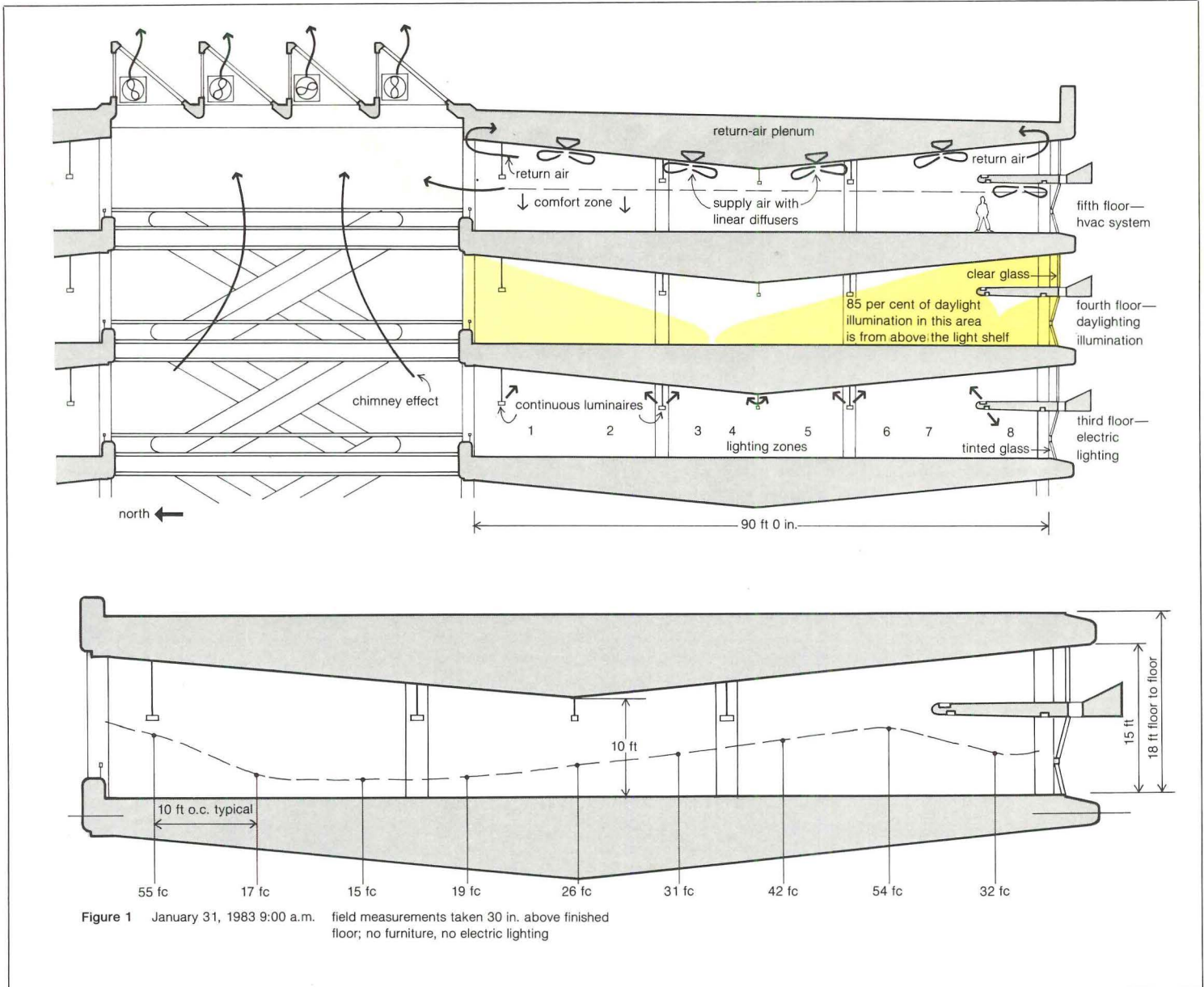
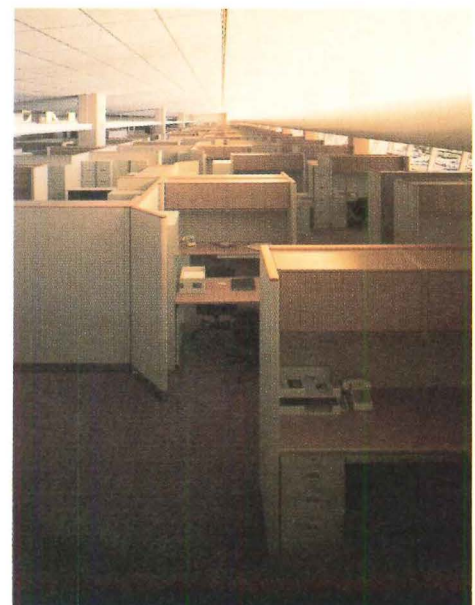


Figure 2





eight zones across the 90-ft sections (from atrium to either north or south facade). Each section (see third floor in large drawing) is controlled by a photocell located in the ceiling. In seven of the zones, luminaires face the 85 per cent reflective ceiling and light is mixed with the daylight before reaching work surfaces. The eighth zone consists of two luminaires installed in the bottom of the light shelves

which face work surfaces. The dimming range of the system is 100 to 10 per cent and power density at 100 per cent is 0.92 watts per sq ft. The hvac system utilizes the chimney effect created in the atrium and above the light shelves to exhaust hot air. Variable-air-volume fan systems supply air through linear diffusers located in the ceilings. An imaginary horizontal line (see fifth floor of

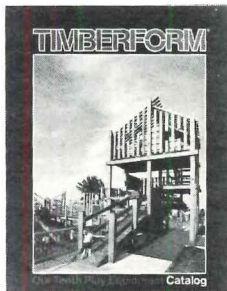
drawing) separates the return air "plenum" from the comfort zone. An air diffusion performance index, or ADPI, greater than or equal to 80 was achieved. (ADPI measures the quality of the air conditioning within a space. The number is derived by analyzing a series of measurements of air temperatures and velocities. These determine the "draft" temperature—similar to a wind-

chill factor. The percentage of draft temperature that meets an established comfort criteria established by ASHRAE is the ADPI. A number of 80 or above is considered acceptable.)



*Building 157  
Sunnyvale, California*  
**Owner:**  
*Lockheed Missiles and Space  
Company, Incorporated—Arthur L.  
Hubbard, vice president—  
operations*  
**Architect/engineer:**  
*Leo A. Daly*  
**Consultants:**  
*Richard Hamme (acoustics);  
Richard M. Patton (fire protection);  
Owens-Corning Fiberglas  
Corporation (prototype development  
contractor); Interior Landscape  
Design (interior landscaping)*

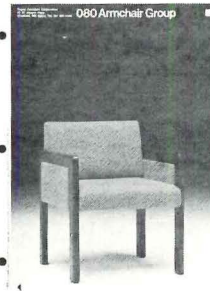




### Play equipment

An 88-page catalog features 136 predesigned timber play areas, along with 150 modular components for the fabrication of individual systems. The literature includes an explanation of *MaxTreat*, a preservative for timber elements. Columbia Cascade Timber Co., Portland, Ore.

Circle 400 on reader service card



### Armchairs

A 6-page color foldout brochure illustrates upholstery colors and hardwood frame options of the *080 Armchair Group*. A specification page shows options and lists over-all dimensions, as well as seat and arm heights. Tuohy Furniture Corp., Chatfield, Minn.

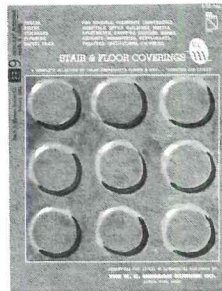
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### Blinds

A 4-page color brochure describes and illustrates a line of narrow-slat mini-blinds. Blinds are made of 1-in.-wide slats of heat-tempered aluminum alloy finished in baked acrylic colors. Photos show blinds in 18 available colors. Ohline Corp., Gardena, Calif.

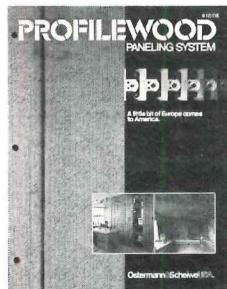
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### Stair and floor coverings

Vinyl and rubber stair and floor coverings, including the *Disc-o-tile* safety series, are illustrated and described in a 12-page color brochure. Diagrams of treads with dimensions and available colors are shown, and specifications are listed. The R.C. Musson Rubber Co., Akron, Ohio.

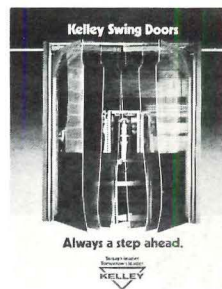
Circle 407 on reader service card



### Paneling

The *Profilewood* paneling system is described and illustrated in an 8-page color brochure. Photos show installations and 5 available wood species. Details illustrate a number of installation methods. Specifications and technical data are listed. Ostermann & Scheiwe, U.S.A., Inc., Tacoma, Wash.

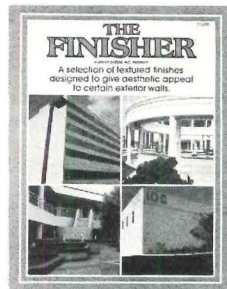
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### Industrial doors

A 6-page color foldout brochure features a line of industrial-grade swing doors. Pneumatic, electric, and manual opener styles are described, along with actuator systems that include push-button, lanyard, induction floor loop, photoelectric, and radio-controlled types. Kelley Company, Milwaukee, Wis.

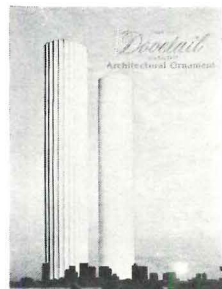
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### Exterior finishes

The *Finisher* collection of textured acrylic finishes is featured in a 4-page color brochure. Samples of the 21 available colors and 3 available textures are shown. Suitable substrates and substrate preparation are described. Dryvit System, Inc., West Warwick, R.I.

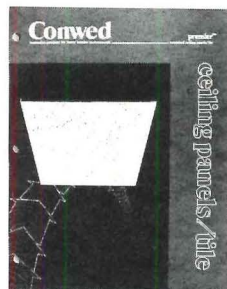
Circle 403 on reader service card



### Architectural ornament

A collection of cast plaster ornamentation for interior and exterior applications is described in a 24-page color catalog. Featured products include medallions, brackets, friezes, cornices, and columns. Photographs illustrate each item and depict sample installations. Dovetail, Inc., Lowell, Mass.

Circle 409 on reader service card



### Acoustical ceilings

*Premier* ceiling tiles and panels are described and illustrated in a 6-page color foldout brochure. Tables list acoustical properties, fire-ratings and specifications; photographs show sample installations. Conwed Corp., St. Paul, Minn.

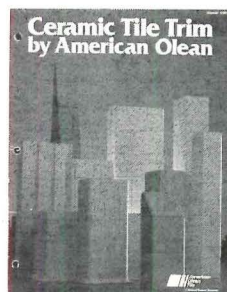
Circle 404 on reader service card



### Receptacles

Special-purpose duplex electrical receptacles are described in a 4-page brochure. Isolated ground, hospital-grade, illuminated, corrosion-resistant, tamper-proof, and ground fault circuit interrupter models are covered. Technical data and specifications are included in the literature.

Hubbell, Inc., Bridgeport, Conn.  
Circle 410 on reader service card



### Ceramic tile trim

Glazed, scored, and quarry tile trim as well as ceramic mosaic trim are featured in a 20-page color brochure. Diagrams with dimensions show various pieces, and renderings of installations illustrate where pieces may be used. Installation photographs are included. American Olean Tile Co., Lansdale, Pa.

Circle 405 on reader service card

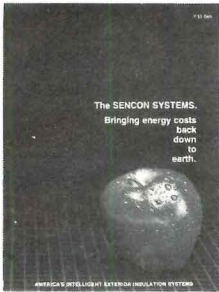


### Replacement windows

Photos and line drawings illustrate an 8-page brochure on replacement windows for any type of contract installation. Specifications are included for double-hung, single-hung and horizontal slider series. Louisiana-Pacific Commercial Products, Barberton, Ohio.

Circle 411 on reader service card  
More literature on page 149

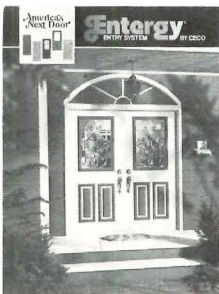




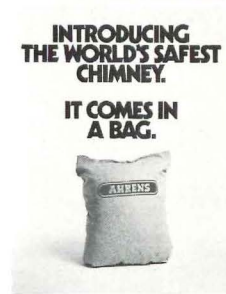
**Exterior insulation**  
A 12-page color brochure describes a mechanically anchored exterior insulation and finish system for commercial and residential buildings. Text outlines technical properties; photos and section drawings illustrate components and finishes. Sencon Systems, Inc., Northbrook, Ill.  
*Circle 412 on reader service card*



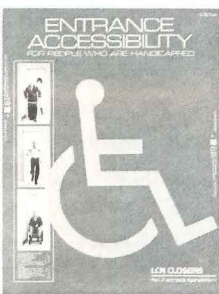
**Lighting control**  
A 6-page color brochure features the *ZoneMate* system of lighting management for a variety of building types. The series includes multiple-zone dimming with HID sources and automatic energy control with photosensors that adjust illumination levels to compensate for daylight. Wide-Lite Corp., San Marcos, Texas.  
*Circle 418 on reader service card*



**Doors**  
The *Entergy* series of 24-gauge steel residential doors is described in a 20-page color catalog. Charts outline dimensions, while drawings depict the product's foamed-in-place polyurethane core and available threshold and weatherstripping options. Ceco Corp., Oak Brook, Ill.  
*Circle 413 on reader service card*



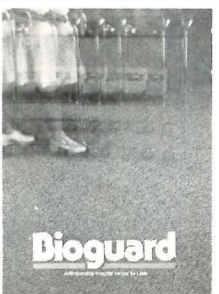
**Chimney liners**  
A 4-page color brochure describes and illustrates a 2-step poured chimney liner system said to prevent acid, moisture, and creosote build-up in flues. The literature also contains data on the manufacturer's line of caps, tops, clean-out doors, and appliance thimbles. Ahrens, Sioux Falls, S.D.  
*Circle 419 on reader service card*



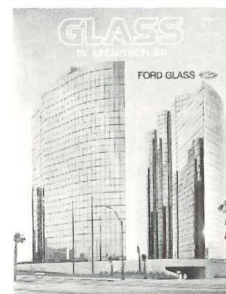
**Handicapped accessibility**  
A 16-page brochure discusses codes and regulations for accessibility to public buildings and describes the manufacturer's line of door control products for the handicapped. Featured items include the *Auto-Equalizer* automatic door operator and the *Sentronic* safety closer/holder. LCN Closers, Princeton, Ill.  
*Circle 414 on reader service card*



**Commercial doors**  
A 28-page catalog provides information on a series of commercial sectional doors, electric operators, and controls. In addition to product descriptions, the literature includes sections on framing details, tracks, chain hoists, and weatherseals. Overhead Door Corp., Dallas, Texas.  
*Circle 420 on reader service card*



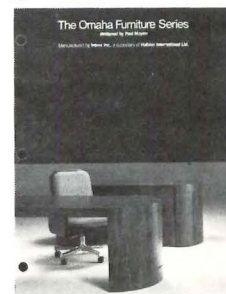
**Hospital carpeting**  
*Bioguard* is a 100 per cent nylon carpet treated with an antimicrobial agent for use in hospitals, nursing homes, and other health-care facilities. A 6-page color brochure describes how the carpet suppresses many bacteria, fungi, and other microorganisms. Lees Carpets, King of Prussia, Pa.  
*Circle 415 on reader service card*



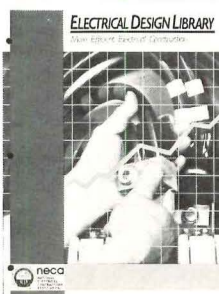
**Glass**  
Numerous installation photographs illustrate the manufacturer's 29 coated glass products, as well as clear, green, gray, and bronze float glass. Included is general information on uniform load strength, thermal stresses, and glazing guidelines. Ford Glass Division, Detroit, Mich.  
*Circle 421 on reader service card*



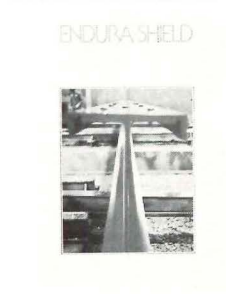
**Adhesives**  
A 2-page data sheet features *Scotch-Grip 2226*, a water-dispersed, nonflammable adhesive for bonding beadboard, plastics, wood, rubber, plywood, wallboard, canvas, plaster, and cardboard. A chart also describes the manufacturer's other contact cements. 3M, St. Paul, Minn.  
*Circle 416 on reader service card*



**Furniture**  
*Omaha* is a new line of wood furniture that features half-round pedestals combined with rectangular work surfaces and storage areas. An 8-page color brochure illustrates the series, which is available in 13 wood veneer finishes and 14 high-gloss polyester colors. Habitat International, New York City.  
*Circle 422 on reader service card*



**Electrical systems manual**  
This trade association has published a 16-page manual aimed at improving productivity. The literature divides its suggestions into the four building phases of design, bid development, contractor prequalification, and construction. National Electrical Contractors Assn., Bethesda, Md.  
*Circle 417 on reader service card*



**Polyurethanes**  
A 10-page color brochure outlines the performance characteristics and color options of *Endura-Shield* aliphatic polyurethane coatings. A specification chart matches products to various substrate materials. Photos illustrate sample applications. Tnemec Co., Kansas City, Mo.  
*Circle 423 on reader service card*  
*More literature on page 155*





# MARVIN LETS YOU REPRODUCE THE ORIGINAL WINDOWS. NOT MERELY REPLACE THEM.

Since these Victorian townhouses were constructed in the late 1800's, windows have undergone a lot of changes. Not all of them for the better.

Many manufacturers have substituted snap-in plastic grids for authentic divided lites. And many of the ornate, old styles

have been abandoned for simpler, more easily mass produced windows.

---

IN SOME WAYS, MARVIN  
WINDOWS ARE 100 YEARS  
BEHIND THE TIMES.

---

Marvin is the only major brand that can offer you exact, yet

affordable, reproductions of an old building's original windows, so its historical value can be preserved.

That's why Marvin Windows were chosen for this renovation project at George Washington University in Washington, D.C. Marvin offers over 2,000





Builder: George Hyman Const. Architects: John Carl Warnecke & Assoc. and Hellmuth, Obata & Kassabaum

standard shapes and sizes. And we're adding to that number all of the time.

We not only offer authentic divided lites, we offer extra wide jambs, round tops and other special shapes.

We even offer replacement sash for old double-hung windows. They let you keep the original frame and trim to help reduce renovation costs.

---

**WE STILL MAKE 'EM LIKE WE USED TO.**

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The frame, sash, and casing are made of fine-grained Ponderosa pine, still the best insulator of all the window materials. And the most beautiful.

All exterior wood is deep-treated to protect against rot and decay. The hardware and weatherstripping are the best available. And the components are carefully assembled by hand.

---

**OUR PRICES ARE ALSO BEHIND THE TIMES.**

---

In an age of standardization and cookie cutter, mass production techniques, Marvin Windows are



virtually in a class by themselves. But their prices aren't.

Despite all of their advantages, Marvin Windows cost no more than other well-known brands.

You get made-to-order windows at ready-made prices.

---

**OUR DELIVERIES ARE NEVER BEHIND TIMES.**

---

Even though our windows are made to order, we can deliver most shapes and sizes within two weeks of the time we receive your order.

So, if you're operating on a tight schedule, it should be comforting to know that we can, too. For more information, consult Sweet's General Bldg. File No. 8.16 MAR. Or for a free catalog, write Marvin Windows, Warroad, MN 56763 or call 1-800-346-5128 toll-free. In Minnesota, call 1-800-552-1167.

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**WINDOWS**  
**ARE MADE**  
**TO ORDER.**

Circle 50 on inquiry card



# New products

## Sixty years at V'Soske

"We want to take the medium as far as it will go," notes Roger McDonald, director of design at V'Soske, "and we see our work as part of the architecture, not just an accessory." Those two premises sum up the basic philosophy of a venerable rug and carpet maker that was founded in 1924 when Polish émigré Stanislav V'Soske perfected a way to hand-tuft wool yarns with a special needle that could produce various pile heights and densities. Since that time experimentation in both hand- and machine-tufting techniques has resulted in the company's current range of textural variations, including loop, full or partial shear, combinations of looped and sheared pile, overtufting, carving, embossing, and incising.

Throughout its 60-year history V'Soske has collaborated with some of this country's leading architects and interior designers, especially in the realm of postwar office design. Installations at SOM's Connecticut General Insurance Company headquarters in 1957 (1) and at Eero Saarinen's CBS Building in 1965—both carried out in conjunction with the Knoll Planning Unit—remain enduring examples of classic corporate modernism. The firm also worked with Warren Platner at the Ford Foundation in 1967 to produce a brushed gold-beige carpet set into oak parquet floors—a texture and technique that Platner later specified in such projects as the Mortgage Guaranty Investment Corporation Building in 1973 (2). More recently, when Bartholomew Voorsanger and Edward Mills were designing a new board room for New York University, they developed a carpet color scheme that V'Soske has incorporated into its *Lyle* machine-tufted texture (3).

V'Soske's relationship with architects has not been limited to specific interior jobs; on the contrary, the company is now associated with several noted young architects—Tod Williams, Roger Ferri, Lee Mindel, Peter Shelton, and Henry Smith Miller, to name a few—who are designing rugs and carpets for a variety of commercial, residential, and institutional applications. Particularly significant are recent commissions to Michael Graves and Charles Gwathmey. Graves's Rug #1 exhibits colors and forms that intentionally lead the eye from the floor to the surrounding architecture (4). His

Rug #2 employs more naturalistic tones and shapes to achieve what Graves calls "the idea of the interior as an extended garden" (5). The vivid overlapping hues of Gwathmey's new design for V'Soske also relate to nature and were inspired by images of the American landscape that the architect viewed from an airplane (6). The Graves #1 and Gwathmey rugs measure 5 by 7 ft, while Graves #2 is 8 by 10. Each is hand-tufted in a limited edition at the firm's plant in Puerto Rico.

In the area of machine-tufted carpeting, V'Soske has just introduced *Stripes*, a collection intended primarily for contract application that combines various yarn lengths and colors for effects that range from subtle to bold (7). Consistent with V'Soske's ongoing desire "to unleash the potential of the machine," *Stripes* was conceived for custom wall-to-wall installations at costs somewhat lower than the manufacturer's hand-tufted textures.

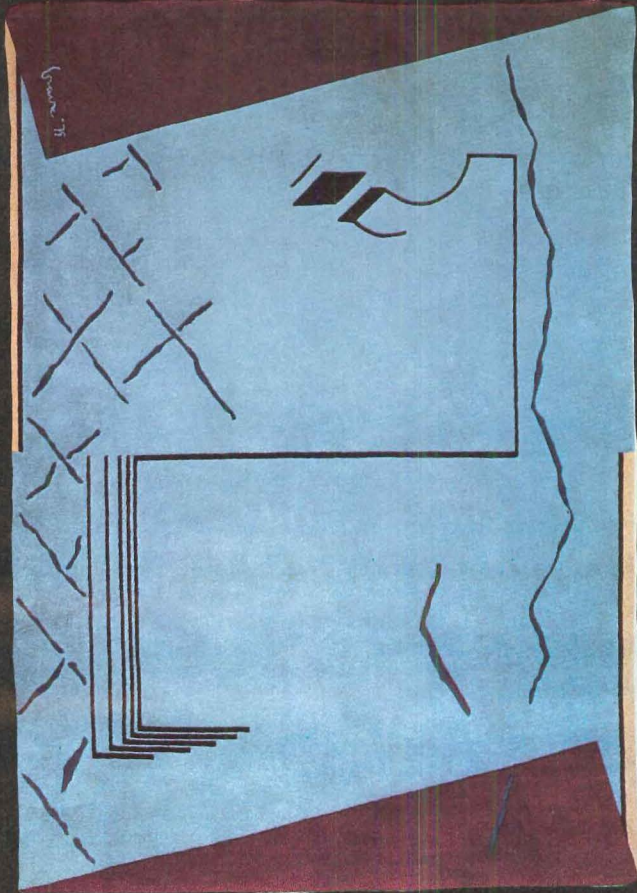
V'Soske, Inc., New York City  
Circle 300 on reader service card  
More products on page 161

1. Connecticut General Insurance Company, the Knoll Planning Unit, 1957.
2. Mortgage Guaranty Investment Corporation, Warren Platner, 1973.
3. New York University Board Room, Voorsanger & Mills, 1981.
4. Rug #1, Michael Graves, 1979.
5. Rug #2, Michael Graves, 1980.
6. Rug #1, Charles Gwathmey, 1983.
7. The Stripes Collection, 1983.

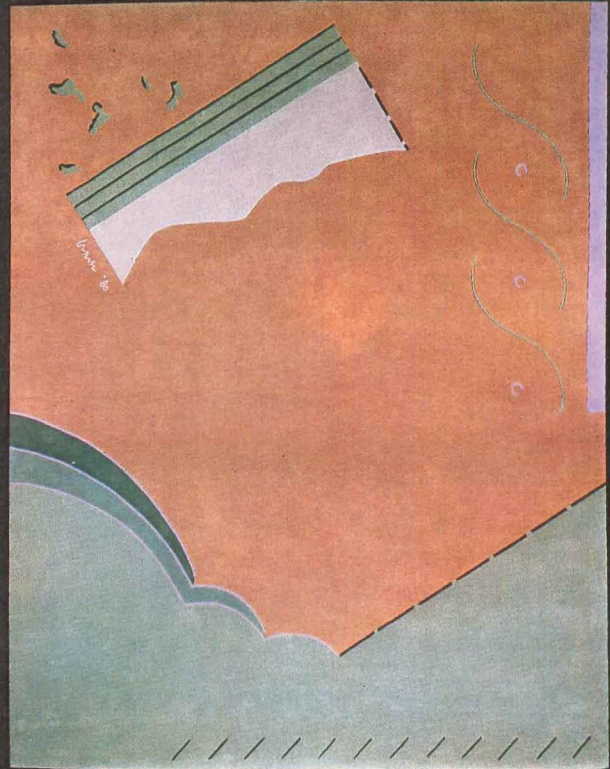




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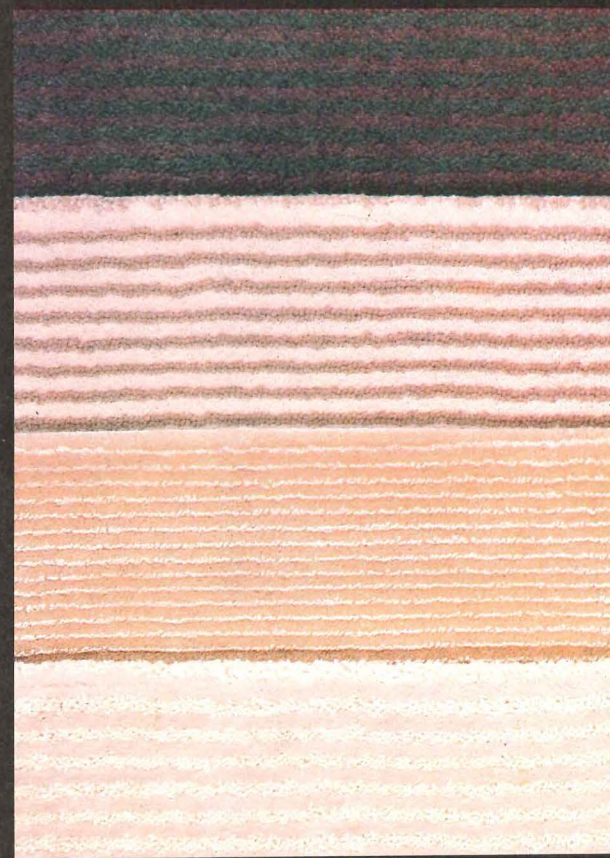
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Gustafson



6



7

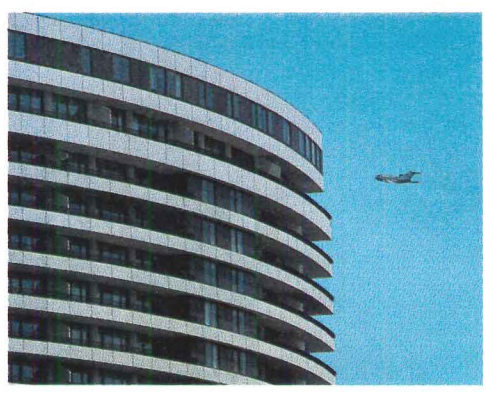




Washington D.C.'s Crystal City residential and commercial complex was designed by Weihe, Black, Jeffries, Strassman & Dove of Washington D.C., and is managed by Charles E. Smith Building Corporation

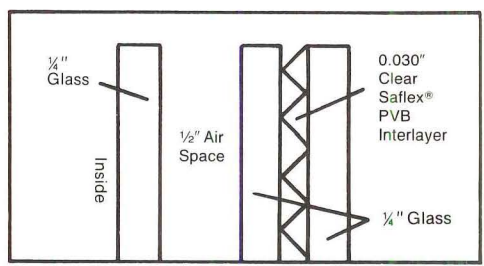
# How Laminated Glass handles noisy neighbors at Crystal City.

To keep noisy neighbors like cars, trains—and 150 jet takeoffs from nearby Washington D.C. National Airport—from disturbing Crystal City tenants, laminated glass with a Saflex® polyvinyl butyral



interlayer by Monsanto was the ideal, cost-efficient solution. The Saflex interlayer is only 0.030-inch thick—but it is the key sound-reducing component, thanks

to its acoustical damping characteristics. In fact, laminated glass alone stops noise more effectively than monolithic or air-spaced glass. And using laminated glass in an insulated, air-spaced configuration, further improves acoustical and thermal performance. Tests identified peak dBA levels of 76-79 at Crystal City. Design criteria called for an STC performance of 37-40. The final configuration for 55,000 sq. ft. of windows is detailed in the illustration:



And laminated glass was more cost-efficient than other sound control glass configurations. According to J. Scott Ogden, vice president of Charles E. Smith Building Corporation, "We found that laminated glass was the most cost-effective way to solve the sound problem. We got the best design at an economical cost and solved the problem without overkill."

So, while the jets and trains haul people all over the world, Crystal City tenants can enjoy a peaceful, quiet world of their own.

If you need to quiet noisy neighbors too, write us for a list of suppliers. Monsanto Polymer Products Company, Dept. 804, 800 N. Lindbergh Blvd., St. Louis, Missouri 63167.



PLASTIC INTERLAYER BY **Monsanto**

Saflex® is a registered trademark of Monsanto Company © Monsanto Company 1983 MPP-3-328R

Circle 51 on inquiry card





**Library storage systems**

A 24-page guide to planning library space with high-density mobile stacking systems covers floor loading, security, preservation, and budgets. Schematics show how stacking systems can save up to 50 per cent of floor space for other library functions. Spacesaver Corp., Fort Atkinson, Wis.

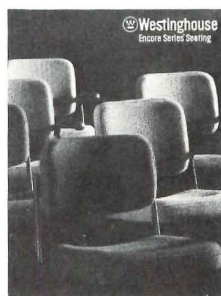
Circle 424 on reader service card



**Office lighting**

A 16-page color booklet describes the *Lite-A-Part* and *TK* systems of task and ambient lighting for use with office workstations and video display terminals. Photographs and drawings show sample installations. Elliptipar, Inc., West Haven, Conn.

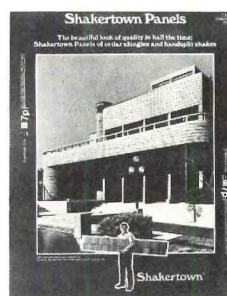
Circle 427 on reader service card



**Office chairs**

The *Encore* series of office seating comprises five chair styles available with a variety of posture control mechanisms. A 10-page color brochure describes the seating and includes data on base, upholstery, and finish options. Westinghouse, Grand Rapids, Mich.

Circle 428 on reader service card

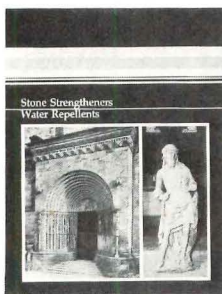


**Shingle panels**

A line of 8-ft cedar shingle and shake panels for residential and commercial use is featured in a 12-page color brochure.

Photographs depict sample installations, and a technical section includes specifications and a panel selection chart. Shakertown Corp., Winlock, Wash.

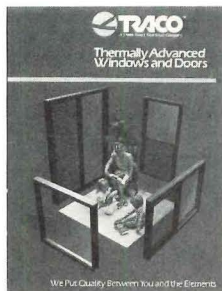
Circle 429 on reader service card



**Masonry preservers**

*Conservare* is a line of two stone strengtheners and two water repellents recently introduced in the United States. The stone strengtheners are designed for surface application to deteriorating older masonry by spray, brush, or roller without changing the building's appearance. The water repellents are similarly applied and are said to protect against moisture penetration and acid rain. A 6-page color foldout brochure describes the products and illustrates sample applications. ProSoCo, Inc., Kansas City, Kansas.

Circle 425 on reader service card



**Thermal windows and doors**

Installation photographs and section drawings illustrate an 8-page color brochure on a line of insulated double-hung, tilting, sliding, and fixed aluminum windows and patio doors for residential use. The literature also outlines the safety advantages of shatterproof *View-Safe* tempered glass. TRACO, Warrendale, Pa.

Circle 426 on reader service card

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Your blueprint for beauty in high traffic areas, Roppe Raised Circular Design tile is solid rubber throughout for years of wear. Reduces noise; resists scuffing, gouging, burns and most chemicals; and cleans up with soap and water. In six beautiful colors. Matching stair treads, cove base and accessories available. For your nearest distributor, write Roppe Rubber Corporation, 1602 N. Union Street, Box X, Fostoria, Ohio 44830. Or call toll-free.

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# FINALLY. CLASS I ANODIZING IN A WIDER RANGE OF COLORS.



Amchem's remarkable P3 almeicolor™ system can create a range of electrolytic colors from pale champagne to a midnight black. And every shade and hue in between. P3 almeicolor permits anodizers to achieve Class I specifications with every color. So now you have a greater choice than ever before.

Best of all, any P3 almeicolor shade

you pick is reproducible. Time, after time, after time. There's minimal batch to batch variation. And P3 almeicolor™ electrolytic coloring is useable with every frequently specified aluminum alloy.

Where do you find a source for this consistently impressive new electrolytic coloring process? By calling us at

Amchem. Even though we don't anodize aluminum, we market chemicals and technology to color it. So we're a good source for a good anodizer who's close to where you work.

For a free package of information on P3 almeicolor™ and a list of anodizers who use it, write or call Amchem Products, Ambler, PA 19002, (215) 628-1000.

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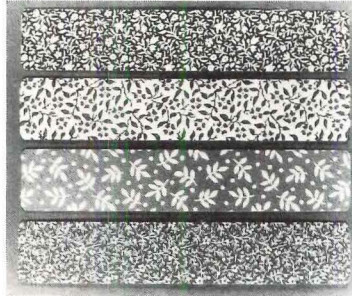
Amchem Products Division  
Henkel Corporation

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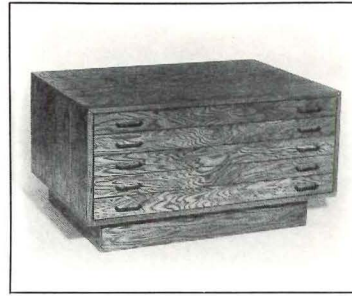




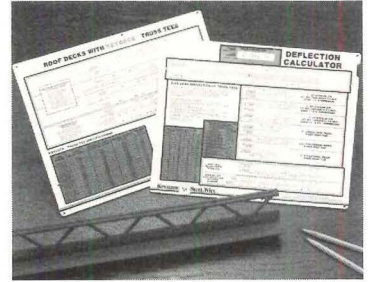
**Keyboard file cabinet**  
The KB 6000 series of file cabinets is designed to accommodate computer terminals and features a sliding hideaway keyboard shelf that is adjustable for heights of 26½ in. to 29 in. The keyboard also has a forward-backward adjustment of 2½ in., in addition to the capacity for a 10-deg tilt. Contemporary and traditional styles are available. Jofco, Inc., Jasper, Ind.  
Circle 301 on reader service card



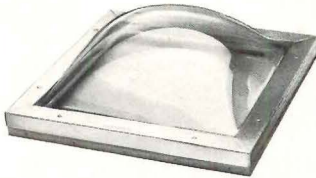
**Blinds**  
Four small prints from Boussac, the French fabric house, are offered as laminate finishes on this manufacturer's aluminum mini-slat and vertical vane blinds. The prints are available in 6 colors and may be specified for either the convex or concave side of the blind. Levolor Lorentzen, Lyndhurst, N.J.  
Circle 304 on reader service card



**Flat files**  
Three lines of flat files are available in unfinished particle board, oak plywood (shown above), and finished particle board painted in one of 6 high-gloss colors. A variety of metal, nylon, and wood hardware options are offered for the units. Pacific Filing Concept, Atascadero, Calif.  
Circle 305 on reader service card



**Deflection calculator**  
A slide rule deflection calculator is said to provide complete materials specifications for roofing systems that incorporate truss tee subpurlins with gypsum, lightweight concrete, or structural wood fiber roof tiles. Keystone Steel & Wire Co., Peoria, Ill.  
Circle 306 on reader service card  
Continued on page 167



**Skylight**  
The Skydome is an acrylic sealed double-dome skylight. It features a vinyl curb with fused corners, a condensation gutter and an elastomeric gasket. The vinyl curb, called *Permatherm*, is said to be superior to aluminum for its thermal properties. Wasco Products, Inc., Sanford, Maine.  
Circle 302 on reader service card



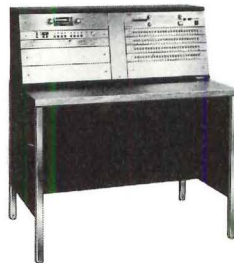
**Play centers**  
*Playscape* recreational units are two-level children's environments designed for installation in medical clinics, hospitals, day care centers, doctors' offices, stores, and institutions. The basic center provides 72 sq ft of play space within a 6-ft by 6-ft floor area, while a deluxe model offers 96 sq ft within a 6-ft by 8-ft area. The units are constructed of plastic laminated particle board and are equipped with interior carpeting and upper windows of *Lexan* sheets. Options include low-voltage lighting and a variety of play equipment. Playscapes, Madison, Wis.

# Rauland Communications Systems

over 50 years of experience

systems for schools, health care facilities, institutions, business and industry

It's easy to specify from Rauland's widest selection of advanced technology systems for every internal communications and paging requirement. They are unexcelled for instant natural 2-way speech, instant emergency alert signalling, and supreme ease of operation. Backed by decades of experience, these tough systems are performing reliably day in and day out in thousands of schools, hospitals, institutions, businesses and industrial plants.



Rauland "Director" Systems set the standards for school communications management, emergency alert, flexible program distribution—with simplest operation.



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"Telecenter" systems are widely used in schools, correctional and other institutions, dorms, retirement homes. Direct 2-way communications; emergency alert; digital readout.



"Responder" Systems for hospitals are microprocessor-controlled to provide the most effective patient-nurse communications ever achieved. Fully responsive to staff needs; simplest possible operation.

**AT YOUR COMMAND:** Our nationwide network of Authorized Rauland Communications Specialists with system design expertise and full installation and service facilities is available to you for consultation without obligation. For the name of your nearest Rauland Communications Specialist, write or call today or use the reader service card.



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Circle 55 on inquiry card





Ad  
Council

Photo: Peter B. Kaplan

## If you still believe in me, save me.

For nearly a hundred years, the Statue of Liberty has been America's most powerful symbol of freedom and hope. Today the corrosive action of almost a century of weather and salt air has eaten away at the iron framework; etched holes in the copper exterior.

On Ellis Island, where the ancestors of nearly half of all Americans first stepped onto American soil, the Immigration Center is now a hollow ruin.

Inspiring plans have been developed to restore the Statue and to create on Ellis Island a permanent museum celebrating the ethnic diversity of this country of immigrants. But unless restoration is begun now, these two landmarks in our nation's heritage could be closed at the very time America is celebrating their hundredth anniversaries. The 230 million dollars needed to carry out the work is needed now.

All of the money must come from private donations; the federal government is not raising the funds. This is consistent with the Statue's origins. The French people paid for its creation themselves. And America's businesses spearheaded the public contributions that were needed for its construction and for the pedestal.

The torch of liberty is everyone's to cherish. Could we hold up our heads as Americans if we allowed the time to come when she can no longer hold up hers?

### Opportunities for Your Company.

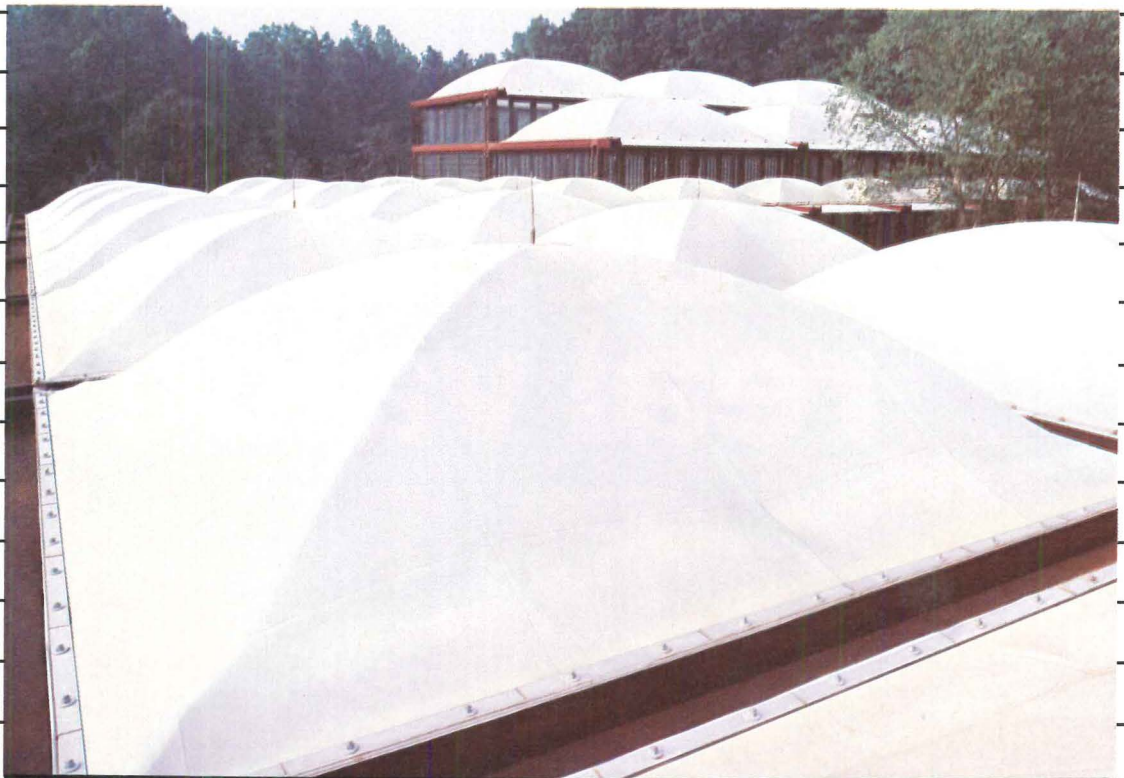
You are invited to learn more about the advantages of corporate sponsorship during the nationwide promotions surrounding the restoration project. Write on your letterhead to: The Statue of Liberty-Ellis Island Foundation, Inc., 101 Park Ave, N.Y., N.Y.10178.



**KEEP  
THE  
TORCH  
LIT**

Save these monuments. Send your personal tax deductible donation to: P.O. Box 1986, New York, N.Y. 10018. **The Statue of Liberty-Ellis Island Foundation, Inc.**





John A. Sibley Horticultural Center, Callaway Gardens, Pine Mountain, Ga.

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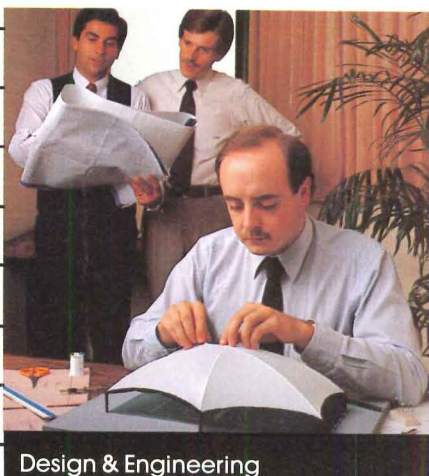
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Patterning & Fabrication



Installation & Supervision



Design & Engineering

ODC's capabilities go far beyond fabric coating. We provide design, engineering, fabrication, and installation of tension and air-supported structures. Contact us for specific information about our pre-engineered structures and custom design and engineering services. Refer to Sweet's 13.1/ODC or call Sweet's BUYLINE®

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# For openers this beauty is a real value.

The Von Duprin 99 is opening a few new doors in areas that formerly were closed. Even though we designed the 99 exit device like the stylish 33 series, it's still suited for heavy traffic installations and retrofit projects. But, because we also designed the 99 with \$\$ in mind, it's priced much lower. Without sacrificing Von Duprin quality . . . or ease of installation . . . or even the smooth operation of its cousin, the 33.

For openers this beauty is a real value. For closers, it's still Von Duprin.

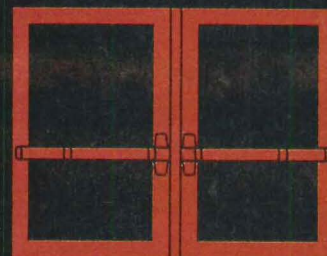
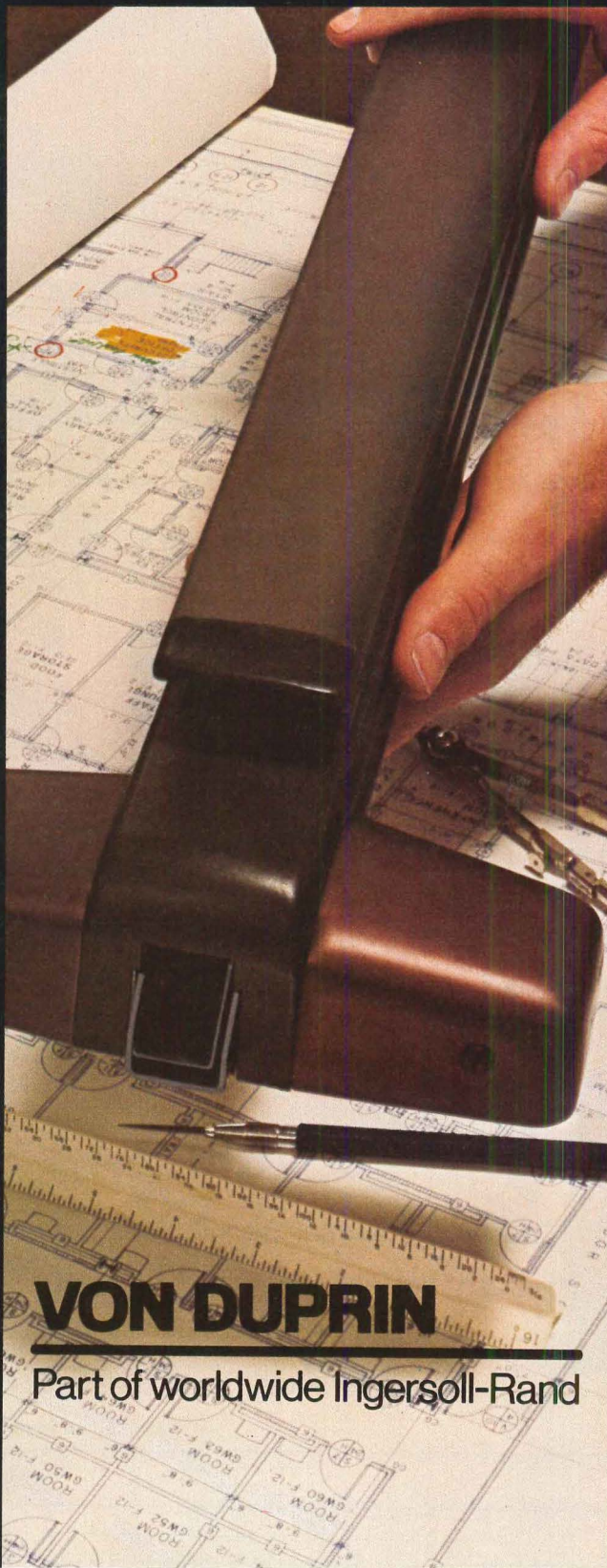
The 99 devices are immediately available in your choice of finishes: clear anodized aluminum, (US-28) satin bronze anodized, (US-10AN) dark bronze Duranodic, (313) or black anodized aluminum. For complete information, write for Bulletin 821.

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The Von Duprin 99 devices are non-handed. Two standard housing lengths, 3'-0" and 4'-0", can be cut to door size on location. Single door performance in double door openings can be attained by using a Von Duprin removable mullion with a pair of 99 rim devices.

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400 West Maryland Street  
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## Manufacturer sources

*For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.*

### Pages 96-101

Schermerhorn Row Block  
by Jan Hird Pokorny

**Pages 100-101**—Masonry: Kane Gonic Brick. Thermal insulation: Celotex Tempcheck. Elastomeric liquid-applied roofing and waterproofing: Gates Engineering. Blue-black slate roofing: Buckingham Slate Co. Patterned slate roofing: Vermont Structural Slate. Custom flashings, lead-coated copper gutters, leaders: Walkow Braker (custom). Skylights: Lynbrook Products. Hollow metal doors and frames: Built-Rite. Wood doors and custom historic windows: Eastern Woodworking Co.

### Pages 102-103

The Museum Block  
by Beyer Blinder Belle

**Pages 102-103**—Curtain walls: Harris Steel. Built-up roofing and insulation: Dow. Tempered glass and stainless steel doors: Ellison. Aluminum sliding and fixed windows: Efcó. Polished chrome locksets: Sargent Co. Polished stainless steel hinges: McKinney.

### Pages 104-107

Fulton Market  
by Benjamin Thompson and Associates

**Page 104**—Granite: Bussiere Granite Co. Brick: Stiles and Hart. Curtain walls: Marmet, Diamond Architectural Products, Inc. Wood siding: Circle Industries/Panaflex. Thermal insulation: Koppers Exeltherm. Built-up roofing: Irma. Elastomeric liquid roofing: Rubber & Plastics (Nerva Deck). Corrugated metal roofing: Ryerson. Flashings, skylights, downspouts, gutters and leaders: L.P. Kent Roofing. Aluminum doors, storefront windows: Diamond Architectural Products Inc. Metal doors: Firedoor Corp. of America. Sliding doors, glass shed windows, greenhouses: Craft Architectural Products. Glass: Floral.

### Page 107

—Ceilings, partitioning: U.S. Gypsum. Retractable partitions: Rollomatic. Custom woodwork: Feldman Lumber. Paints, stains, and special coatings: Amsterdam Paints. Paneling, oak flooring: Circle Industries. Plastic laminate surfacing: Panaflex. Floor tile: Welsh. Glazed wall tile: Franciscan Terra Grante. Granite flooring: Bussiere Granite Co. Tabletops and oak chair slats: Berrera Corp. Table bases: Chicago Hardware and Foundry.

### Pages 108-109

Mill Street Plaza  
by Hagman Yaw Architects, Ltd.  
**Pages 108-109**—Brick veneer masonry: Robinson Brick and Endicott Clay Products. Dampproofing and elastomeric roofing: Johns-Manville Corp. Sheet metal: Berridge Manufacturing Co. Skylights: AIA Plastics, Inc. Tempered glass: General Glass and PPG Industries, Inc. Locksets and hinges: Schlage. Closers: LCN Closers. Lighting fixtures: Lightolier, Prescolite and Alkco (outdoor), Emergi-lite (special).

### Pages 110-111

The Columbia Union Market  
by Lee Weintraub

**Pages 110-111**—Metal curtain walls and aluminum laminated doors: International Marine Containers. Paints and stains: Benjamin Moore & Co. Hardware: Stanley Hardware. Signs and directories: Seaboard Graphics. Lighting fixtures: Keene Corp.

### Pages 112-113

The Mall at 163rd Street by Charles Kober Associates and Wolfberg/Alvarez/Taracido & Associates

**Pages 112-113**—Curtain walls: Kawneer 1600. Thermal insulation: W.R. Grace (Insulperm). Built-up roofing: Koppers. Elastomeric roofing, custom flashings: Carlisle Tire & Rubber Co. Teflon-coated roofing: Owens-Corning Fiberglas. Glass doors: Herculite, Kawneer (framing). Glass: Globe Amerada (throughout). Integrated ceilings: Donn Corp. Floor tile: Dennis Ruabon Ltd. Signs and

directories: ASI and The Pace Collection, Inc. Benches: Landscape Forms. Tables, chairs: ICF. Mall canopy fabric: Gretchen Bellinger, Inc. Atrium accessories: Canterbury Designs. Mall kiosks and arbor: Integrated Ceilings. Lighting: McPhilben. Elevators, moving stairways: Montgomery.

### Pages 118-131

The High Museum of Art  
by Richard Meier & Partners

**Pages 118-119**—Granite: North Carolina Granite Corp. Metal panels: John S. Frey Porcelain Inc. Window wall: Amarlite Anaconda Inc. Glass, skylights: Hordis Brothers, Inc. Exterior terrazzo paving: Williams Tile & Terrazzo. Steel railings and screens (interior and exterior): Standard Iron & Wireworks Inc. Bollard lights: Street Lighting Inc.

**Page 127**—Tile flooring: North Carolina Granite Co. Ramp carpeting: Stratton Industries, Inc.

**Page 129**—Gypsum board walls: U.S. Gypsum, Inc. Wood flooring: Southeastern Flooring Co. Lighting: Edison Price Inc. Paints: PPG Paints (white), Martin Senour (colors). Exhibition vitrines: Rathe Productions, Inc.

**Page 130**—(top) Seating: Carpentry Unlimited, Inc. (wood frame), Citron Upholstery Co. (upholstery).

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Saving and using old buildings, warehouses, depots, ships, urban waterfront areas, and even neighborhoods makes good sense. Preservation saves valuable energy and materials. We can also appreciate the artistry of these quality structures.

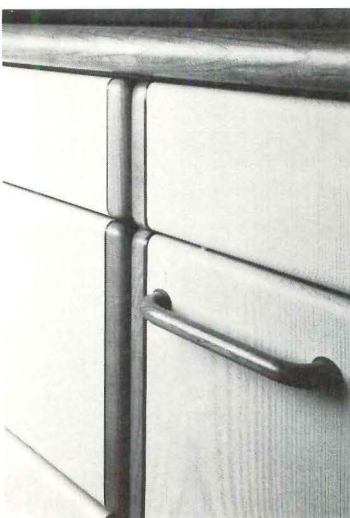
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**National Trust for Historic Preservation**  
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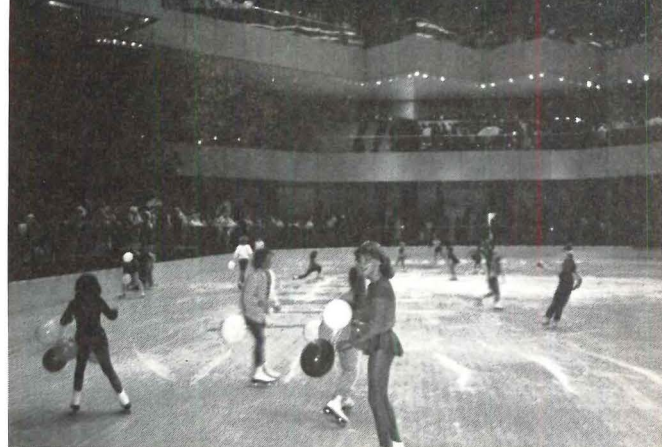
**Metal staircases**  
 Freestanding *Single Helix* staircases have metal frameworks with hardwood handrails and treads. Options in sizes, shapes, materials and finishes are available. Atlantic Stairworks, Inc., Newburyport, Mass.  
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**Kitchen cabinets**  
*CI 450* cabinets feature rounded, solid wood trims and bowed handles. Cabinets come in beige laminate with cherrywood, gray laminate with gray oak, and ivory-colored laminate with natural ash. Wall unit doors have smoked glass panes. Poggenpohl USA Corp., Teaneck, N.J.  
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**Controlled access**  
*Class*, a card access system that uses an IBM personal computer, establishes who is authorized to enter restricted areas on the basis of security clearance, time and day. Printouts provide records of activity. Applied Realtime Systems, Inc., Metairie, La.  
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## Atrium ice brings traffic to Galleria

Above: Rinkmaster® "DLR" (Direct Liquid Refrigeration) provides energy-efficient ice making for the Galleria Shopping Center, Dallas, Texas. For the latest information on ice rink developments, send for this 32-page Guide & Check List.



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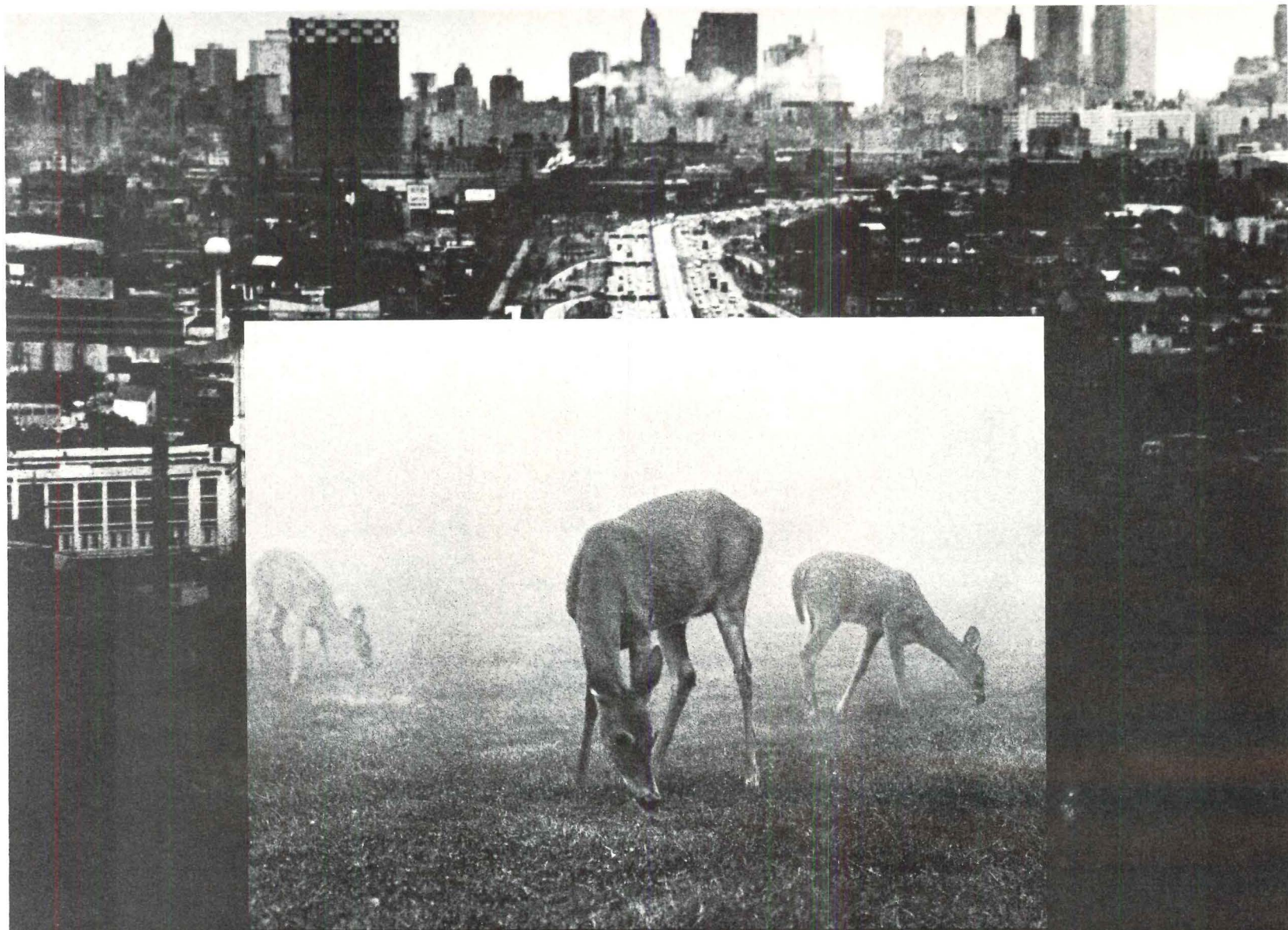
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Wild animals can't live the way people do. They need wilderness to roam, secluded areas in which to raise their young, undisturbed freedom to hunt and forage for food.

With bulldozers and chain saws, man is constantly encroaching upon their range.

They can't share our spaces. So we have to give them the space they need.

That's the idea behind the National Wildlife Federation's Land Heritage Program. With the aid of interested individuals and corporations, we're acquiring still undeveloped land to preserve the habitat of endangered animals like the bald eagle.

The land in its natural state is part of our heritage too. Help preserve it. Join the National Wildlife Federation, Department 107, 1412 16th Street, NW, Washington, DC 20036.





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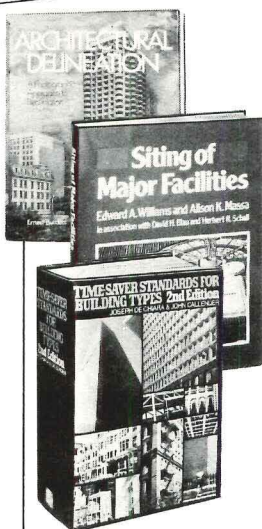
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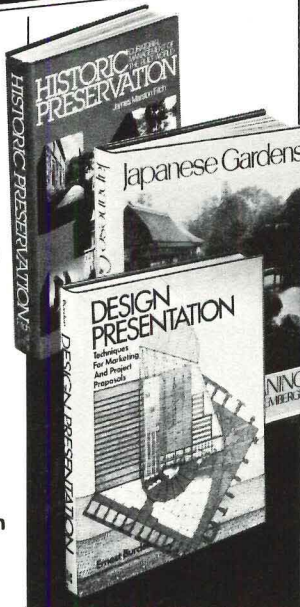
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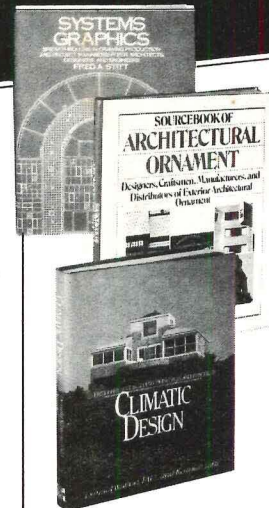
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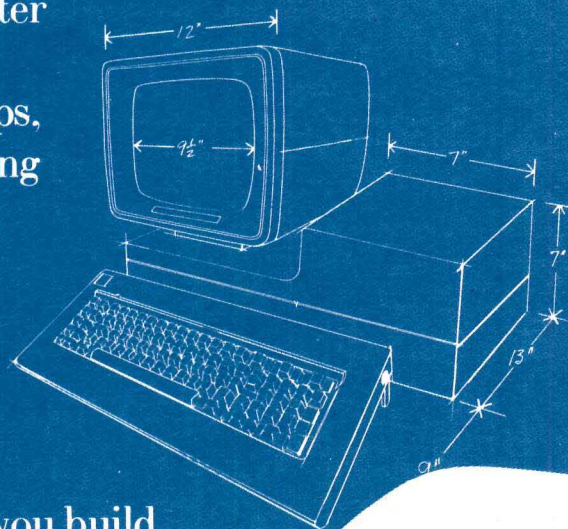
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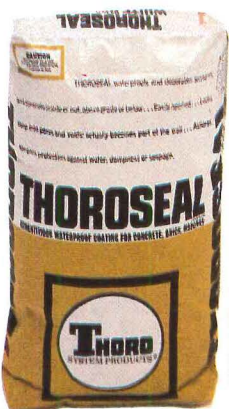


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# ENCORE

## AT LOS ANGELES MUSIC CENTER

The performance was a classic lasting 17 years. Then, they called for an encore. The star, 100% pure wool carpet, custom designed in honey and olive with the Center's sunburst emblem.

Wool was chosen as the only fiber that could provide the luxurious beauty and rich color needed to complement the elegance of the Grand Hall and the Dorothy Chandler Pavilion.

Over a million patrons annually attend 400 performances and other events. Only wool offered the soil and stain resistance, cleanability, easy maintenance and durability required to cope with the crowds, drink spills and cigarette ends. Daily vacuuming and periodic cleaning removed spots and soil. Burns brushed away leaving no ugly melt scars.

After 17 years, when the carpet was replaced, the Los Angeles Music Center insisted on an encore and specified a 100% pure wool duplicate of the original carpet!

Want more encores from your clients? Specify pure wool. Its easy cleanability, economical maintenance and lasting beauty make it the most cost-effective carpet investment.

Again 100% pure wool sets the standard for carpet excellence.



PURE WOOL PILE  
The Standard of Carpet Excellence

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# WOOL Carpet... good looks that last anywhere.

The wool carpets in these locations were recently replaced after 10 to 18 years of rugged use.

In each case, the replacement carpet specifications were exactly the same as the original—100% pure wool!

That's strong testimony to the performance and long-term economy of wool. Like to know more? Call us.

Wool carpet—the most cost effective choice.

Contact Peggy Jonas, Contract Marketing Manager in Atlanta, or a consultant in your area:

Southwest, Dorie Coburn, (214) 744-4026  
West, Martha Gonzalez, (213) 659-9981  
Midwest, Nancy Gilbert, (312) 467-5578  
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The Standard of Carpet Excellence.

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## BART TRAINS WON'T SWITCH

After 10 years experience with wool, BART is staying on the track with pure wool carpet. BART, San Francisco's modern automated Bay Area Rapid Transit System, began service in 1972. In each car, 100% pure wool sandstone/gold/orange Moresque carpet was installed.

Every work day 190,000 riders—over 5 million a year—trudge on the carpet surface depositing mud and dirt, leaving coffee spills, grease and smoldering cigarette ends.

Wool's long wear, resilience and lasting appearance are equal to the challenge. Soil and stains are removed with monthly shampooing. Burns are easily brushed away, discouraged by wool's natural flame resistance.

BART is completely sold on pure wool's durability and easy maintenance. They are now planning to order 60-70 new cars, and for the carpet they insist on the same 100% pure wool specifications they have used for a decade.

This is the kind of satisfaction your clients can expect from pure wool, especially when you consider that wool carpets' lasting beauty and long life make it the most cost-effective choice.

Again 100% pure wool sets the standard of carpet excellence.



PURE WOOL PILE  
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# Repeat Performance at Grady Gammage Memorial Auditorium

Arizona State University's Auditorium was one of Frank Lloyd Wright's last designs. 100% pure wool carpet was chosen to repeat its 18-year outstanding performance.

Completed in 1964, the circular-structured auditorium extends the outdoor desert environment indoors. For the desired natural beauty, as well as durability, soil and stain resistance and easy maintenance, 3,800 square yards of 100% pure wool, Earth Clay, custom carpet were installed.

The auditorium seats over 3,000. Annually, nearly 1 million attend 250 public events plus tours and rehearsals.

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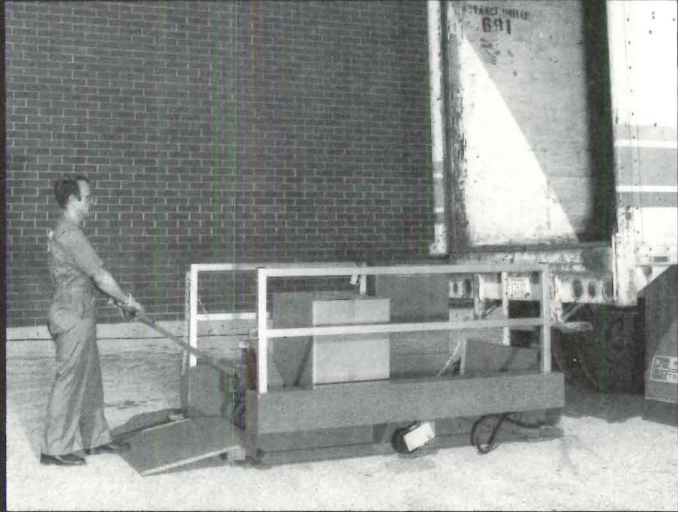
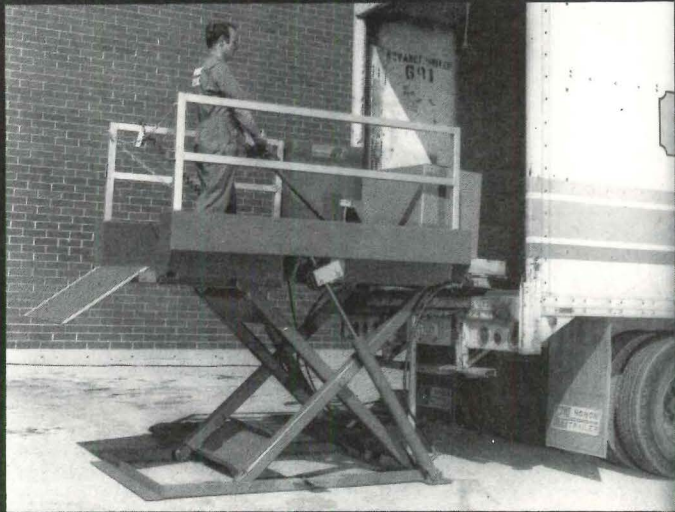
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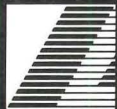
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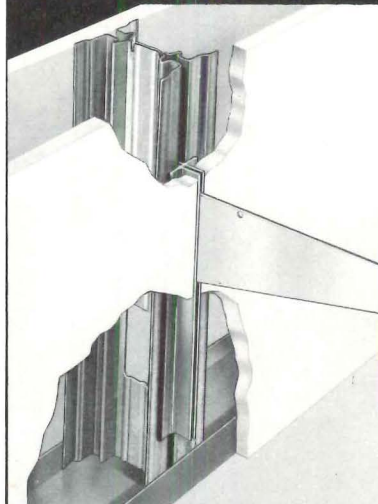
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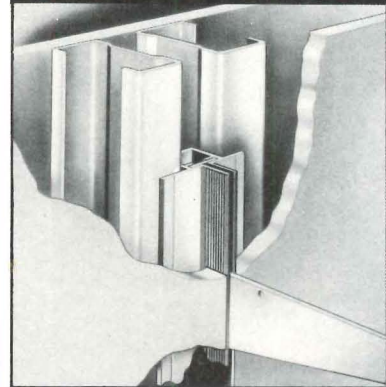
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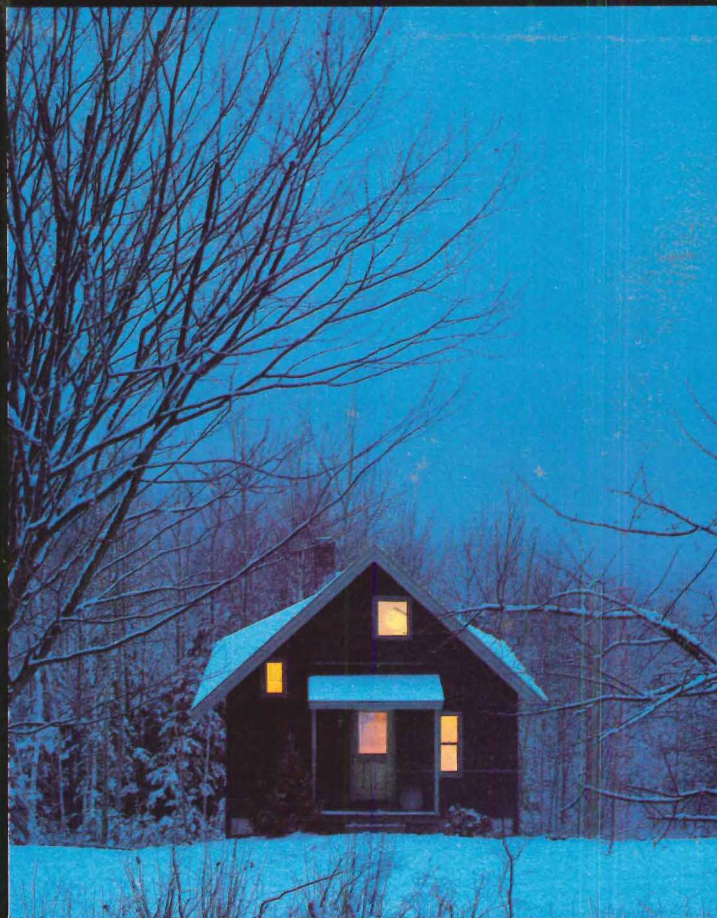
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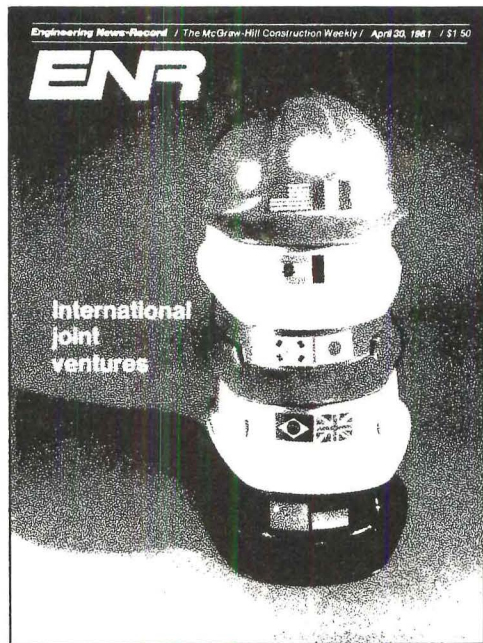
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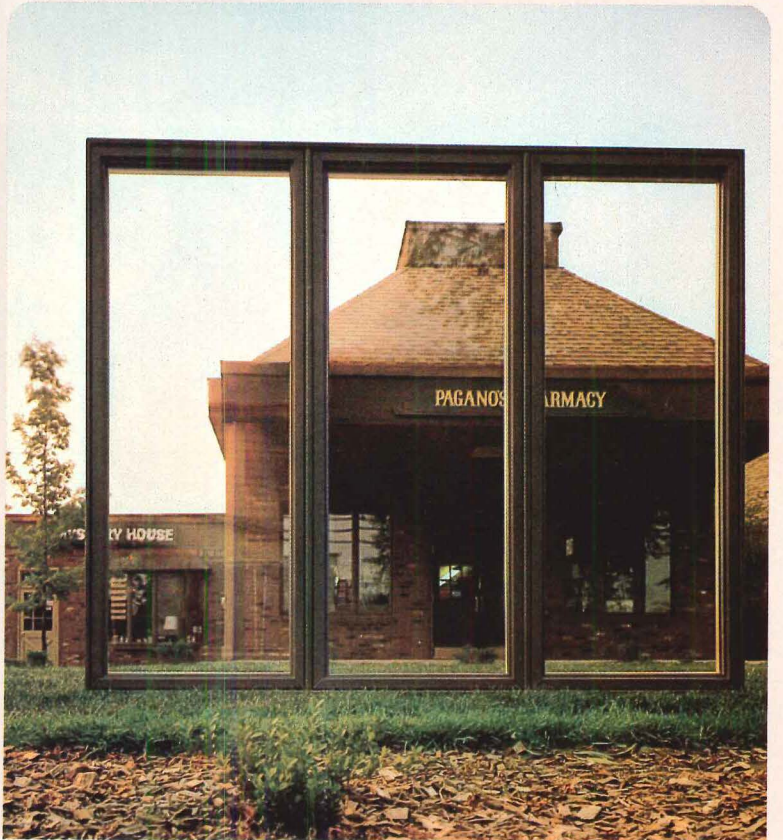
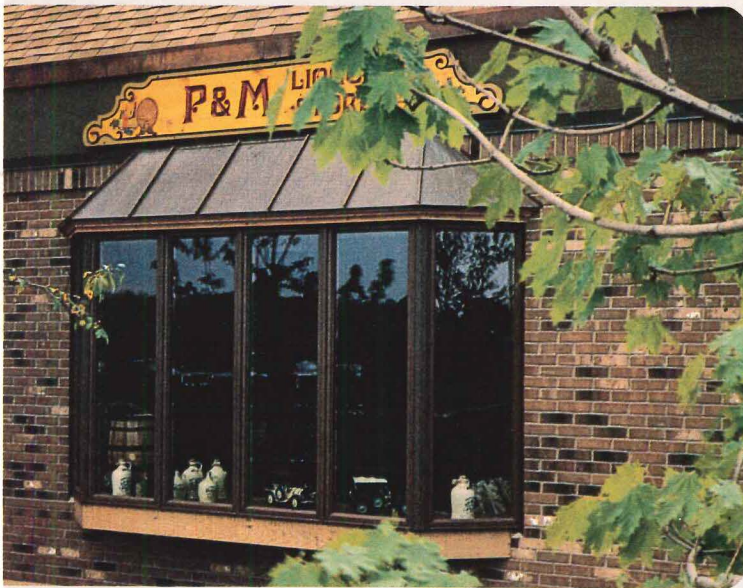
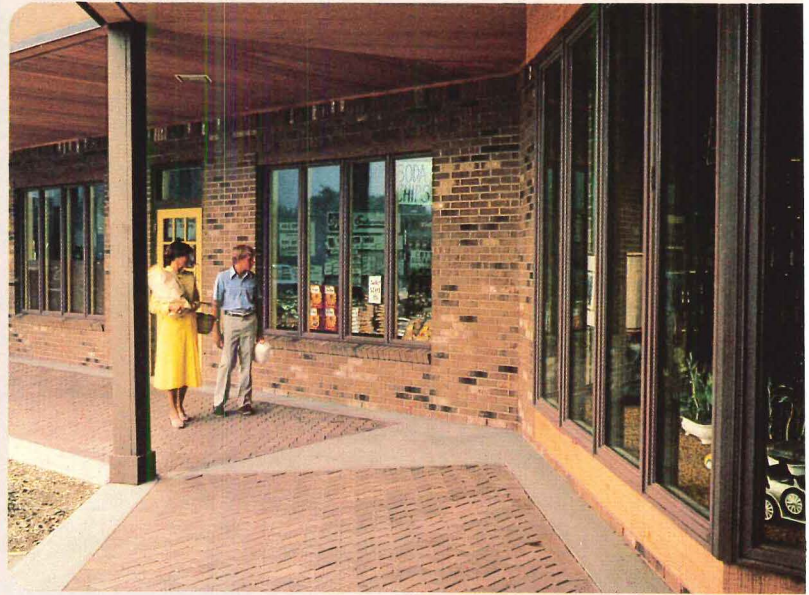
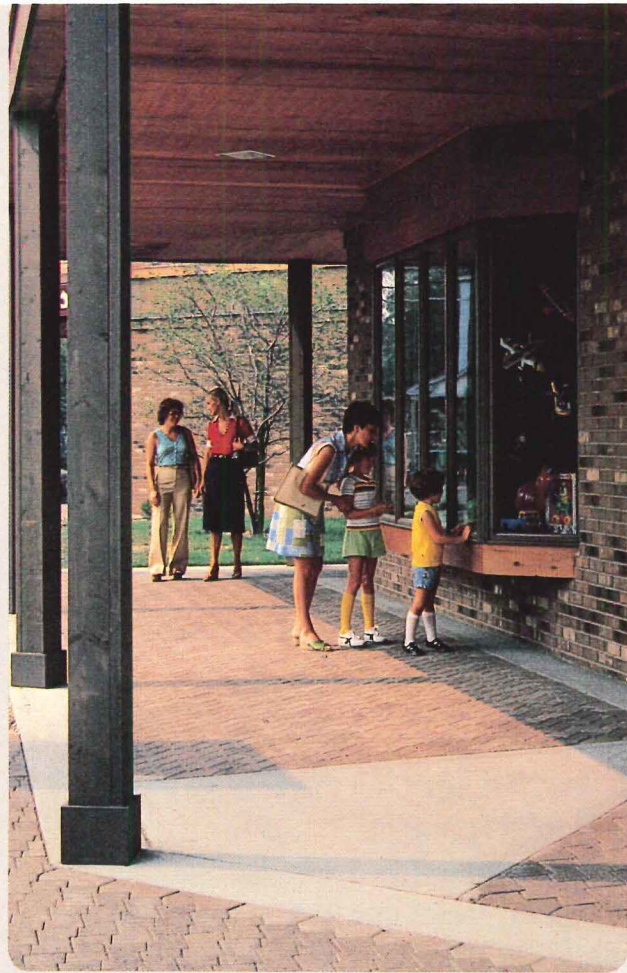
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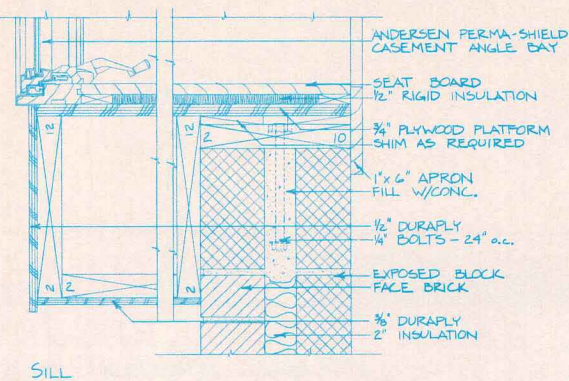
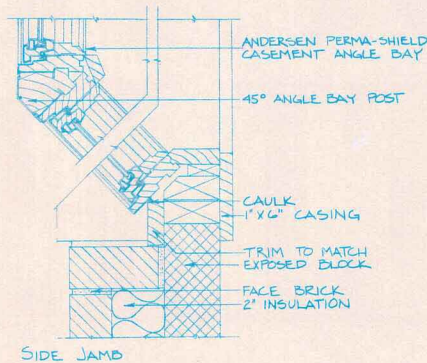
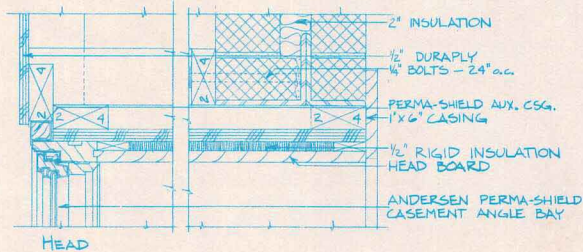
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A Progress Report on the new American Olean plant in Jackson, Tennessee.

**SUBJECT: A \$20 MILLION COMMITMENT.** We're proud to announce that American Olean has embarked on an important mission—the construction of a totally new, \$20 million ceramic mosaics plant in Jackson, Tennessee.



JACK THOMPSON, PRESIDENT, AMERICAN OLEAN TILE COMPANY.

The plant will incorporate the most modern manufacturing technology available anywhere. And it will usher in a whole new era in ceramic mosaic tile production.

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The Jackson plant will also provide American Olean with the ability to create an entirely new, exciting and innovative line of ceramic mosaics—new colors, new textures and new sizes—to provide even more versatility to our ceramic mosaics line and to stimulate the imagination of tile specifiers, installers and users.



A LINE DRAWING OF OUR NEW JACKSON FACILITY.

In the months ahead, we plan to share with you our progress on American Olean's new ceramic mosaics plant at Jackson. This project underscores our deep commitment to and confidence in the ceramic tile industry and its future.

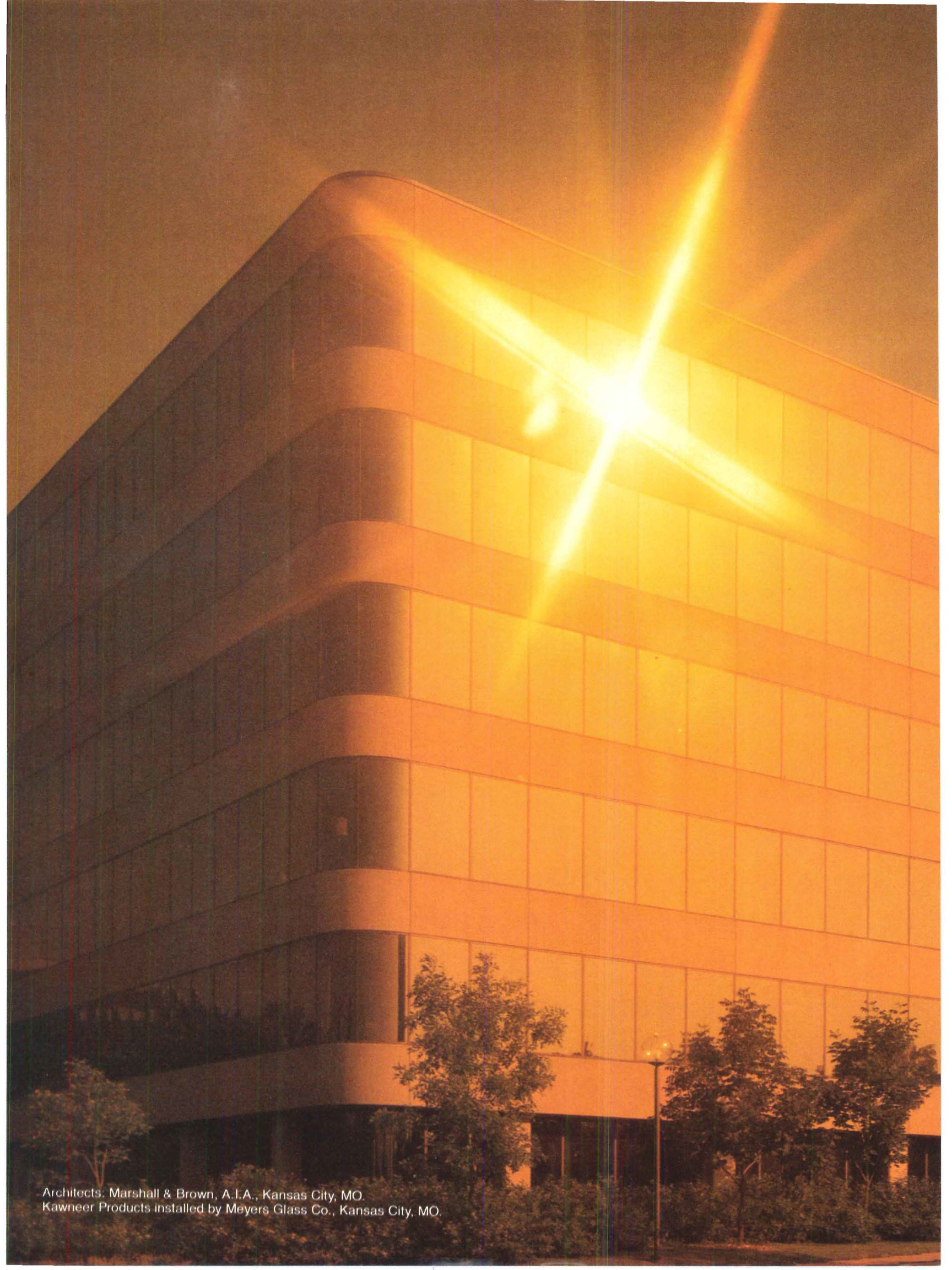


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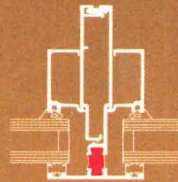


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## INFO WANTED

**Author wishes to contact former students** of The University of Texas School of Architecture 1950-1960 who had as instructors Bernard Hoesli, Colin Rowe, John Hejduk, Robert Slutzky, Lee Hirsche, John Shaw, Lee Hodgden, or Werner Seligman. Please reply to Alex Caragone, 235 East Commerce, San Antonio, TX 78205.

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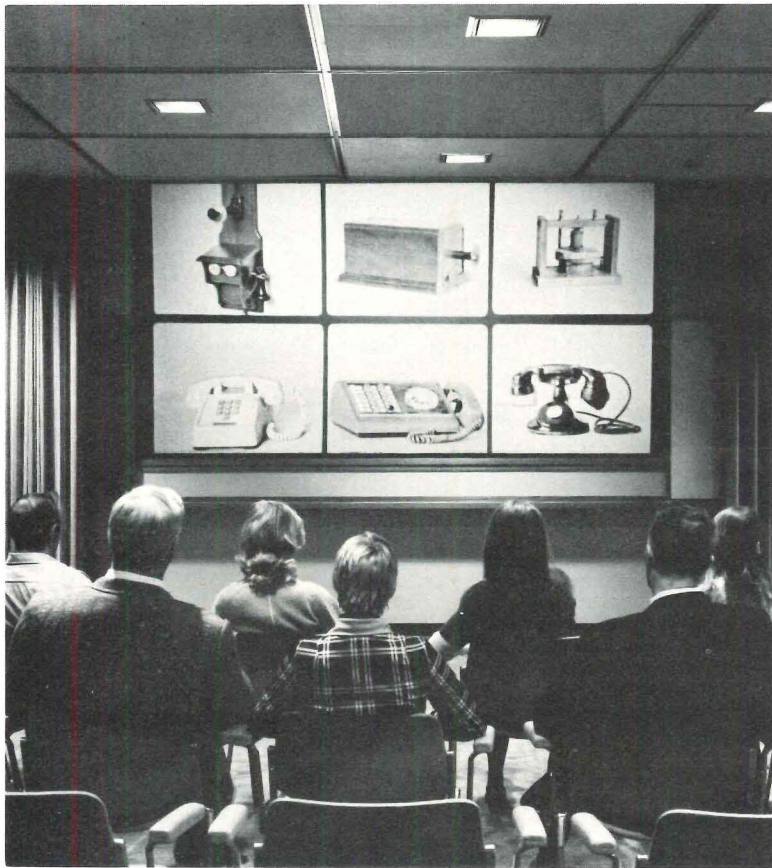
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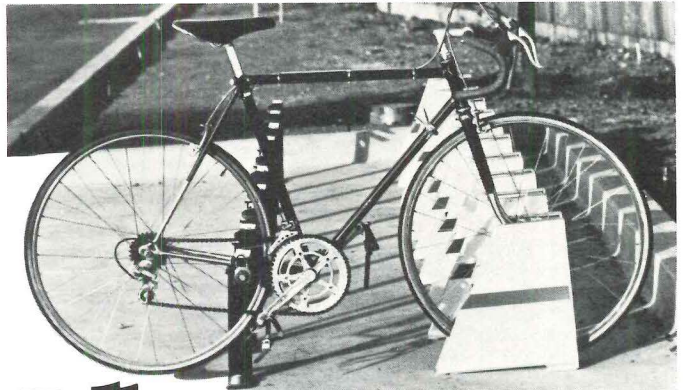
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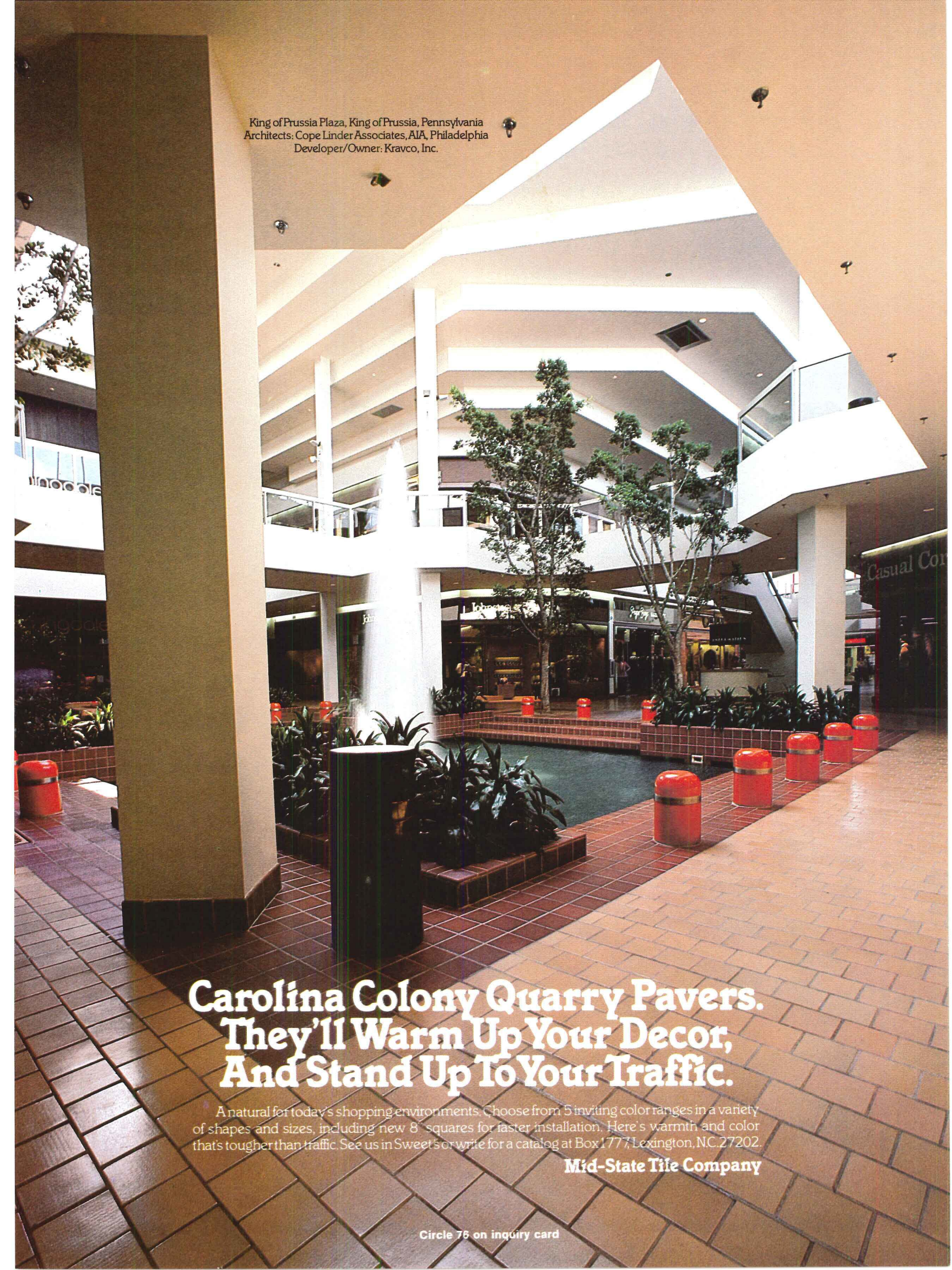
The City of Newport News, Virginia and the National Endowment for the Arts, Design Arts Program, are sponsoring a national, two stage Project Design Competition for a new Cultural Arts Pavilion.

The competition is open to all Registered Architects or teams headed by Registered Architects. Seven finalists of the first stage will be given an \$8,000 participatory fee to further develop their entries in the second stage.

To register and receive a registration kit, send a non-refundable check for \$85.00 U.S. funds made payable to the City of Newport News by February 15, 1984 and send to:

Kenneth W. Paolini, Competition Adviser  
City of Newport News, Department of Development  
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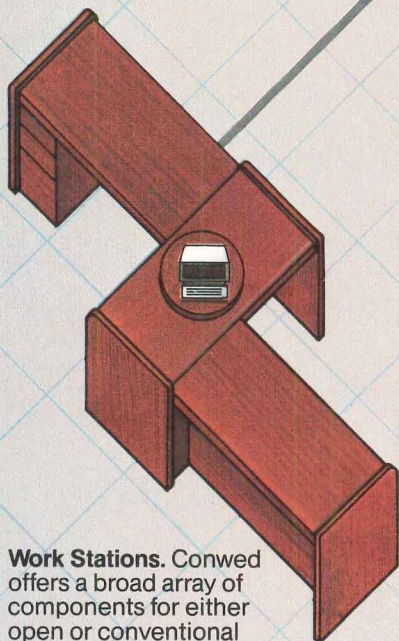
In the past decade, the traditional office environment has undergone fundamental changes.

Inherent in these changes has been the growing realization that the physical environment of an office has a dramatic effect on the productivity and satisfaction of the people in that office.

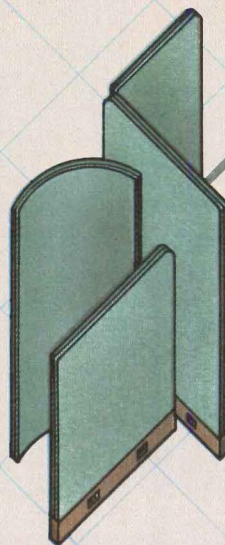
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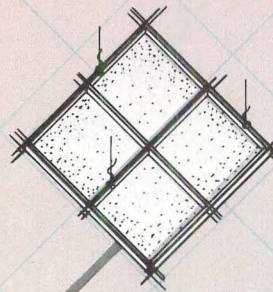
**Wood Desks.** Since office furnishings affect the work environment both functionally and aesthetically, Conwed's natural wood desks are designed with an eye towards both.



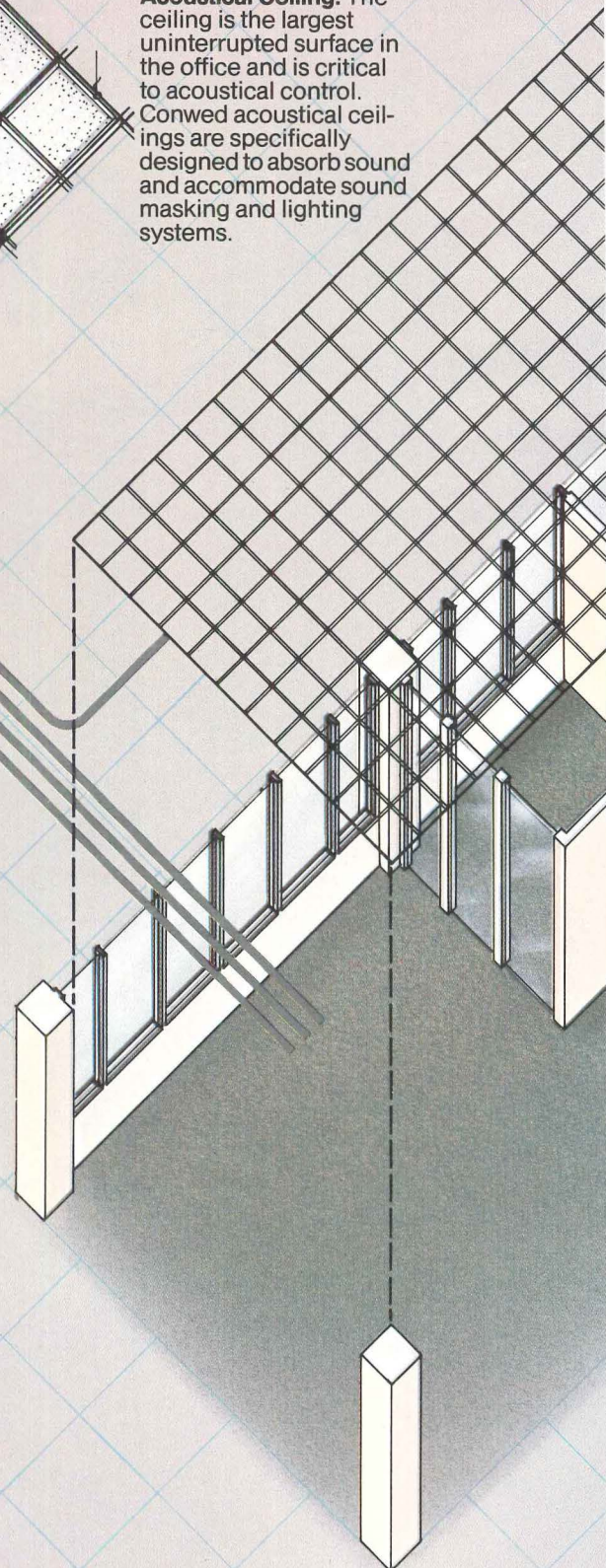
**Work Stations.** Conwed offers a broad array of components for either open or conventional offices. You can choose from freestanding desks or complete work station systems.



**Acoustical Panels.** Conwed acoustical panels work with Conwed ceilings to reduce noise levels so workers will be less distracted and more productive. These panels are also available with electrified bases to provide wire management and power distribution.



**Acoustical Ceiling.** The ceiling is the largest uninterrupted surface in the office and is critical to acoustical control. Conwed acoustical ceilings are specifically designed to absorb sound and accommodate sound masking and lighting systems.





maximize the efficiency and effectiveness of the workplace. Utilizing our technical expertise and experience we have developed a consistent, unified approach which yields predictable performance in the office.

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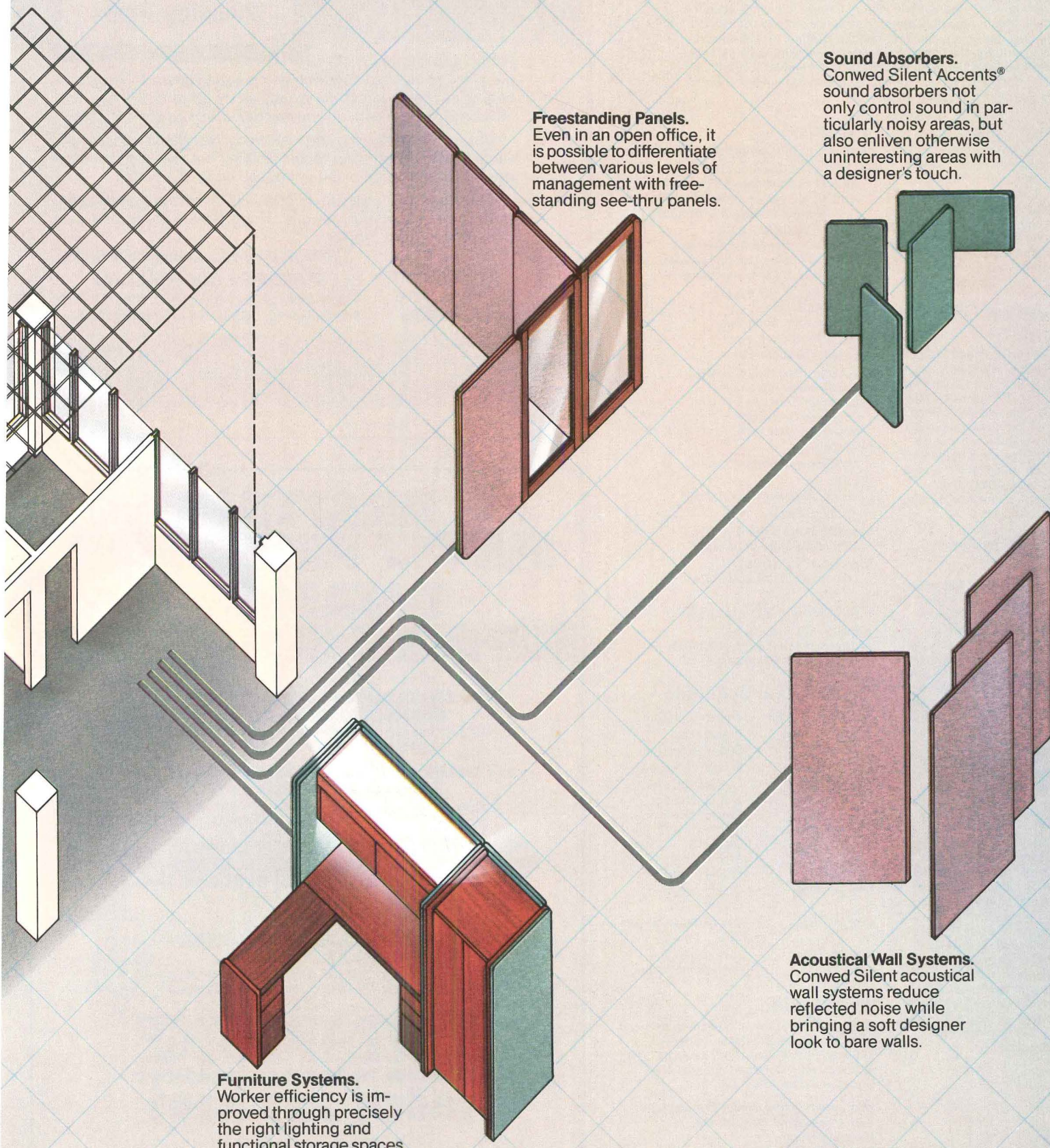
Through the principles of Intérics, Conwed can significantly improve the

productivity, cost effectiveness and physical appearance of a company's workplace. Each component of the office is selected for its impact on organizational interaction, acoustics, illumination, aesthetics and return on investment. From ceiling tiles to wall panels, from office furniture to task lighting, every element is considered for its effect on the total environment.

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# Minnesota History Center Competition

## The Design Challenge

The State of Minnesota, the Capitol Area Architectural and Planning Board, and the Minnesota Historical Society announce a national competition for the design of the new Minnesota State History Center. To be located in the Minnesota State Capitol Area, this project presents a major design challenge. The winning design must incorporate the existing 1917 Historical Society Building with new facilities on the adjacent site immediately to the east. The project includes renovation of 100,000 GSF and 350,000 GSF of new construction. The new History Center must enhance the architectural character and quality of the Capitol Area.

## The Competition

The requirements for the submission of credentials will be sent to all registrants. Upon evaluation of all credentials submitted, the Competition Designer Selection Panel will select six firms or teams as finalists, who will be invited to prepare design submissions. The competition jury will select the winning design from the submissions of the finalists.

## Compensation and Awards

Each finalist will be provided \$12,500 to prepare its submission; \$5,000 at inception and \$7,500 upon acceptance of the submission. The winner of the competition will be awarded a prize of \$50,000. Upon funding of the project by the Minnesota State Legislature, the winner would be designated the Architect for the project and the prize money would be considered an advance payment on the commission to be awarded.

## Designer Selection Panel

The Competition Designer Selection Panel will be chaired by the Professional Advisor to the Competition and will consist of the following members: William Sanders, A.S.L.A., Valerius Michaelson, F.A.I.A., Advisors to the Capitol Area Architectural and Planning Board; and the following State Officers or their designees: the Chair of the State Designer Selection Board, the Chair of the Capitol Area Architectural and Planning Board, the President and the Director of the Minnesota Historical Society, and the Commissioner of Administration.

## Eligibility

Initial registration is open to any firm or team which includes personnel with NCARB certification or architectural registration in Minnesota, and with principal offices in the United States. Eligibility is limited to firms that have a record of gross receipts for architectural services of at least \$300,000 per year for each of the last three years. For teams, this requirement must be met by the lead firm. Inquiries regarding eligibility should be submitted by letter to the Professional Advisor at the address provided for registration.

## The Jury

Members of the Competition Jury will be:

ROBERT L. GEDDES, F.A.I.A.  
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DONLYN LYNDON, F.A.I.A.  
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Member of the HOUSE,  
*Minnesota State Legislature*

## Professional Advisor

JOHN G. RAUMA, F.A.I.A.  
*Griswold and Rauma, Architects Minneapolis, Minnesota*

## Competition Schedule

February 17, 1984 — Registration Due

March 16, 1984 — Credentials Submission Due

April 2, 1984 — Finalist Selection

April 9, 1984 — Finalist Site Visit and Orientation Session Design Framework Data and Architectural Program Issued

May 16, 1984 — Question Period Closes

July 16, 1984 — Design Submissions Due

July 25, 1984 — Jury Award and Recommendation

## Registration

Registration will be by letter, accompanied by a check in the amount of \$50 made payable to The Minnesota History Center Competition. Registrations should be addressed to:

Minnesota History Center Competition  
Capitol Area Architectural and Planning Board  
Room 122, Capitol Building  
St. Paul, Minnesota 55155



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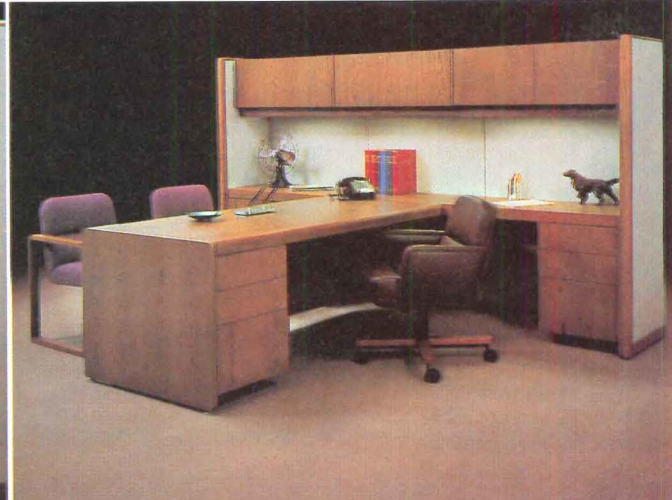
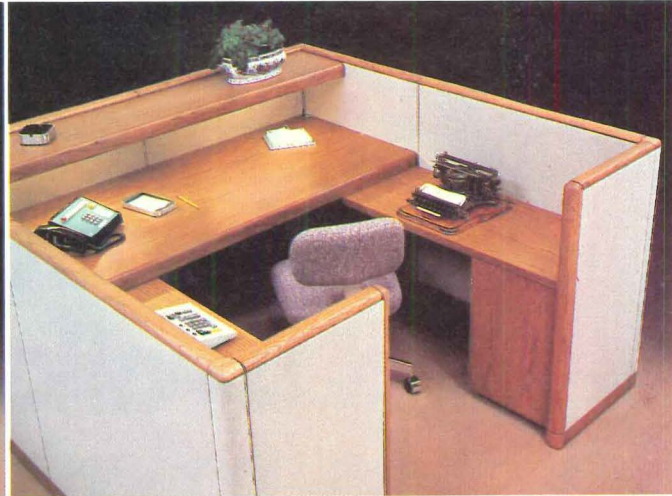
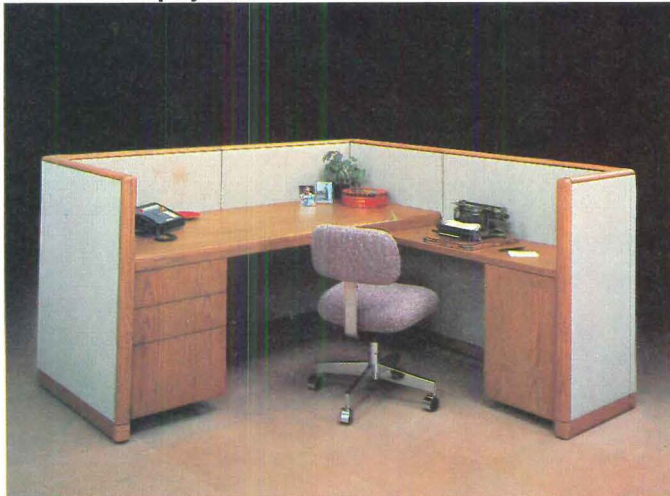
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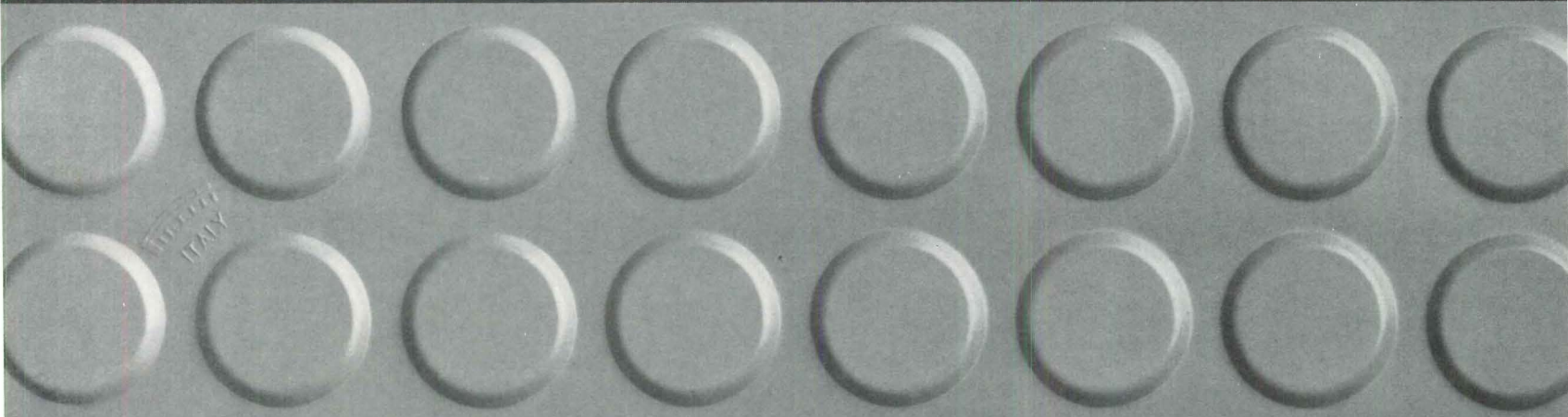




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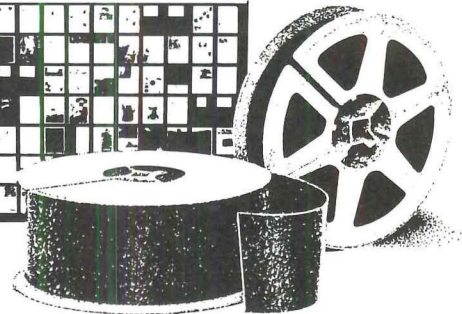
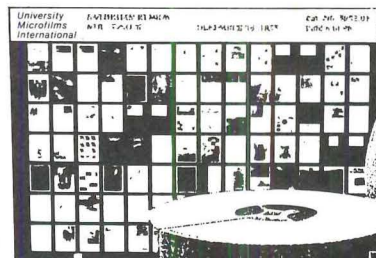
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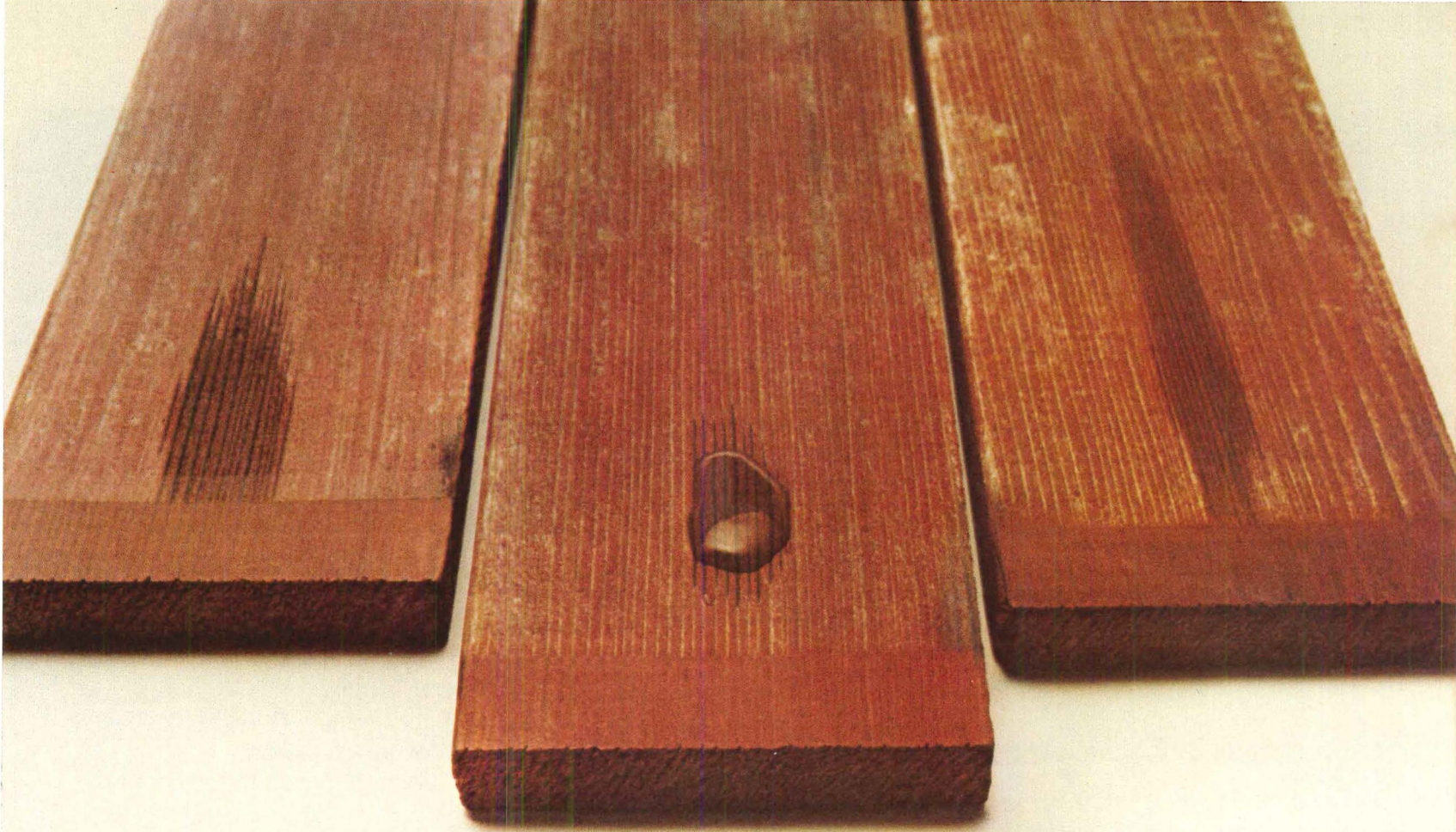
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REGISTRATION DEADLINE: February 15, 1984

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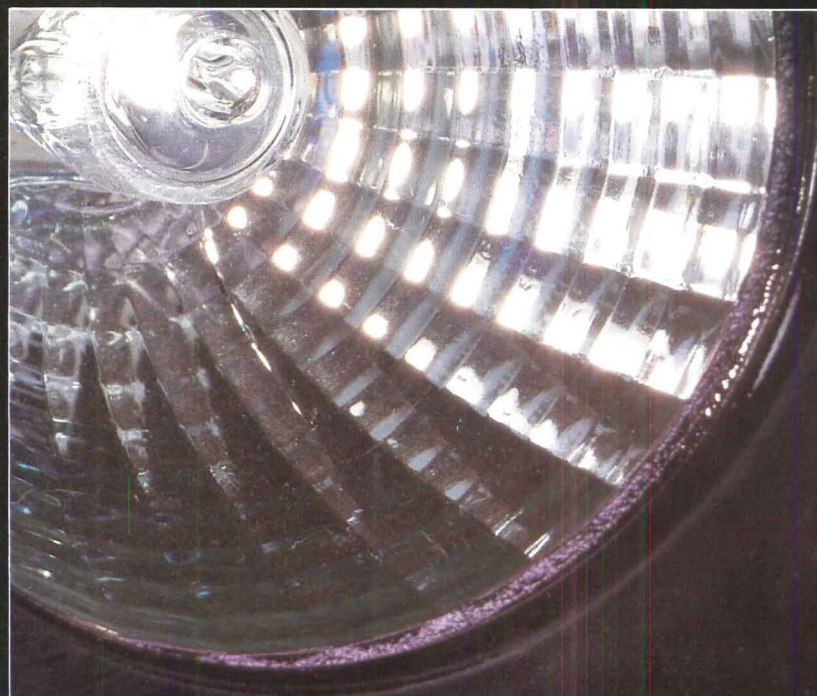
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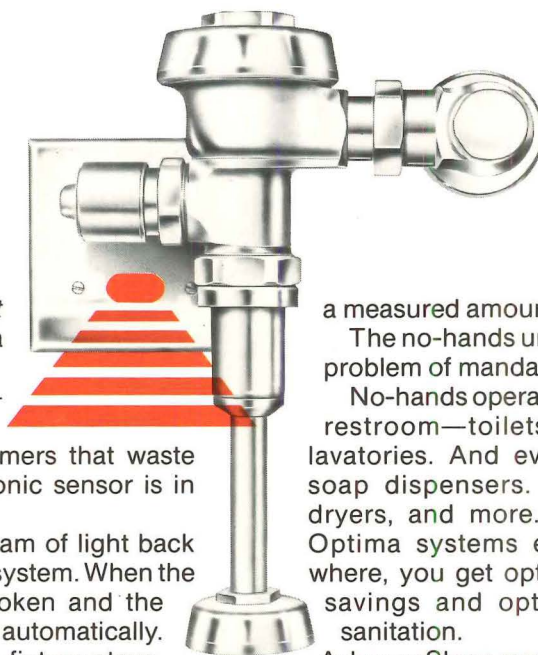
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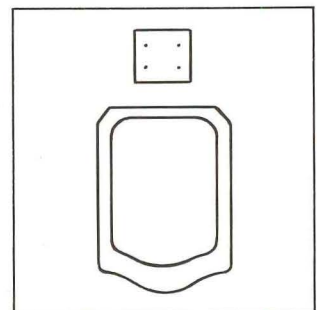
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